

EXAMPLE A

WORKER SAFETY AND HEALTH PROGRAM EMBEDDED IN DOE INTEGRATED SAFETY MANAGEMENT SYSTEM STRUCTURE AT A DOE NUCLEAR SITE

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A.1. BACKGROUND

The Rule at 851.11(a)(3) requires that the contractor's written worker safety and health program describe how the contractor will integrate all requirements of the Rule with other related site-specific worker protection activities and with their Integrated Safety Management Systems (ISMS). A straight-forward approach to meeting that requirement is to include the elements of the worker safety and health program in the site's ISMS. Users of Example A to this Guide will find that the worker safety and health program is only one of the many integrated programs and activities necessary for safe and effective operations. Example A Guide describes a DOE nuclear site's ISMS that includes a worker safety and health program. Only the elements of the worker safety and health program presented by this Example that address requirements in the Rule should be considered components of the worker safety and health program required by the Rule. Table 1 provides a crosswalk between the sections of the Rule, the Example worker safety and health program, and the body of this Guide for the Rule. Table 1 is one method that can be used to indicate which elements of the ISMS make up the worker safety and health program required by the Rule. Other methods may be acceptable for delineating the ISMS components that are applicable to and enforceable under the Rule.

The Department of Energy (DOE), in response to the statutory mandate of section 3173 of the Bob Stump National Defense Authorization Act (NDAA) for Fiscal Year 2003 established 10 CFR 851 *Worker Safety and Health* (the Rule) to govern contractor activities at DOE sites. This Rule codifies and enhances the worker protection program in operation when the NDAA was enacted. It was published in the Federal Register on February 9, 2006 (Federal Register / Vol. 71, No. 27 / Thursday, February 9, 2006).

Prior to the establishing 10 CFR 851, DOE, in response to DNFSB Recommendation 95-2, committed to implementing an Integrated Safety Management System (ISMS) across the complex by issuing an Implementation Plan in April 1996 and, subsequently, DOE Policy P 450.4, *Safety Management System Policy*, (available by searching on <http://www.directives.doe.gov/>) in October 1996. That Policy, along with the "Integration of Environment, Health and Safety into Work Planning and Execution" clause set forth in the DOE procurement regulations (see 48 CFR 952.223-71 and 970.5223-1), requires DOE contractors to establish an integrated safety management system (ISMS).. Those procurement regulations required contractors to follow ISMS objectives, guiding principles, and functions, and to describe their approach for implementing and tailoring an ISMS to their site/facility or activities.

The Rule at 851.11(a)(3) requires contractors to provide a written worker safety and health program that describes how the contractor will integrate all requirements of the Rule with other related site-specific worker protection activities and with their Integrated Safety Management Systems (ISMS). Part 851.13(b) of the Rule clarifies that contractors who have implemented a written worker safety and health program, ISM description, or Work Smart Standards process prior to the effective date of the final Rule may continue to implement that program/system so long as it satisfies the requirements of the Rule. Hence, DOE believes that the integration of these existing programs with the worker safety and health program required by the Rule will eliminate duplication of effort and

limit any additional burden associated with implementing the Rule. In addition, DOE recognizes that sites already integrate their safety and health program with the many other programs and activities necessary for safe and effective operations.

The ISMS described in Example A is a standards-based system consistent with the worker safety and health policies, rules, orders, manuals, and standards (hereinafter referred to as standards) that are applicable to DOE sites. The implementation of these standards enables the site to conduct work in a manner that ensures protection of its workers.

In summary, an ISMS program description containing all the features that are needed to comply with the requirements of the Rule is an ideal structure within which to embed the worker safety and health program. Example A was derived from a DOE site's successful ISMS program description that incorporates a complete worker safety and health program.

A.2. PURPOSE

This example describes an Integrated Safety Management System (ISMS) that ensures that safety is integrated into work performed at the site and incorporates a complete worker safety and health program that is compliant with the Rule. Part 851.11(c)(2) of the Rule requires this written safety and health program to be updated and submitted to DOE for approval annually. This is accomplished within the ISMS approval procedure. For purposes of this example, safety includes all aspects of safety and health management. This document and the ISMS described herein serve to implement DOE P 450.4 and the revised Department of Energy DEAR Clause 970.5223-1, *Integration of Environment, Safety, and Health Into Work Planning and Execution*, as well as to implement 10 CFR 851 *Worker Safety and Health Program*.

This ISMS is a dynamic system incorporating the concept of continuous improvement that will support worker safety as the work changes to meet new or revised missions of the Department of Energy.

The basic structure of ISMS (i.e., the Core Functions and Guiding Principles) is the overarching system used to manage the conduct of work. From time to time, the ISMS is enhanced and supported by the introduction of new and improved standards and improved processes. Examples of such emergent standards and improved processes include the Voluntary Protection Program (VPP- an OSHA/DOE initiative for recognizing worker safety excellence), and Behavior-Based Safety (BBS). The ISMS previously incorporated elements of the enhanced work planning (EWP) process, a DOE initiative that assigns high value to worker involvement in the planning of non-routine tasks/activities. Since EWP has become incorporated into ISM across the DOE complex, it is no longer considered a separate process. Later sections of this ISMS Description explain how these standards and processes support implementation of the ISMS.

Table 1. Crosswalk between Sections of the Rule, Example A Program, and Implementation Guide

Table 1. Crosswalk between Sections of the Rule, Example A Program, and Implementation Guide				
Rule Section		Example A Program		Paragraph in Body of Implementation Guide
Section Number	Section Subject	Example A Program Paragraph	Example A Program Bibliography--Management Policies (MP), Charters, Procedure Manuals (PM), Management Requirements and Procedures (MRPs), Source and Compliance Documents (SCD) in	
(Subpart C)	Specific Requirements			3.3
	Management responsibilities and worker rights and responsibilities.			3.3.1
(851.20(a))	Management responsibilities	A.4(b)(1), A.4(e), A.5(c)(1)		3.3.1.1
(851.20(a)(1))	Policy, goals, and objectives.	A.4(a), A.5, A.5(a), A.5(b) Function 5, A.5(d)	MP 1.2 Management Policies, Requirements, and Procedure System, MP 4.7 Occupational Safety Policy, MP 5.5 Site and Facilities Management, Charter 6.11 Facility managers Forum (FMF), Charter 6.20 Safety and Health Review Committee, Charter 6.25 Chemical Management Committee	3.3.1.1.1
(851.20(a)(2))	Qualified staff.	A.4(b)(2), A.5(c)(3)	PM-4B Training and Qualification Program Manual	3.3.1.1.2
(851.20(a)(3))	Accountability	A.4(b)(3), A.5(c)(2)		3.3.1.1.3
(851.20(a)(4))	Employee involvement.	A.5(d)	MP 1.11 Open Communication, MP 4.25 Behavior Based Safety (BBS), PM-1B MRP 4.19 Requirements for Facility Operations Safety Committees, PM-8Q Employee Safety Manual	3.3.1.1.4
(851.20(a)(5))	Access to information		PM-8Q Employee Safety Manual	3.3.1.1.5

Table 1. Crosswalk between Sections of the Rule, Example A Program, and Implementation Guide				
Rule Section		Example A Program		Paragraph in Body of Implementation Guide
(851.20(a)(6))	Report events and hazards.		PM-8Q Employee Safety Manual	3.3.1.1.6
(851.20(a)(7))	Prompt response to reports.		PM-8Q Employee Safety Manual	3.3.1.1.7
(851.20(a)(8))	Regular communications.		PM-8Q Employee Safety Manual	3.3.1.1.8
(851.20(a)(9))	Stop work authority.		PM-8Q Employee Safety Manual	3.3.1.1.9
(851.20(a)(10))	Inform workers of rights.		PM-8Q Employee Safety Manual	3.3.1.1.10
(851.20(b))	Worker rights and responsibilities.		PM-8Q Employee Safety Manual	3.3.1.2
(851.20(b)(1))	Participate on official time.		PM-8Q Employee Safety Manual	3.3.1.2.1
(851.20(b)(2))	Access to information.		PM-8Q Employee Safety Manual	3.3.1.2.2
(851.20(b)(3))	Notification of monitoring results.		PM-8Q Employee Safety Manual	3.3.1.2.3
(851.20(b)(4))	Observe monitoring.		PM-8Q Employee Safety Manual	3.3.1.2.4
(851.20(b)(5))	Accompany inspections.		PM-8Q Employee Safety Manual	3.3.1.2.5
(851.20(b)(6))	Results of inspections and investigations.		PM-8Q Employee Safety Manual	3.3.1.2.6
(851.20(b)(7))	Express concerns.		MP1.11 Open Communication, PM-1B, MRP 1.06 Employee Concerns Program (ECP)	3.3.1.2.7
(851.20(b)(8))	Decline to perform in imminent risk.		PM-8Q Employee Safety Manual	3.3.1.2.8
(851.20(b)(9))	Stop work.		PM-8Q Employee Safety Manual	3.3.1.2.9

Table 1. Crosswalk between Sections of the Rule, Example A Program, and Implementation Guide				
Rule Section		Example A Program		Paragraph in Body of Implementation Guide
	Hazard identification and assessment.			3.3.2
(851.21)(a)	Identify and assess risks.	A.4(c)(1), A.4(c)(2), A.5(b) Function 1	Charter 6.33 Authorization Basis Steering Committee (ABSC), PM-11Q Facility Safety Document Manual, SCD-11 Consolidated Hazard Analysis Process (CHAP) Manual	3.3.2.1
(851.21(a)(1))	Assess workers exposures.		PM-4Q Industrial Hygiene Manual	3.3.2.1.1
(851.21(a)(2))	Document hazard assessment		PM-4Q Industrial Hygiene Manual	3.3.2.1.2
(851.21(a)(3))	Record results.		PM-4Q Industrial Hygiene Manual	3.3.2.1.3
(851.21(a)(4))	Analyze designs for potential hazards.		PM-E7 Conduct of Engineering and Technical Support	3.3.2.1.4
(851.21(a)(5))	Evaluate operations, procedures, and facilities.		SCD-11 Consolidated Hazard Analysis Process (CHAP) Manual	3.3.2.1.5
(851.21(a)(6))	Job activity-level hazard analysis.		SCD-11 Consolidated Hazard Analysis Process (CHAP) Manual, PM-8Q Employee Safety Manual	3.3.2.1.6
(851.21(a)(7))	Review safety and health experience.		PM-1B MRP 4.14 Lessons Learned Program, PM-9B Site Item Reportability and Issue Management	3.3.2.1.7
(851.21(a)(8))	Consider other hazards		SCD-11 Consolidated Hazard Analysis Process (CHAP) Manual	
(851.21(b))	Closure facilities hazard identification			3.3.2.2
(851.21(c))	Hazard identification schedule			3.3.2.3

Table 1. Crosswalk between Sections of the Rule, Example A Program, and Implementation Guide				
Rule Section		Example A Program		Paragraph in Body of Implementation Guide
(851.22)	Hazard prevention and abatement			3.3.3
(851.22(a))	Hazard prevention and abatement process.	A.4(b)(6), A.4(b)(7), A.4(c)(3), A.5(b) Function 1, A.5(b) Function 2, A.5(c)(6), A.5(c)(6), A.5(c)(7)	MP 4.1 Environmental Assurance, MP 5.7 Configuration Management, MP 5.2O Maintenance Management, MP 5.27 Engineering and Construction Subcontracting, MP 5.35 Corrective Action Program, PM-1B MRP 4.03 Site Remote Worker Notification, PM-1B MRP 4.21 Problem Identification and Resolution Process, PM-1B MRP 4.23 Site Tracking, Analysis, and Reporting (STAR)	3.3.3.1
(851.22(a)(1))	During design or procedure development.		MP 4.1 Environmental Assurance, MP 5.36 Chemical Management, PM-E7 Conduct of Engineering and Technical Support	3.3.3.1.1
(851.22(a)(2))	Existing hazards.	A.4(b)(6)	MP 4.1 Environmental Assurance, MP 5.7 Configuration Management, MP 5.2O Maintenance Management, MP 5.27 Engineering and Construction Subcontracting, MP 5.35 Corrective Action Program, PM-1B MRP 4.03 Site Remote Worker Notification, PM-1B MRP 4.21 Problem, PM-1Y Conduct of Maintenance	3.3.3.1.2
(851.22(b))	Hierarchy of controls.	A.4(c)(3)		3.3.3.2
(851.22(b)(1))	Substitution.		MP 4.15 Industrial Hygiene	3.3.3.2.1
(851.22(b)(2))	Engineering.		MP 4.15 Industrial Hygiene	3.3.3.2.2
(851.22(b)(3))	Work practices and administrative.		MP 4.15 Industrial Hygiene	3.3.3.2.3
(851.22(b)(4))	Personal protective equipment.		MP 4.15 Industrial Hygiene	3.3.3.2.4

Table 1. Crosswalk between Sections of the Rule, Example A Program, and Implementation Guide				
Rule Section		Example A Program		Paragraph in Body of Implementation Guide
(851.22(c))	Purchasing equipment, products, and services.		MP 3.3 Procurement and Materials Management, MP 5.36 Chemical Management, Procedure Manual 7B Procurement Management, PM-13B Chemical Management Manual	3.3.3.3
(851.23)	Safety and health standards	A.4(b)(5), A.4(d), A.4(f), A.5(b) Function 3, A.5(c)(5)	Charter 6.13 Regulatory Compliance Committee (RCC)	3.3.4
(851.24)	Functional areas.			3.3.5
(851.25)	Training and information.	A.4(f)	MP 1.18 Employee Training, Charter 6.28 Training managers Committee (TMC)	3.3.6
(851.26)	Recordkeeping and reporting	A.5(b) Function 5	PM-1B MRP 3.31 Records Management	3.3.7
(851.26(a))	Hazard Abatement Tracking	A.5(b) Function 5	MP 3.32 Earned Value Management System (EVMS), Charter 6.11 Facility managers Forum (FMF), PM-1B MRP 4.14 Lessons Learned Program, PM-9B Site Item Reportability and Issue Management	3.3.7.1
(851.26(b))	Reporting and Investigation	A.5(b) Function 5	PM-1B MRP 4.14 Lessons Learned Program, PM-9B Site Item Reportability and Issue Management, PM-1B MRP 4.21 Problem Identification and Resolution Process, PM-1B MRP 4.23 Site Tracking, Analysis, and Reporting (STAR),	3.3.7.2
(851.27)	Reference sources			3.3.8
Appendix A				
1.	Construction Safety		PM-E11 Conduct of Project Management and Control, PM-1E6 Construction Management Department Manual	3.6.1

Table 1. Crosswalk between Sections of the Rule, Example A Program, and Implementation Guide				
Rule Section		Example A Program		Paragraph in Body of Implementation Guide
2.	Fire Protection		MP 4.16 Fire Protection, Charter 6.8 Site Fire Protection Committee (SFPC), PM-2Q Fire Protection Program, PM-6Q Site Emergency Plan Management Program Procedures, SCD-7 Site Emergency Plan	3.6.2
3.	Explosives Safety		PM-8Q Employee Safety Manual	3.6.3
4.	Pressure Safety		PM-8Q Employee Safety Manual	3.6.4
5.	Firearms Safety		PM-8Q Employee Safety Manual	3.6.5
6.	Industrial Hygiene		MP 4.15 Industrial Hygiene, MP 5.36 Chemical Management, PM-13B Chemical Management Manual, PM-4Q Industrial Hygiene Manual	3.6.6
7.	Biological Safety		No biological activities on this site	3.6.7
8.	Occupational Medicine		MP 4.3 Medical Programs	3.6.8
9.	Motor Vehicle Safety		MP 3.6 Transportation, PM-8Q Employee Safety Manual	3.6.9
10.	Electrical Safety		PM-8Q Employee Safety Manual, PM-18Q Safe Electrical Practices and Procedures	3.6.10
11.	Nanotechnology Safety-Reserved		Reserved	3.6.11
12.	Workplace Violence Prevention-Reserved		MP 2.19 Workplace Violence Policy	3.6.12

A.3. SCOPE

The ISMS described herein applies to work performed by the contractor and subcontractors. If subcontracted work is judged sufficiently complex and/or hazardous, the subcontractor may be required to have and document its own safety management system that is compatible with the contractor's ISMS.

A.4. INTEGRATED SAFETY MANAGEMENT SYSTEM OVERVIEW

The DOE P 450.4, *Safety Management System Policy*, dated , subdivides the concept of the ISMS into six primary components: objective, principles, functions, mechanisms, responsibilities, and implementation.

MP 1.22, *Integrated Safety Management System (ISMS)*, adopts these components as follows:

(a) **Objective.**

Integrate safety into management and work practices at all levels so that missions are accomplished while protecting the public, the worker, and the environment. In other words, do work safely.

(b) **Principles.**

- 1) **Line Management Responsibility for Safety:** Line management is responsible for the protection of the public, the workers, and the environment.
- 2) **Clear Roles and Responsibilities:** Clear and unambiguous lines of authority and responsibility for ensuring safety are established and maintained at all organizational levels within the company and its subcontractors.
- 3) **Competence Commensurate with Responsibilities:** Personnel possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities.
- 4) **Balanced Priorities:** Resources are effectively allocated to address safety, programmatic, and operational considerations. Protecting the public, the workers, and the environment is a priority whenever activities are planned and performed.
- 5) **Identification of Safety Standards and Requirements:** Before work is performed, the associated hazards are evaluated and an agreed-upon set of safety standards and requirements are established which, if properly implemented, provide adequate assurance that the public, the 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 being performed and the associated hazards.
- 7) Operations Authorization: The conditions and requirements to be satisfied for operations to be initiated and conducted are clearly established and agreed-upon.

(c) **Functions.**

- 1) Define Scope of Work
- 2) Analyze Hazards
- 3) Develop/Implement Controls
- 4) Perform Work
- 5) Feedback/Improvement

Figure 1 depicts the Safety Management Functions and sub-functions. Although arrows indicate a general direction, these are not independent functions. They are a linked, interdependent collection of activities that may occur simultaneously. Outcomes during the accomplishment of one function may affect other functions and potentially the entire system.

Additionally, the core safety management functions are integrated vertically throughout all levels (i.e. site, facility, and task-level activity) of the organizations as shown by the vertical arrows in **Figure 2**.

The objective, principles, and functions are established and provided by the DOE and are universally applicable to all activities and operations at this site. This ISMS is tailored to the work and organizational structure unique to the contractor. The ISMS provides:

- Mechanisms for doing work safely;
- Unambiguous assignment of responsibilities; and
- Implementation of the objective, principles, and functions

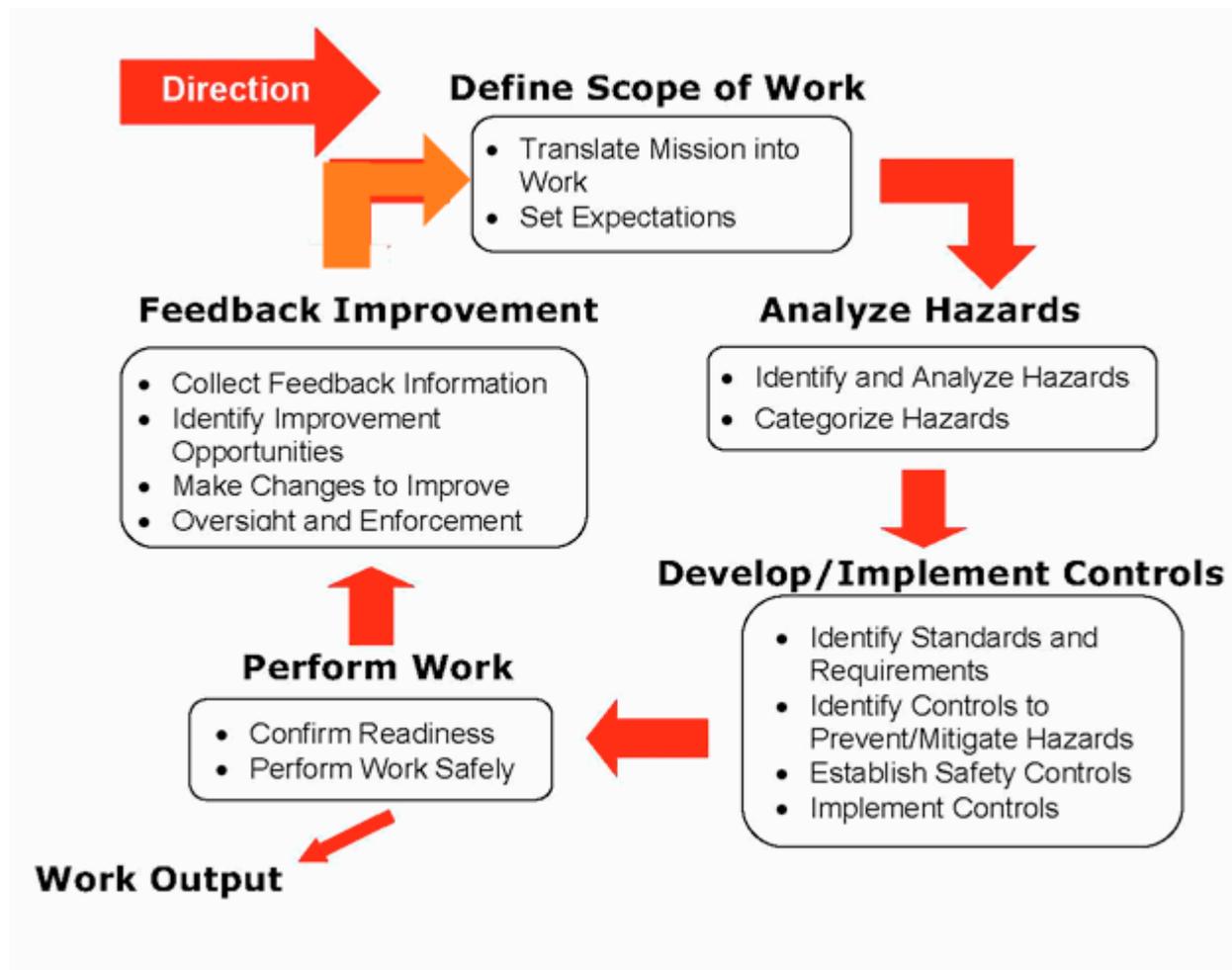


Figure 1. Safety Management Functions

Operational imperatives of safety, continuous improvement, disciplined operations, cost effectiveness, and teamwork support the ISMS and the DOE site office strategic plan general management focus area objectives of safety and security; technical capability and performance; community, state and regulator relationships; cost effectiveness; and corporate perspective to manage the site through effective teamwork internally and with the DOE and the nation.

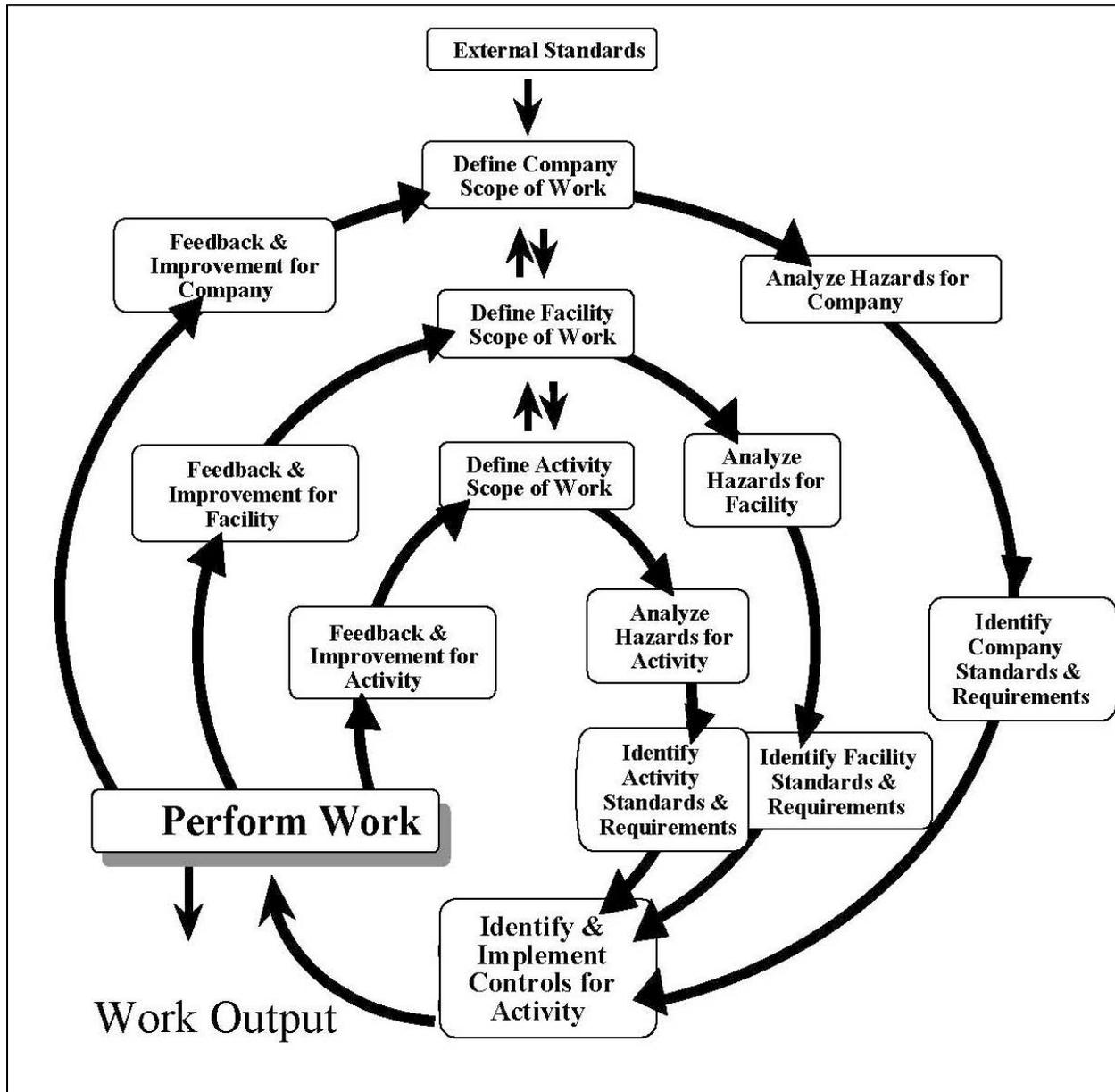


Figure 2. Application of ISM Core Functions at All Levels.

(d) Mechanisms.

Mechanisms are the means by which agreements are reached with the DOE site office and the safety management functions are implemented and performed. As shown in Figure 3, Environment, Safety and Health Requirements in the form of laws, regulations, DOE Directives, consensus standards and others flow down from their source into the contractor's standards/requirements identification document (S/RID) listing requirements that DOE agrees are applicable to the work and conditions at the site. The S/RID defines the applicability of requirements on a facility basis according to the work and hazards conducted at each facility. The

contract directs that all work be conducted according to the applicable requirements in the S/RID. From the S/RID, the applicable requirements flow down to policies and procedures established and maintained by the *Integrated Procedures Management System*. These policies and procedures include controls tailored to the work/activity and the type and level of hazards present. Specific mechanisms used to accomplish the ISMS functions in accordance with the ISMS guiding principles are presented in Section 5. A listing of policies, procedures and manuals describing the ISM mechanisms is located in Section 8 of this ISMS description.

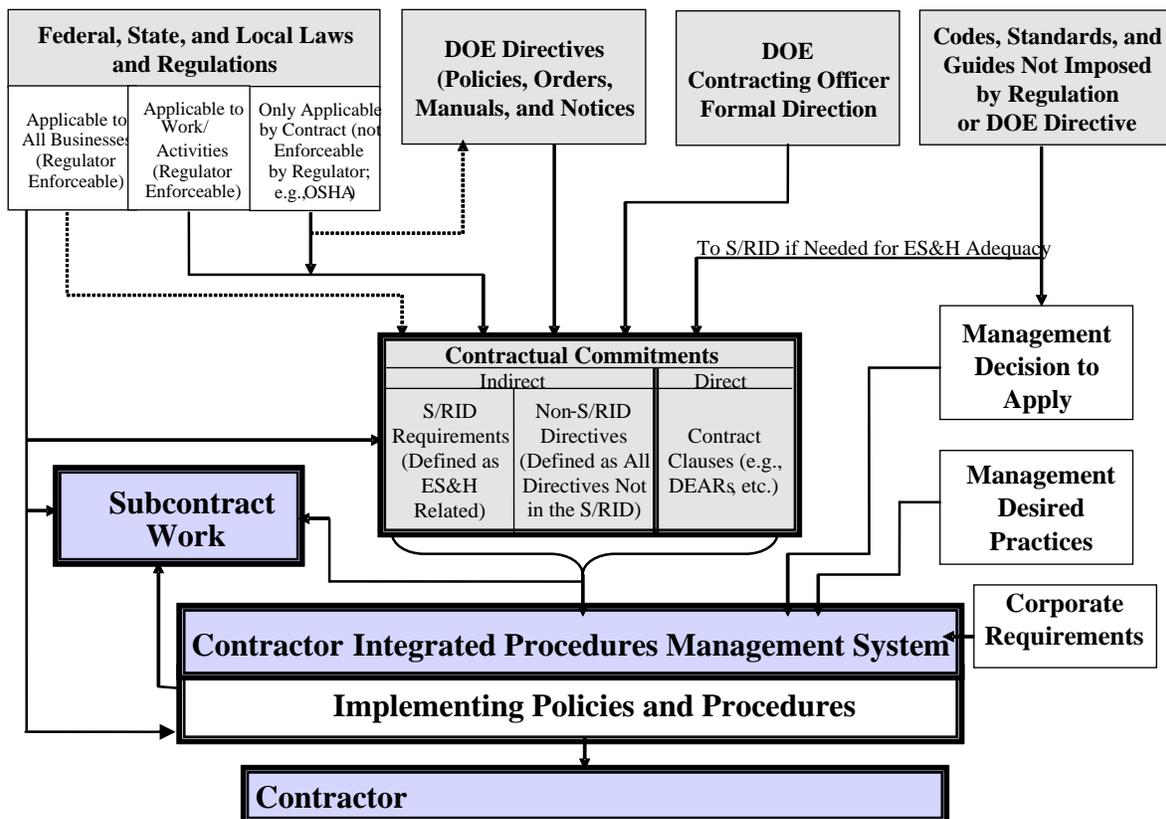


Figure 3. Site System for Flowing Down ES&H and Other Requirements to the Work

(e) Responsibilities

The contract is organized to satisfy the first guiding principle that line management is responsible for safety. Unambiguous lines of responsibility are paramount to effective safety management at this site. The second guiding principle, that roles and responsibilities are clearly defined, is satisfied in the *Integrated Procedure Management System* by the assignment, within each procedure, of functional responsibilities and approval authorities for each proceduralized activity. From a mission perspective, organizational mission statements are developed for all levels of the company as part of the site program

management process (Procedure Manual 6B). The contractor satisfies the third guiding principle by staffing the organization with personnel having competence commensurate with their responsibilities (Procedure Manuals 4B, 5B, and 1Q). Reporting to the company president are personnel having appropriate line management authority for their areas of responsibility. Line management has primary responsibility for safely operating facilities and conducting activities. **Figure 4** displays the organizational structure and the primary services provided by each Business Unit.

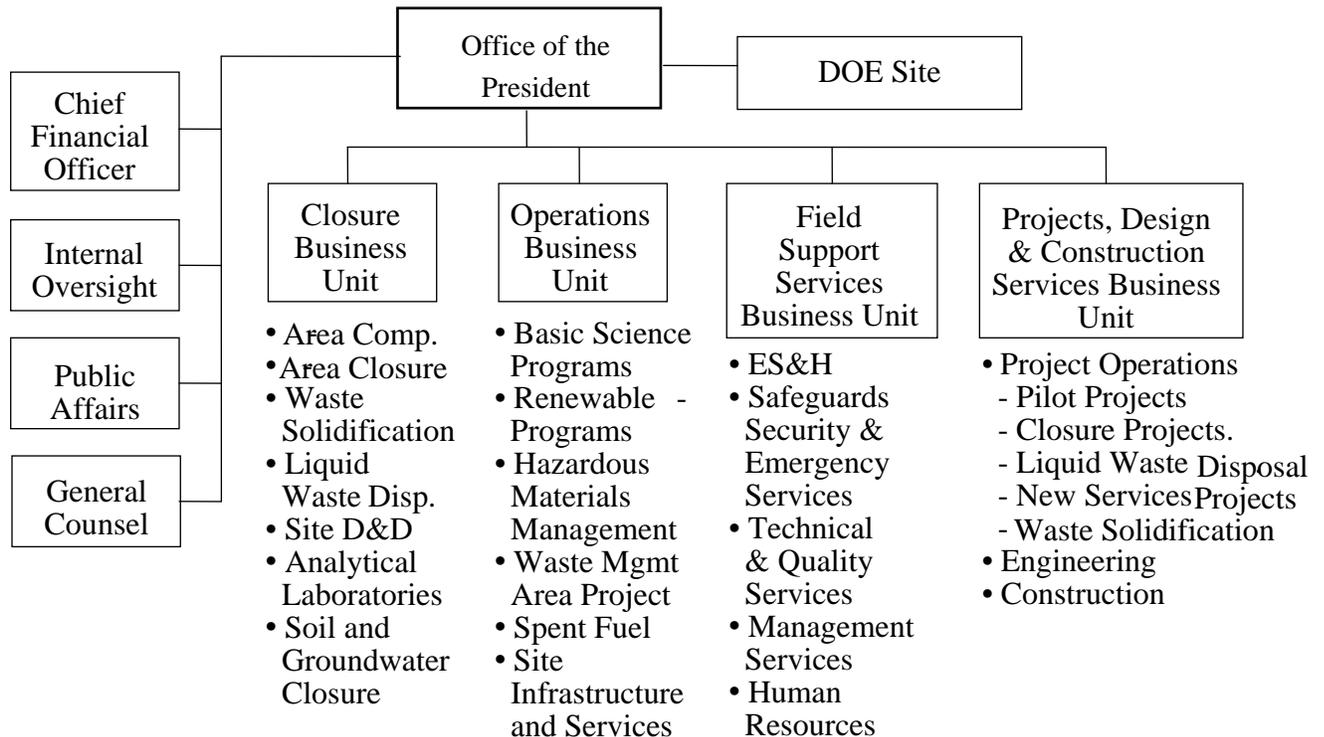


Figure 4. Contractor Functional Organization Structure

(f) Implementation:

The strategy for implementing the ISMS continues to be the use of site-wide programs that meet the DOE and contractor shared objective, principles, and functions for tailoring requirements to accomplish specific work at specific facilities. The Integrated Procedures Management System (IPMS), depicted in **Figure 3**, with the policies and procedures created and maintained within that system, serve as the vehicle for implementing the objective, principles, and functions of the ISMS. Environment, safety and health program requirements, including Safeguards and Security requirements, are incorporated into the

implementation of the work, using the IPMS, through the process illustrated in **Figure 5**.

To enhance ISMS implementation, the following ISMS-specific courses are available to site personnel:

- ISMS Overview – Computer-Based Training (CBT) version;
- ISMS General (for Workers, Professionals and managers); and
- ISMS Executive Orientation.

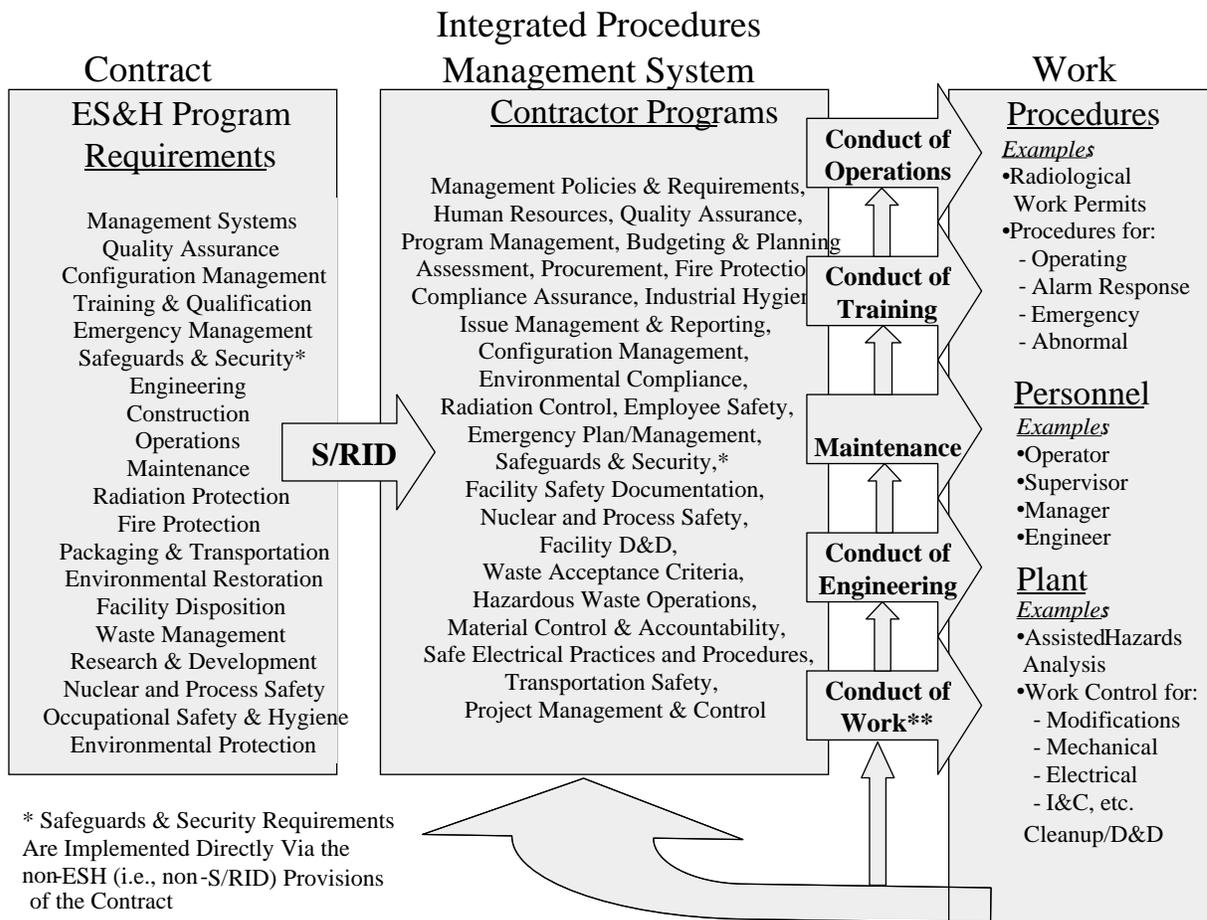


Figure 5. How Environment, Safety, and Health Requirements Are Incorporated into Work.

A.5. INTEGRATED SAFETY MANAGEMENT SYSTEM MECHANISMS

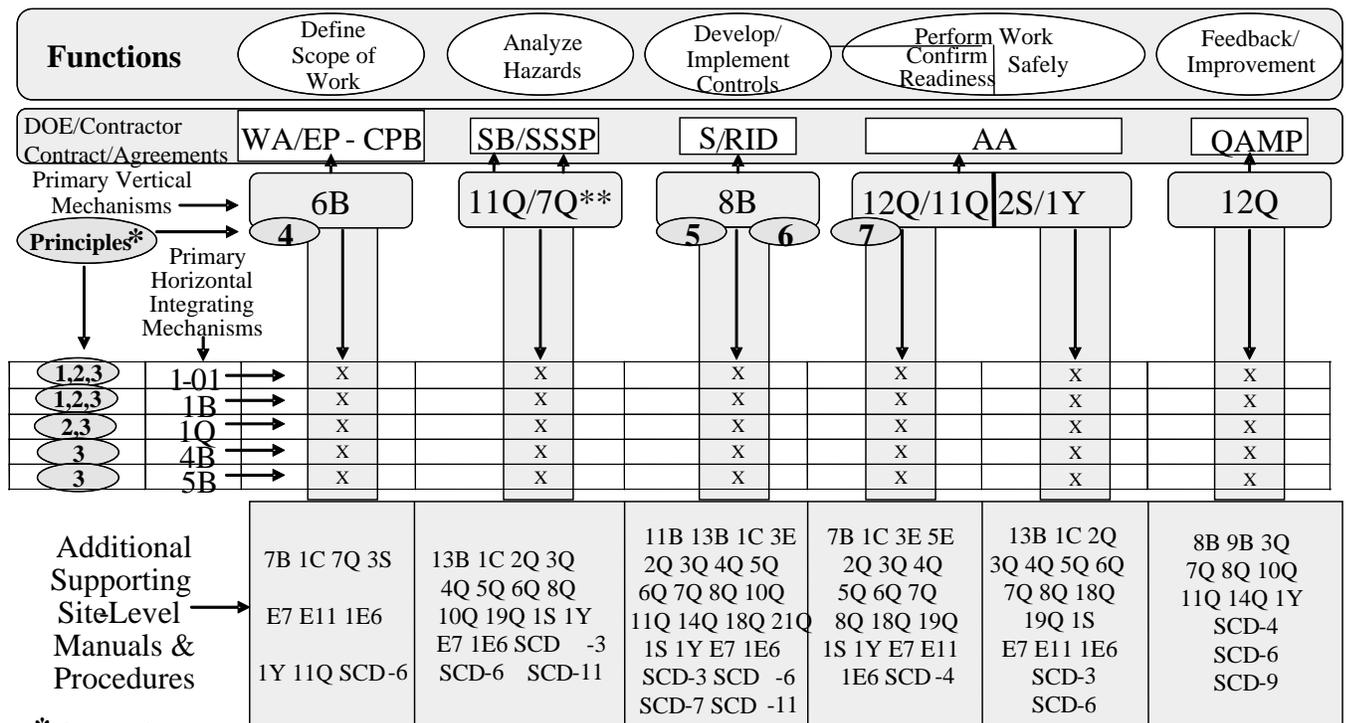
This Section describes how Environment, Safety and Health programs are incorporated into the work. This Section also links the Department of Energy's safety objective, principles, and functions with implementing strategy and responsibilities discussed earlier. Figure 6 illustrates the primary company-level manuals and procedures that define the mechanisms that direct the safe conduct of work at all facilities, for all activities and organization levels, covered by contract, which itself is a mechanism. Also described are the roles the primary manuals serve in satisfying the ISMS Core Functions and guiding principles. Vertical integration is illustrated by the flowdown of ISMS requirements to the primary company-level procedural mechanisms (manuals) and other supporting company-level manuals and procedures. The following manuals serve as primary vertical integrators:

- Procedure Manual 6B, Program Management Manual;
- Procedure Manual 11Q, Facility Safety Document Manual – (Procedure Manual 7Q, Security Manual for Safeguards and Security vulnerabilities);
- Procedure Manual 8B, Compliance Assurance Manual;
- Procedure Manual 2S, Conduct of Operations Manual;
- Procedure Manual 1Y, Conduct of Maintenance Manual; and
- Procedure Manual 12Q, Assessment Manual.

Horizontal integration is illustrated by the Manuals which cross-cut all of the Core Functions. There are five Manuals of this type:

- *Management Policies* (selected Policies);
- Procedure Manual 1B, *Management Requirements and Procedures* (selected procedures);
- Procedure Manual 1Q, Quality Assurance Manual;
- Procedure Manual 4B, Training and Qualification Program Manual; and
- Procedure Manual 5B, *Human Resources Manual*.

The ISMS roles served by the primary ISMS Manuals above and the additional supporting Manuals and Procedures, as illustrated in **Figure 6** are described in detail in this Section and in Section 8 below.



* Principles:

- 1 - Line Management Responsibility for Safety
- 2 - Clear Roles and Responsibilities
- 3 - Competence Commensurate With Responsibilities
- 4 - Balanced Priorities
- 5 - Identification of Safety Standards and Requirements
- 6 - Hazard Controls Tailored to Work Being Performed
- 7 - Operations Authorization

Note For a brief description of each Manual shown above, refer to the Bibliography in Section 8

** The mechanism for Safeguards & Security Vulnerability and Risk Analyses is the Security Manual (Procedure Manual 7Q)

Figure 6. ISMS Mechanisms

For work performed by subcontractors, Procedure Manual 7B, *Procurement Management Manual*; Procedure Manual 11B, *Subcontract Management Manual*; Procedure Manual 3E, *Procurement Specification Procedure Manual*; and Procedure Manual 8Q, Procedure 15, *Safety and Health Program for site Visitors, Vendors, and the contractor/BSRI Subcontractors* direct the specification and documentation of safety and health requirements in purchase requisitions and Subcontract Statements of Work. The *site Requirements for Services Subcontracted Scope (SR3S)* database is invoked by Manual 3E to assure the flowdown of appropriate contractor S/RID requirements into subcontracts. That database, accessible on this site's intranet, assists preparers of procurement Statements of Work (SOW) by providing pre-prepared text that describes requirements for certain key SOW activities. The prepared texts contained in this database were developed by the cognizant Functional Area managers and subject matter experts. Procedure Manual 8Q, Procedure 15, workplace safety and health program for site visitors, vendors, and contractor/subcontractors establishes responsibilities and

requirements to ensure visitors, vendors, and subcontractors are provided a safe work environment while at this site. That procedure and Procedure Manual 7Q, *Security Manual*, establish Point of Entry requirements that include presentation of General site Safety, Security, and Radiological Point of Entry briefings for all non-photo (temporary) badged personnel prior to entry onto the site. **Figure 7** illustrates that, to comply with the ISM DEAR Clause, 970.5223-1, located in the contract, subcontracts contain the mechanisms necessary to inform and hold subcontractors accountable for implementing the appropriate requirements for which the contractor is responsible regardless of who performs the work.

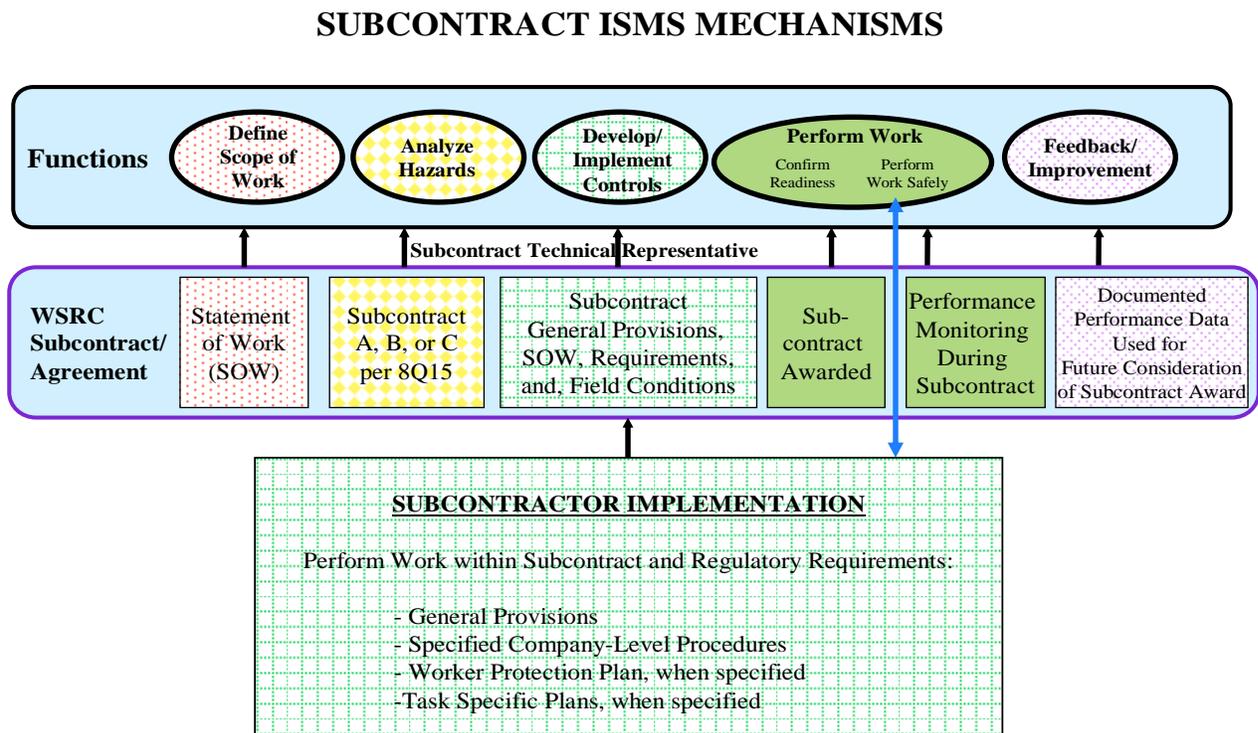


Figure 7. Subcontract ISMS Mechanisms

(a) Approval of Company-Level Policies and Procedures

The site Policy and Procedure Council (SPPC) serves as the single point of authority for authorizing the preparation of company-level policies and procedures that will involve additional requirements or increased cost. The SPPC identifies and involves other area project, functional, and department managers, as appropriate, in the review of proposed changes to procedures. Primary responsibilities for managing company-level policies and procedures is assigned to Functional managers responsible for the program administration and management of the content of company-level policies and procedures, and who report directly to business unit directors or the Office of the President. The Functional managers effectively integrate the formulation and implementation of

company-level policies, procedures, and processes, and review and approve company-level policies and procedures. The SPPC identifies and involves affected area project and functional managers in the review of proposed changes to procedures. The SPPC reviews requirements and cost/schedule impacts with the affected Functional managers and resolves any associated issues and to authorize the procedure coordinator/author to proceed with preparation of procedures that will add requirements or increase costs.

Additional committees, (see this attachment, paragraph 8,) provide input to company-level policy and procedure reviews and recommendations, and promote communications, networking, and lessons learned sharing that aids effective implementation of changes. The committees provide technical guidance to site-wide programs and foster integration of mutually acceptable concepts among the site programs and across organizational boundaries. The site Policies and Procedures Council Charter is embedded in Procedure Manual 1B, MRP 3.26.

(b) **Role of Company-Level Mechanisms in Implementing the ISMS Functions**

FUNCTION 1: Define Scope of Work

Primary Company-Level Procedural Mechanism:

Procedure Manual 6B	<i>Program Management Manual</i>	Functional manager: Management Services
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Related Agreement Mechanism(s): contract; Work Authorization/Execution Plan (WA/EP), site Safeguards and Security Plan (SSSP)

Discussion:

The *Program Management Manual* (Procedure Manual 6B) contains the mechanisms by which the contractor determines what work will be accomplished given the priority of the work and the available funding. The *Work Authorization Document*, described in that manual, authorizes a performing organization to execute a defined scope of work. According to the contract, the general management goals and objectives for the site are outlined in the site Strategic Plan and the Performance Management Plan (PMP). The site Strategic Plan addresses goals and objectives for the site, including those of the DOE Program Office. The EM PMP addresses the Accelerated Clean-Up objectives. In accordance with the Performance Evaluation Management Plan (PEMP), contractor performance of the DOE Program Office work will continue to be evaluated against PBIs, whereas performance of EM work will be evaluated against EM Clean-Up Objectives. An EM contract Performance Baseline (CPB) defines the scope of work under prescribed cases and the associated Budgeted Cost of Work Scheduled (BCWS)

The site management control system (MCS) is the process used to manage and integrate the mission requirements. The MCS transforms mission and requirements into a baseline consisting of scope, schedule, cost, and performance metrics. It also provides a prioritization process to ensure a balanced approach to line and support tasks and resources, and ensures that safety management is integrated into the budget process. The MCS provides the management structure for planning, integrating and accomplishing goals by organizing and defining the scope of work into a work breakdown structure (WBS) and an organization breakdown structure (OBS).

The WBS is a task or product oriented hierarchical tree that includes all authorized contract work and defines the end products and deliverables in manageable units of work. The clearly defined units of work are then integrated with a responsibility assignment matrix with the cross support of support organizations to align the proper technical disciplines with the appropriate elements of responsibilities. Contractor functional departments are staffed with the unique core personnel required to perform the primary duties associated with the site program requirements. Authorized work is assigned to a department based upon the nature of the work. The Organizational Breakdown Structure (OBS) identifies organizations required to fulfill the work authorization/execution plan (WA/EP) requirements. An OBS is used to assign responsibility to the various organizations required to plan and control the work. The SPPC approves Manual 6B procedures necessary to implement these activities.

The *Program Management Manual* (Procedure Manual 6B) also specifies use of the *Project Management and Control System Description Manual* (Procedure Manual E11), which establishes the site responsibilities and requirements for a process to perform cost effective planning, control, and execution of projects using a risk-based approach. That procedure is applicable to all projects at the site. For the purposes of that procedure, a project is defined as a unique effort that supports a program mission with defined start and end points, undertaken to create a product, facility, or system with interdependent activities planned to meet a common objective/mission. Projects include planning and execution of construction, renovation, modification, soil and groundwater closure projects, or decontamination and decommissioning efforts, and large capital equipment or technology development activities. When modifications are necessary, Project managers are directed by the *Conduct of Modifications Manual* (Procedure Manual 3S).

Early in the project/modification or proposed activity planning, a Safety Basis (SB) Strategy is developed according to Manual 11Q, Procedure 1.10. The SB strategy establishes the approach to be taken with regard to scope, strategy, materials, and methods that will become prime factors of the facility or activity Safety Basis.

A disciplined conduct of projects (DCOP) initiative is implemented primarily in Procedure Manual E11, *Conduct of Project Management and Control* to address

self-identified project management issues involving leadership, accountabilities and authorities, procedural compliance, and project scope control.

A facility evaluation board – project review team (FEB-PRT) has been established as part of the DCOP initiative to independently assess project compliance with standards, controls, and procedures to promote discipline and continuous improvement in the accomplishment of projects.

At the site level, the contractor and DOE-site line and program management utilize a prioritization process to decide which work scopes will be executed with the available funding. This process ensures that significant risks and safety hazards are identified, reviewed, and factored into critical funding decisions to ensure balanced priorities. The mechanism for setting expectations is described in the contract.

The site safeguards and security plan (SSSP) as described in the Security Manual (Procedure Manual 7Q) is used in addition to the WA/EP for defining the scope of S&S work and allocation of resources and is approved by DOE site and Headquarters program offices with concurrence by DOE Headquarters Security and Safety Performance Assurance Office.

FUNCTION 2: Analyze Hazards

Primary Company-Level Procedural Mechanism:

Procedure Manual 11Q*	<i>Facility Safety Document Manual</i>	Functional manager: Technical and Quality Services
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*The mechanism for analyzing Safeguards and Security Threats and Vulnerabilities, which are treated as hazards in ISMS, is Procedure Manual 7Q, *Security Manual*.

**Procedure Manual 11Q procedures that implement the USQ Program (per 10 CFR 830, subpart B) must be approved by DOE.

Related Agreement Mechanisms: safety basis documentation, vulnerability analysis reports and site safeguards and security plan (SSSP)

Discussion:

The facility safety document manual (Procedure Manual 11Q) is the primary document that specifies the process for determining facility hazard categories and specifies how to tailor the type and level of Safety Documentation to the type and level of hazards. That manual also specifies the documentation process to establish the safety envelope and approval authorities for Safety Basis documents. Additional guidance on the analysis and documentation of hazards is given in SCD-11, consolidated hazards analysis process (CHAP) manual described below.

In the area of Safeguards and Security (S&S), vulnerabilities and threats are treated much the same as traditional safety hazards. The Security Manual (Procedure Manual 7Q) is the primary document that specifies the process for determining the levels of threats and specifies how to tailor Safeguards and Security controls to the type and level of threat. The Vulnerability Analyses in the site SSSP serve as the S&S analog to safety basis documents. The SSSP must be approved by DOE-Headquarters program office with concurrence by DOE Headquarters Security and Safety Performance Assurance Office.

After a scope of work is defined, the hazards of specific work elements for facility modifications, new facilities, and new non-facility projects/activities are identified, and a Safety Basis Strategy is established according to Manual 11Q, Procedure 1.10. Once identified, hazards are analyzed and categorized by type and quantity as a basis for determining the documentation standards applicable to the work. The term Safety Documentation is used to describe this documentation. The *Facility Safety Document Manual* (Procedure Manual 11Q) addresses process hazards to workers, the public and the environment. The hazards analysis provides the foundation for identifying standards, requirements, and engineered controls needed to prevent/mitigate identified hazards. This foundation is a crucial element of the standards selection aspect of the site S/RID in that applicability of requirements is tailored largely to facility hazard categories. Functional Area 00 of the S/RID explains this aspect in detail and includes the identification of site facilities within each hazard category. Linking Documents (per Procedure Manual 11Q, Procedure 1.06) are used for all Hazard Category 1, 2, and 3 Nuclear Facilities to identify the linkage between Safety Basis requirements and the documents that implement the requirements.

Line management is responsible for the hazard analyses (a term used broadly here to include safety documentation and associated limits), change management of safety documentation, and assuring that the operation is within the safety envelope parameters (for nuclear facilities these are set forth in the safety basis). For nuclear facilities, the unreviewed safety question (USQ) process (Procedure Manual 11Q, Procedure 1.05) is the mechanism that ensures proposed changes can be conducted within the bounds of the approved safety basis. The analysis of inadvertent nuclear criticality hazards is addressed by *Nuclear Criticality Safety Manual* (-SCD-3).

The CHAP manual focuses the multiple Hazards analysis program requirements from several functional areas (including, but not limited to, occupational safety and health, nuclear and process safety, emergency management, environmental protection, fire protection, safeguards and security, radiation protection, packaging and transportation). Part of this manual is Hazmap, a tool that identifies and defines, for project planners, the characteristics of the various hazards analyses required at each stage of the life cycle of a facility from the conceptual, design and construction project, through the operational and finally, the D&D phases. The second part of CHAP integrates and consolidates much of the

analytical processes and data into a tighter, more unified process that reduces duplication, overlap and inconsistencies in large complex projects. Although the use of CHAP is optional (at the discretion of the project manager according to project complexity for new facilities and major facility modifications), it has been fully implemented by one the contractor organization and has been applied successfully to several projects in other organizations. Project managers may elect to prevent/control overlap, duplication, and inconsistencies in the hazards analyses without using CHAP for relatively smaller and simpler to manage projects.

At the activity/task level, implementation of an Assisted Hazards Analysis (AHA) process described in Procedure Manual 8Q, Procedure 120 is complete. The AHA process is an enhanced method for the assessment of safety, environmental, and radiological hazards associated with specific tasks, and the identification of controls needed to perform those tasks safely. The AHA process uses a graded approach, based on the complexity of the tasks, to define the level of involvement required for the completion of the AHA. Regardless of the complexity of the tasks, an AHA determination is required to ensure that the scope of the job is defined, the hazards are analyzed, and the controls are identified prior to performing work. The AHA Process, utilizing participation of workers in the identification of hazards, is directed by 8Q, Procedure 120 for work controlled by Procedure Manual 1Y, 8.20 for Maintenance work, Procedure Manual D3 for site utilities work, Manual C2, Procedure 2.05 for site D&D work, and for other stand-alone work not controlled by Manuals 1Y, D3, or C2. Following completion of the AHA and establishment of all identified controls, commencement of the work may be authorized by the Shift manager’s approval signature on the Safe Work Permit. Additionally, pre-job briefings are required before the work is executed.

More implementation details on Function 2 are presented below in paragraph 4, Protection of the Workers, the Public and the Environment. The *Security Manual* (7Q) specifies the measures necessary to determine appropriate protection of nuclear materials commensurate with the attractiveness of the materials for theft or diversion.

FUNCTION 3: Develop/Implement Controls

Primary Company-Level Procedural Mechanism:

Procedure Manual 8B	<i>Compliance Assurance Manual</i>	Functional manager: Technical & Quality Services
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Related Agreement Mechanism(s): *Standards/Requirements Identification Document*

Discussion:

The *Compliance Assurance Manual* (Procedure Manual 8B) details how all standards and requirements are documented, their applicability is determined, and compliance is assessed. The mechanism for cataloging ES&H requirement applicability for all facilities operated under the contract is the Standards/Requirements Identification Document (S/RID), a document approved by the DOE site office. The S/RID lists applicable ES&H requirements, and another document entitled *Applicable Non-ESH DOE Directives* are both incorporated into the contract by reference. The Rule will be included in this list of requirements incorporated into the contract but will be complied with regardless of the contract because it is enforceable under PAAA. This also is true for Title 10 CFR 850 *Chronic Beryllium Disease Prevention Program* because it is “deemed an integral part of the worker safety and health program under part 851” and is enforceable under PAAA (10 CFR 850.1 and 10 CFR 850.4 February 9, 2006 revision). The S/RID also may include optional standards identified in this Guide or other standards the contractor and DOE site office agree are needed.

The majority of the DOE Directive requirements that drive Safeguards and Security (Procedure Manuals 7Q, 10Q, and 14Q); Program Management (Procedure Manual 6B); and Headquarter program office-specified requirements are on the Non-ESH List. The contractually-driven requirements in the non-ESH List are mandatory unless exemptions are granted by the cognizant DOE-HQ office. Together, the S/RID and the Non-ESH List represent what is termed ‘List B’ in DEAR 970.5204-2. That DEAR Clause also defines an optional ‘List A’, a list of “...Applicable Laws and regulations...” A formal ‘List A’ is not documented; however, the S/RID includes those applicable laws and regulations that are ES&H requirements. Of course, the contractor is obligated to follow all applicable laws and regulations regardless of their presence on any list. The S/RID and the *Applicable Non-ESH DOE Directives* list are both administered by Procedure Manual 8B which directs that both are accessible on this site’s intranet system.

Any change to the S/RID requires the contractor and DOE-site formal approval through an S/RID change package. Refer to Functional Area 00 of the S/RID for additional discussion of the development, maintenance, and compliance activities associated with the S/RID. S/RID Functional Area 00 also contains listings of facilities grouped by hazard types and levels in a way that facilitates tailoring of the hazard control standards and requirements to the work and hazards at the listed facilities. The facility safety document manual (Procedure Manual 11Q) contains the hazard categorization criteria mechanisms for deciding which facilities appear on the various lists. Similarly, the Security Manual (the contractor 7Q) contains the procedures that tailor levels of protection commensurate with the potential security risks and vulnerabilities.

Procedure Manual 8B describes a part of the S/RID process whereby a Table 2 is developed to list a manual or procedure that implements each requirement

contained in Table 1 (S/RID). The integrated procedures management system (IPMS) shown in **Figures 3 and 5** provides the procedural controls for work to be accomplished in compliance with the S/RID requirements.

FUNCTION 4: Perform Work

Primary Company-Level Procedural Mechanism:

Procedure Manual 11Q	Facility Safety Document Manual	Functional manager: Technical & Quality Services
Procedure Manual 12Q	Assessment Manual	Functional manager: Technical & Quality Services
Procedure Manual 2S	Conduct of Operations Manual	Functional manager: Internal Oversight
Procedure Manual 1Y	Conduct of Maintenance Manual	Functional manager: Technical & Quality Services

Related Agreement Mechanism(s): *Authorization Agreements* for selected facilities per Procedure Manual 11Q, 1.08 are required by paragraph H.15 of the contract.

Discussion:

The *Assessment Manual* (Procedure Manual 12Q) defines the Mechanisms for confirming readiness to do work prior to startup or restart, establishes the basis for confirming readiness, identifies specific confirmation processes, and designates approval authorities. The specific confirmation processes are accomplished by conducting performance-based assessments at the facility/activity by observing qualified operators doing work using authorized procedures. The readiness confirmation process ensures that work may be conducted safely and in accordance with all S/RID and other contractual and regulatory requirements.

Operations at selected facilities (facilities of primary concern) are specifically authorized by authorization agreements (AAs) per the facility safety document manual (Procedure Manual 11Q, Procedure 1.08). AAs state the bases for DOE’s decision to authorize the specific scope of operations specified in the AA. The AA also contains the terms and conditions incumbent on the contractor to ensure the facility can be operated while protecting the environment and the health and safety of the workers and the public.

The *Conduct of Operations* (Procedure Manual 2S) and *Conduct of Maintenance* (Procedure Manual 1Y) manuals describe the Mechanisms for performing work safely following startup authorization and confirming readiness on a day-to-day basis at the facility/activity level. This is accomplished by Plan of the Day, Plan of the Week, pre-job briefings, shift turnover meetings, and work control programs.

The *Conduct of Operations Manual* (Procedure Manual 2S) sets forth operational standards at the activity/task level for: content, format and procedure approval;

communication and notification; training; and shift and facility operations. The *Conduct of Maintenance Manual* (Procedure Manual 1Y, Procedure 8.20) establishes a Work Control System (WCS) that ensures safety is planned and integrated into maintenance activities at the work-site level, and it implements the Computerized Maintenance Management System (Passport) that supports the work control processes.

Procedure Manual 1Y, Procedure 20.01, *Project Specific Addenda*, and Procedure Manual 2S, Procedure 6.1, *Alternate Implementation Approval* provide for documenting, reviewing and approving deviations, exceptions, and alternate implementation methods (from portions of the 1Y and 2S Procedure Manuals) for facility and non-facility activities and processes where: 1) the activity or process being performed is significantly different from that described in the 1Y and/or 2S Manuals, 2) the degree of risk associated with the exception/alternate implementation method is low and the financial impact of implementation is so high that meeting the requirements in the manner stated in these Procedure Manuals is not warranted. In either case, the alternate implementation method or deviation must meet established DOE Order and S/RID requirements or DOE authorization must be obtained to deviate from established requirements.

Use of the Assisted Hazard Analysis (AHA) process, described in Procedure Manual 8Q, Procedure 120, integrates the Hazard Analysis into the maintenance work planning process (1Y, 8.20), the site Utilities work planning process (Manual D3), the site D&D Work Control process (Manual C2, 2.05), and other stand-alone work not covered by Procedure Manuals 1Y, D3, or C2. The *Construction Management Department Manual* (Procedure Manual 1E6) specifies safety practices that address worker protection for personnel performing construction work, and construction engineering practices that help ensure the safety of the end user of the project. The conduct of research and development manual aligns the unique nature of R&D work to the five ISMS Functions and provides guidance to researchers on the use of ISMS mechanisms for R&D work. Regardless of the type of work to be done (i.e., Maintenance, Utilities, D&D, etc) the work control processes used are consistent with the Quality Assurance requirements contained in Procedure Manual 1Q, Procedure 9-4 *Work Processes*, and the Hazard Analysis requirements located in Procedure Manual 8Q, 120, *Hazard Analysis*. [Note: Effective 7/29/05, Procedure Manual 8Q, 122, Hazard Analysis (interim) was issued to replace 8Q, 120 over a six-month period. This new procedure includes, among other improvements, the use of a Safe Work Permit (SWP). The SWP, issued for a specified scope of work, serves to document and ensure the communication (via pre-job briefings) of the identified hazards, the applicable controls, and the authorization status of the work among the Lead Work Group Supervisor/manager, the Shift manager, and the Workers who must all sign the SWP. The SWP serves to ensure the required controls are in place and remain intact for the duration of the execution of the defined scope of work, and includes a feature for suspension of the SWP and notification of all parties who signed the SWP when a Stop Work Order is issued or a "Time Out" is

taken. When the issue has been resolved, the SWP can be re-authorized to resume work.

Line Management is responsible for tailoring site-wide safety programs to facility work using the *Conduct of Operations Manual* (Procedure Manual 2S) and the *Conduct of Maintenance Manual* (Procedure Manual 1Y) as basic operational doctrine (**Figure 5**). Each Line manager clearly communicates performance expectations for Conduct of Operations and Maintenance to all workers. Facility personnel are responsible for following procedures that prescribe the controls necessary to perform work safely. Only qualified personnel are allowed to operate and maintain facilities and equipment, except personnel-in-training in directly-supervised training situations. Qualified personnel have been trained to pay particular attention to safety during performance of work and to use appropriate procedures that assure work is performed safely and in accordance with all S/RID and other contractual and regulatory requirements.

FUNCTION 5: Feedback/Improvement

Primary Company-Level Procedural Mechanism:

<i>Procedure Manual 12Q</i>	<i>Assessment Manual</i>	Functional manager: Technical and Quality Services
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Related Agreement Mechanism(s): *Authorization Agreements* for selected facilities per Procedure Manual 11Q, 1.08 are required by paragraph H.15 of the contract.

Discussion:

The *Assessment Manual* (Procedure Manual 12Q) describes a requirements-based two-tiered system consisting of a) *Management Assessment*, based on 10 CFR 830.120 Subpart A, (QA Rule) and DOE O 414.1B Criterion 9, comprised of self-assessments (see Procedure Manual 12Q, SA-1) and performance analysis (see Procedure Manual 12Q, PA-1) using strong Line Management involvement; and b) *Independent Assessment* (see Procedure Manual 12Q, FEB-series procedures) based on 10 CFR 830.120 Subpart A, and DOE O 414.1B Criterion 10, *Independent Assessment*: a consolidated, multi-disciplined, independent, company-level ISM Evaluation (ISME) activity, performed by Facility Evaluation Boards. The expectation basis for assessments in both tiers is documented in assessment performance objectives and criteria SCD-4). These Performance objectives and criteria (POC) are linked to a smart sample of requirements from the S/RID as implemented by company-level Procedure Manuals. Assessments using POC selected from SCD-4 have proven appropriate for the following purposes:

- Demonstration of readiness for nuclear activity startup or restart;

- Effective identification of deficiencies and opportunities for performance improvement through self-assessment and independent oversight of operational activities;
- Providing a focus for management to evaluate performance data; and
- Demonstration of field adherence to policies and procedures when applied to operational activities.

The SCD-4 Functional Areas for assessments are listed in the table below:

Contractor-SCD-4 FUNCTIONAL AREAS

Functional Area (FA)	Title	FA	Title
01	Design	13	Emergency Preparedness
02	Construction	14	Review, Assessment & Oversight
03	Management Systems	15	Nuclear Criticality Safety
04	Training & Qualification	16	Testing
05*	Procedures (*moved to FA22)	17** (deleted)	Occurrence Reporting (**moved to FA03)
06	Safety Documentation	18	Safeguards & Security
07	Environmental Protection & Waste Mgmt.	19	Packaging & Transportation
08	Quality Assurance	20	Occupational Safety & Health
09	Configuration Management	21	Procurement
10	Maintenance	22	Conduct of Operations
11	Radiation Protection	23	Project Management
12	Fire Protection	24	Waste Management

Performance Analysis (per Procedure Manual 12Q, PA-1) is a process, conducted periodically, for identifying recurring problems and prioritizing improvement opportunities from the analysis of feedback information from all sources. Line Facility managers are required to conduct Performance Analyses of their operations semi-annually. Performance Analysis at the company level is performed quarterly of both event-based and review-based data for a 12-month period. The Performance Analysis Advisory Group (PAAG), sponsored by a management council manages the quarterly site-level performance analysis process. The Disciplined Operations Summary Indicator (DOSI) in the quarterly site-level performance analyses reports analyzes contractor ORPS event data and serves as a site high-level indicator for Disciplined Operations performance. The DOSI utilizes statistical control bands and includes an Alert feature to serve as a leading indicator of declining disciplined operations performance.

Facility evaluation boards conduct independent assessments of facility operations/activities, support organizations, projects, self-assessment programs, and site functional programs. The results of each evaluation are reported directly to the company president. The independent assessment program provides facility and senior management with performance-based information to support continuous improvement, to direct leadership resources, adjust personnel and financial resources, and identify areas of excellence. The program also satisfies contractual and regulatory obligations for company-level independent oversight.

In addition to Facility Evaluation Board (FEB) assessments, self-assessments and analysis of performance per Procedure Manual 12Q, feedback information is also generated by the following program areas:

- Price-Anderson Amendments Act (PAAA) Non-Compliance Tracking System (NTS) reportable non-compliances, per Procedure Manual 8B, CAP-11;
- Problems, documented and processed per MRP 4.23, site Tracking, Analysis, and Reporting (STAR) database;
- Stop work orders (SWOs), per Procedure Manual 1Q, QAP 1-2;
- Occurrence reporting, per Procedure Manual 9B, Procedure 1-0;
- Lessons learned program, per Procedure Manual 1B, MRP 4.14;
- Employee concerns program per Procedure Manual 1B, MRP 1.06;
- Maintenance history and trending per Procedure Manual 1Y, 16.01;
- Unreviewed safety questions (USQ) Program, including potential inadequacies in the safety analysis (PISA) per Procedure Manual 11Q, 1.05; and
- Security Self-Assessments, per Procedure Manual 7Q (based on DOE O 470.1), are conducted to review specific areas of the Safeguards and Security Program.

Feedback information is screened by the Regulatory Compliance Committee for potential significant Price-Anderson Amendments Act (PAAA) non-compliances in accordance with the *Compliance Assurance Manual* (Procedure Manual 8B) and combines with the Performance Analysis process (Procedure Manual 12Q) to ensure self-reporting and prevent recurrence of non-compliances. Additionally, DOE-HQ and DOE-site conduct periodic general and focused external independent assessments of ES&H and Safeguards & Security programs and activities.

Problems identified by the feedback sources listed above are processed through the *Corrective Action Program (CAP)*, MP 5.35, with corrective actions tracked using the STAR database described below. The process is implemented in a tailored manner, with problems assigned to one of four levels of significance, and includes the following elements: problem identification (including Extent of Problem determination), significance determination and problem analysis (including Extent of Condition determination); lessons learned evaluation; corrective action development, implementation and closure; and, effectiveness determinations of completed corrective actions. Post-closure Effectiveness Reviews of completed Significance Category (SC) 1 and 2 corrective actions (optional for SC 3; not required for SC 4) are conducted within 180 days to ensure that the potential for recurrence is minimized. The problem analysis manual contains the causal analysis tree used for assigning causes to identified problems and guidance for determining the type of causal analysis appropriate for the significance level of the problem. An electronic database process, site tracking, analysis, and reporting (STAR) per Procedure Manual 1B, MRP 4.23, defines the process for documenting and managing the resolution of identified problems to meet the requirements of the corrective action program defined in MP 5.35. The STAR process is similarly used for other facility/organization/project commitments and actions (i.e., non-problems) not associated with MP 5.35. The STAR database is an electronic format where problems are entered, analyzed, and associated actions tracked to closure.

In addition to the feedback and improvement mechanisms described above, there is an additional need to review, from a high-level perspective, the effectiveness of the entire Integrated Safety Management System. To satisfy that need, an annual review is conducted to verify the continuing effectiveness of ISMS. By analyzing and reviewing the aggregate of collected feedback data and trends, the annual ISMS review identifies major adjustments that need to be part of an ISMS improvement strategy directed by senior management. Results of the review and selected key performance indicators described below are used to provide input to Annual ISMS Declaration letter which the contractor submits to the DOE site office to support the annual DOE-site ISMS declaration (including all contractors, SREL and the Forestry Service) that is submitted to DOE-HQ. The ISMS declaration is a statement, with supporting justification, that the organization's top management official has determined that the organization's ISM System is fully implemented, maintained and functioning in an effective manner.

The ISM DEAR Clause, 48 CFR 970.5223-1 (e), requires the contractor, "...to annually review and update, for DOE approval, our safety performance objectives, performance measures, and commitments consistent with and in response to DOE's program and budget execution guidance and direction. The DOE ISM Guide, DOE G 450.4-1B, Chapter IV, outlines the various components of the "annual review." The "annual review" does not occur as a single discrete activity, but rather a number of individual actions that occur annually but at different times during the year, and for a number of purposes. Much of what is

reviewed annually involves safety goals and the program and budget activities described below, which are designed to prioritize what work is funded according to importance to safety and reduction of risk. Other annual review activities include the annual review/update of this ISMS Description and the Annual ISM Review (previously ISM Management Evaluation) for the prior calendar year. The S/RID is updated continually, as the manager of this DOE site, issues new or revised source requirements documents for implementation. The S/RID revision and review process is described in Procedure Manual 8B.

A key performance indicators (KPIs) system (described in site performance metric manual measures performance across the company in safety and security; technical capability and performance; community, state and regulatory relationships; cost effectiveness; and contract performance.

Under the safety and security performance measures are

- Industrial safety and health,
- Emergency services,
- Radiological safety,
- Nuclear safety, and
- Physical security.

The format for the KPIs is an annunciator system of key performance indicators (KPIs) with a color rollup scheme, established by the commercial nuclear industry. It provides a quick status overall summary of key operational, safety, and business performance. An example of the Overall Summary is shown in Figure 8 below.

The underlying principle behind each metric is the use of objectivity to assess performance. This system provides not only key information at a glance but also provides the contractor and the DOE site program and project managers the ability to “drill down” through the Focus Area Level 1 metrics to help identify the sources and effects of issues and actions. Instead of focusing only on individual events, it provides a view of emerging trends over the past twelve months.

Adequate resources to maintain and improve contractor ISMS are identified and allocated as part of the annual program and budget execution process. Much of the work under the contract involves D&D and cleanup projects designed to reduce the legacy risks to workers, the public, and the environment posed by the former production facilities. From an overall safety perspective, it is therefore appropriate to monitor the progress of those projects. In addition to the key performance indicators, the earned value management system (EVMS) is another way to monitor technical progress as well as cost and schedule of all work.

In addition, the contractor reviews and updates safety goals for the coming calendar year, and submits findings to the DOE site office. Status relative to these goals is reported quarterly. For the calendar year, the specific safety goals were in the following areas:

- Total recordable case (TRC) rate improvement,
- Days away restricted or transferred (DART) rate improvement,
- Transportation events,
- Personnel contaminations, and
- Employee radiation dose.

Focus Area	Level I				
Safety and Security G G G G	Industrial Safety G Y R Y	Emergency Services G G B B	Radiological Safety G B B G	Nuclear Safety B B B B	Physical Security G G G B
Tech Capability and Performance B B G B	Production B B B B	Infrastructure G G G B	Disciplined Operations B B G G		
Community, State and Regulatory Relationships G G G G	Environmental Compliance Index B B B B	Employee Relations G G G G			
Cost Effectiveness B G G B	Fee Performance B B B B	Feedback and Improvement B Y Y G	Processes for Improvement B B G B		
Contract Performance B B B G	Area-1 Closure G B B Y	Area-2 Completion B B B G	Liquid Waste Disposition B B B B	Waste Solidification G G G G	
	Soil and Groundwater Closure B B B B	Facilities Risk Reduction B B B B	Solid Waste Risk Reduction G G G G		

B Exceptional program, innovative process, or superlative performance;

G Effective performance which meets or exceeds requirements and expectations; therefore, only a maintenance level of management attention or resources is needed.

 The arrow shows how the metric has changed from the previous month. An up arrow is an improvement; a down arrow shows declining performance.

Y "Marginal." Yellow can be used to denote either of two conditions:
-Borderline or declining performance, which needs increased management attention and resources to achieve desired performance or to reverse a negative trend.
-Acceptable performance that relies on a set of conditions which could change and quickly send performance into the "Red" category.

R Degraded or adverse performance warranting significant level of management attention, resources, and improvement.

W Insufficient data or not applicable

 Blue and green metrics that are trending down, may not reach their goal, or other issues that should be brought to management attention.

Figure 8. Example Site Performance Indicators Annunciator Panel—Overall Summary View

The underlying principle behind each metric is the use of objectivity to assess performance. This system provides not only key information at a glance but also provides the contractor and the DOE site program and project managers the ability to “drill down” through the focus area level 1 metrics to help identify the sources and effects of issues and actions. Instead of focusing only on individual events, it provides a view of emerging trends over the past twelve months.

Adequate resources to maintain and improve ISMS are identified and allocated as part of the annual program and budget execution process. Much of the work under the contract involves D&D and cleanup projects designed to reduce the legacy risks to workers, the public, and the environment posed by the former production facilities. From an overall safety perspective, it is therefore appropriate to monitor the progress of those projects. In addition to the key performance indicators, Earned Value Management System (EVMS) is another way that both the contractor and DOE program and project managers can monitor technical progress as well as cost and schedule of all the contractor work managed as a project.

In addition, the contractor reviews and updates its safety goals for the coming calendar year, and president submits those to the DOE site office. Status relative to these goals is reported quarterly. For this calendar year, the specific safety goals were in the following areas:

- Total Recordable Case (TRC) Rate Improvement,
- Days Away Restricted or Transferred (DART) Rate Improvement,
- Transportation Events,
- Personnel Contaminations, and
- Employee Radiation Dose.

(c) **Role of Company-Level Mechanisms in Implementing ISMS guiding principles**

There are seven ISMS guiding principles. guiding principles 1, 2, and 3 apply to the implementation of all five of the ISMS Core Functions, whereas the remaining four guiding principles apply to specific Core Functions.

- 1) **Line Management Responsibility for Safety:** *Line management is responsible for the protection of the public, the workers, and the environment.*

This principle is primarily implemented by the requirements of MP1.22, *Integrated Safety Management System* and other sections of management policies and charters and Procedure Manual 1B, *the contractor*

Management Requirements and Procedures. In addition, specific procedures define line management actions and approval authorities that represent, for the subject matter covered by the procedure, managerial responsibility for safety.

- 2) Clear Roles And Responsibilities: *Clear and unambiguous lines of authority and responsibility for ensuring safety are established and maintained at all organizational levels within the company and its subcontractors.*

this principle is implemented by MP 1.22, and other sections of the contractor-1-01; Procedure Manual 1B, *the contractor Management Requirements and Procedures*; and Procedure Manual 1Q, *Quality Assurance Manual*. Each procedure in the Integrated Procedures Management System contains a section that defines roles and responsibilities for the conduct of that procedure. Procedure Manual 1B, MRP 1.24, *Development, Review and Approval of Memoranda of Understanding/Memoranda of Agreement* is mechanism that is used when necessary to document agreements concerning division of programmatic responsibilities among organizations or functions.

Responsibilities of subcontractors are clarified by subcontract language, as appropriate. Where safety and other responsibilities between two DOE contractors need to be made clear, this DOE site uses Memoranda of Understanding (MOU). One example of that is the MOU between this DOE site, the contractor, and another contractor regarding Security and Support Services responsibilities.

- 3) Competence Commensurate with Responsibilities: *Personnel possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities.*

this principle is primarily implemented through the requirements of Procedure Manual 4B, *Training and Program Qualification Manual*, Procedure Manual 5B, *HR Policies, Practices, and Procedures*, and Procedure Manual 1Q, *Quality Assurance Manual*.

- 4) Balanced Priorities: *Resources are effectively allocated to address safety, programmatic, and operational considerations. Protecting the public, the workers, and the environment is a priority whenever activities are planned and performed.*

This Principle, primarily implemented at the company level by the requirements of Procedure Manual 6B, *Program Management Manual*, most closely aligns with the first ISMS Core Function, Define Scope of Work.

- 5) Identification Of Safety Standards And Requirements. *Before work is performed, the associated hazards are evaluated and an agreed-upon set of safety standards and requirements are established which, if properly implemented, provide adequate assurance that the public, the workers, and the environment are protected from adverse consequences.*

this principle is primarily accomplished by selecting, based on the hazards analyses, the appropriate safety standards and requirements from the S/RID, developed according to Procedure Manual 8B, *Compliance Assurance Manual*. this principle most closely aligns with the third ISMS Core Function, Develop/Implement Controls.

- 6) Hazard Controls Tailored to Work Being Performed: *Administrative and engineering controls to prevent and mitigate hazards are tailored to the work being performed and the associated hazards.*

This Principle, supported by identification of safety standards (Principle 5 above) and the results of the Core Function 2 Hazards Analysis, is primarily accomplished by selecting the appropriate hazard controls that are incorporated into the design and operation of facilities and activities. *this principle* most closely aligns with the third ISMS Core Function, Develop/Implement Controls.

- 7) Operations Authorization: The conditions and requirements to be satisfied for operations to be initiated and conducted are clearly established and agreed-upon.

At the operating facility level, this principle is primarily ensured by compliance with the requirements in Procedure Manual 11Q, *the contractor Facility Safety Document Manual*, Procedure 1.08, *Authorization Agreements*; and Procedure Manual 12Q, *Assessment Manual*, Section 2, *Startup and Operational Readiness Assessments*. Authorization for work in the field to commence is integrated into the Hazard Analysis Process specified in Procedure Manual 8Q, 120. Before maintenance work (Procedure Manual 1Y) may commence in an operating facility, the Shift manager must release the facility/equipment by approving the Safe Work Permit (SWP). Similarly, Procedure Manual 8Q, 120 assigns authority, via an approved SWP, to commence work controlled by the D3 Manual for Utilities Operations and project, task-level, and other non-facility and stand-alone work. Work Control for site D&D project work (performed according to Procedure Manual 1C) is similarly addressed by a sub-tier procedure, C2, 2.05. Additionally, pre-job briefings are required before work may commence. This guiding principle most closely aligns with the fourth ISMS Core Function, Confirm Readiness and Perform Work Safely.

(d) **Protection of the Workers, the Public, and the Environment**

Operations on this site are conducted in a manner that protects workers, the public, and the environment. To establish a consistent approach by the entire site community, a *Site Workplace Safety, Health and Security Policy* was signed jointly by the top on-site officials of the following site organizations:

- Site office, Department of Energy;
- Site office, National Nuclear Security Administration (NNSA);
- The contractor;
- Contractor providing safeguards and security services;
- Site Environmental Laboratory; and
- U.S. Forest Service.

Because of the potentially far-reaching effects associated with the materials located at this site, many of the mechanisms employed by safety programs are directed toward protection of the public and the environment as well as the workers. Safeguards & Security support a broad safety role since many of the S&S requirements are focused on protecting safeguards and security interests from theft, diversion, industrial sabotage, radiological sabotage, toxicological sabotage, espionage, unauthorized access, loss, and compromise. Those and other hostile acts are treated by the ISMS similarly as hazards because they can cause unacceptable adverse impacts on national security, program continuity, and the health and safety of employees, the public and the environment. This section details how ISMS Mechanisms are specifically focused to protect the workers, the public and the environment.

Protection of the Workers

The worker safety-related programs used by the contractor, through the company level policies and procedures, ensure safety is integrated into all aspects of the work. The hierarchy of integrated worker protection program is depicted in **Figure 9**.

Various company-level procedures and manuals shown in **Figure 9** specify practices and requirements for worker safety. The worker safety elements include, but are not limited to: Procedure Manuals 8Q (*Employee Safety Manual*), 4Q (*Industrial Hygiene Manual*), 1Y (*Conduct of Maintenance*), 2S (*Conduct of Operation*), 5Q (*Radiological Control*), 2Q (*Fire Protection*), 18Q (*Electrical Safety*), 19Q (*Transportation Safety*), 13B, (*Chemical Management Manual*), the contractor-SCD-3 (*Nuclear Criticality Safety Program*), and the contractor SCD-6, *site ALARA Manual*. Requirements related to worker protection from

process hazards are addressed in Procedure Manual 11Q (*Facility Safety Documentation Manual*). Additional worker safety elements specific to construction work are addressed in Procedure Manual 1E6 (*Construction Management Department Manual*). Procedure Manuals 2S and 1Y contain provisions for alternate implementation methods for selected portions of those manuals for site utilities operations, facility decontamination and decommissioning, soil and groundwater closure projects, and other non-operating facility situations where certain features of 2S and 1Y are not appropriate. Those special provisions are approved and inserted into the respective Procedure Manual 2S or 1Y. The special provisions must meet S/RID requirements and be consistent with all company-level programs. At the activity level, implementation of the worker protection program is tailored to the activity/work according to Manual 8Q, Procedure 120, *Hazard Analysis*. That procedure invokes use of an Assisted Hazards Analysis (AHA) process to ensure the work is planned and conducted in a manner that meets S/RID requirements and is integrated with other company-level programs. The above policies and procedures address the requirements in the Rule. In addition to worker safety, many of the programs listed here also have features designed to protect the public and the environment.

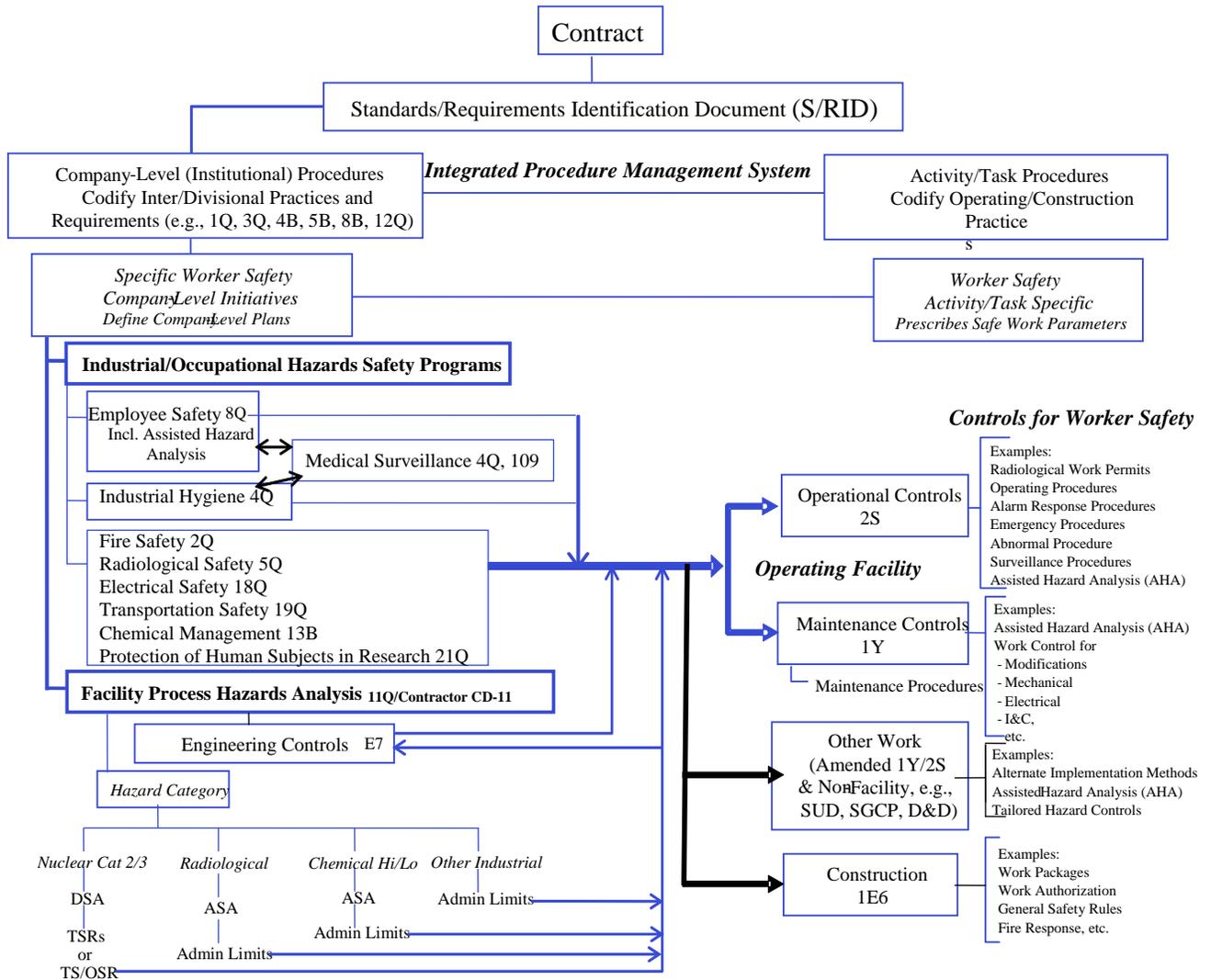


Figure 9. Site Worker Safety Program

The worker health -related programs used by the contractor, through the company level policies and procedures, ensure health is integrated into all aspects of the work. The Occupational Medical program provides key services to assure that individuals are qualified to perform work as well as provide assessments of the impact that work has on employee health. The Medical Surveillance Program, implemented by MP 4.3 Medical Programs and in collaboration with the Industrial Hygiene Procedure Manual 4Q, Procedure 109, is designed to identify and track physiological changes of workers exposed to occupational hazards. The roles and responsibilities are integrated among line management (having primary responsibility), the Field Industrial Hygiene staff, the Safety and Health Programs staff, the Medical Department, and the employees whose health must be

protected. Supervision is responsible to place personnel under their control into medical surveillance based on the Occupational Clinician and the Field Industrial Hygiene staff's determination of potential for employee exposure to chemical, physical, biological, or ergonomic hazards. The determination of hazard-specific medical surveillance for work groups is based on hazard assessments and exposure monitoring conducted at the worksite. The Medical Department is responsible for offering the appropriate medical surveillance of those personnel identified by supervision, and is responsible to inform supervision of all findings, and to inform Field Industrial Hygiene and Safety and Health Programs of any anomalies. Employees are offered medical surveillance and are required to conduct their work according to established procedures, to seek medical attention when necessary, and promptly to report all work-related injuries/illnesses and near misses. Occupational Clinicians, Field Industrial Hygiene staff and supervision work together to incorporate control measures for reducing exposures and otherwise improving working conditions. The Occupational Medicine program provides preplacement and medical certification evaluations to ensure that individuals are qualified to perform assigned work. Other medical program considerations, include recordkeeping and methods for validating, communicating, and using hazards and medical data for medical evaluations and worker exposure histories are integrated throughout Procedure Manual 4Q Medical Department internal procedures, and several other manuals, most notably Human Resources (Procedure Manual 5B) and Employee Safety (Procedure Manual 8Q).

ISMS is enhanced and supported by participation in the Voluntary Protection Program (VPP), a program that recognizes contractors that have excellent safety and health programs. The contractor was awarded "STAR Status" the highest VPP recognition category in November 2000. In November, 2003, a DOE-HQ-led team conducted a re-certification evaluation and STAR Status was recertified in February 2004. By design, VPP programs encourage individual responsibility, motivate employees to improve safety and health, and increase worker protection and morale. The five Key Areas of VPP are:

- 1) Management Leadership;
- 2) Employee Involvement;
- 3) Work-site Analysis;
- 4) Hazard Prevention and Control; and
- 5) Safety and Health Training.

The key areas of VPP are embedded in Integrated Procedures Management System (IPMS), most notably in the Procedure Manual 8Q. In terms of ISMS, the VPP "STAR Status" assessment resides in the fifth Function - Feedback/Improvement. The contractor has structured its Occupational Safety and Health Assessment Performance Objectives and Criteria in the contractor SCD-4 along the lines of the five VPP Elements. Therefore, conformance with the

desired VPP Elements is evaluated when organizations conduct Self Assessments and the Facility Evaluation Boards conduct independent oversight according to Procedure Manual 12Q, Assessments. This feature will enhance and continuously improve conformance to those VPP Elements on an ongoing basis.

Much of Work Control System (Procedure Manual 1Y, Procedure 8.20) was developed using the elements of an Enhanced Work Planning (EWP) process, a DOE initiative that later became the process for augmenting and implementing ISM at the task/activity level. Although EWP is no longer considered a separate program from ISM, the EWP key elements are characteristics of the Work Control System (Procedure Manual 1Y) and the Assisted Hazard Analysis (AHA) Process (Procedure Manual 8Q, Procedure 120) that is used for maintenance and non-maintenance work.

The following table illustrates the relationship among the elements of EWP and VPP and ISMS Functions and Principles, and it identifies mechanisms that implement those elements.

EWP ELEMENT	ISMS FUNCTION, PRINCIPLE, or GUIDANCE	The contractor MECHANISM (also see Fig. 6)	VPP ELEMENT
Line Management Ownership	Line Management Responsibility for Safety (Principle # 1)	The contractor-1-01 selected Policies & Charters; Procedure Manual 1B & procedure manuals	Management Leadership
Worker Involvement	“managers and workers at all organizational levels should be involved in developing, maintaining, and improving the controls that must be applied...” (DOE G 450.4-1B, Sect. 1.1)	Site Workplace Safety & Health Policy, Procedure Manual 8Q, Assisted Hazard Analysis, Behavior-Based Safety	Employee Involvement
- - -	Analyze Hazards (Function # 2)	Procedure Manuals 11Q, 8Q-120 et. al.	Work site Analysis
- - -	Develop/Implement Controls (Function # 3)	Procedure Manual 8B, et. al	Hazard Prevention and Control
- -	Competence per Responsibilities (Principle # 3)	Procedure Manuals 4B, 5B, 1Q	Safety and Health Training
Graded Approach	Tailored Hazard Control (Principle # 6) (Tailoring Guide)	Procedure Manuals 8B, 11Q, E7, et.al.	- - -
Organizationally Diverse Teams	“ The Safety Management System should integrate ...among the different organizational elements.” (DOE G 450.4-1)	Procedure Manuals 8Q and 1B, MRP 3.26, et.al, Fifth Imperative: “Teamwork” & Committees/Councils	- - -
Organized Communication	Feedback/Improvement (Function 5)	Procedure Manual 12Q	- - -

The Employee Involvement element is also enhanced via Behavior-Based Safety (BBS) initiatives. To augment and support the effectiveness of traditional safety programs, the concepts of Behavior-Based Safety (BBS) are valued and endorsed by senior management. Whereas traditional safety programs primarily focus on identifying and eliminating unsafe conditions and practices, the behavior-based safety process is focused on identifying and eliminating “at risk” behaviors of people that statistically account for 96% of all workplace accidents. The foundation of this process is to involve individual workers directly in eliminating their own at-risk behaviors through the use of positive reinforcement techniques. Implementation of the BBS Program is coordinated by the site Behavior-Based Safety Steering Committee, as described in Procedure Manual 8Q, Procedure 2. BBS Local Safety Improvement Teams work with their respective organization Safety Committees to address BBS implementation issues and specific safety matters at the organization or facility levels. A BBS database, accessible from the site e-mail system, is used by individual BBS Observers to log BBS Observations. The accumulated data is available for analysis and trending to identify behaviors that need to be addressed site-wide to improve site safety performance.

Although primarily targeted at improving employee safety, BBS techniques are also supportive continuous improvement initiatives. Conduct of Operations performance impacts worker safety as well as protection of the public and the environment. One example of an initiative that is targeted directly at Conduct of Operations performance improvements is First Line manager Leadership Development Training that introduces First Line managers to a broad spectrum of leadership concepts and practices designed to improve the effectiveness of supervisory oversight.

The contractor implements a Near Miss Program (Procedure Manual 8Q, Procedure 18), in which near miss incidents and minor injuries are reported and analyzed for corrective actions that may prevent the recurrence of similar incidents having potentially more severe consequences.

Protection of the Public

The contractor has programs designed to protect the public from process accidents or other events occurring at the site. Procedure Manuals 11Q (*Facility Safety Documentation Manual*) and 6Q (*Emergency Management Program Procedure Manual*), serve as focal points to integrate a number of additional ISMS mechanisms to help prevent and/or mitigate the hazards to the public associated with all site facilities and activities. A system of safety documentation is required by Procedure Manual 11Q to identify all process-related hazards and analyze the adequacy of the identified controls or defenses. *Conduct of Engineering and Technical Support Manual* (Procedure Manual E7), *Conduct of Operations Manual* (Procedure Manual 2S), and *Conduct of Maintenance Manual* (Procedure Manual 1Y) provide guidance for implementing those identified controls and defenses. Procedure Manual 8Q, 120 *Hazard Analysis* prescribes the Assisted Hazard Analysis (AHA) Process for identifying and controlling hazards, as well

as authorizing work for maintenance work in operating facilities. The AHA Process is also used for other types of task-level work not specific to operating facilities (e.g., Decontamination and Decommissioning, Soil and Groundwater Closure Projects, Utilities, and other non-facility and stand-alone work not controlled by Procedure Manual 1Y, Procedure 8.20).

The site Emergency Management Program Procedures Manual (Procedure Manual 6Q), along with the *site Emergency Plan* (the contractor-SCD-7), coordinate the emergency management aspects of the Fire Protection, Radiological Control, Environmental Management, Safeguards, Security, and Transportation Safety Programs among others, as well as providing the required coordination with offsite emergency planning and response authorities. Specific requirements that assure protection of the public from incidents involving hazardous and radioactive materials transported on site or shipped from site are addressed in *Transportation Safety Manual* (Procedure Manual 19Q).

Protection of the Environment

The *Environmental Compliance Manual* (Procedure Manual 3Q) contains the mechanisms for maintaining all of facilities and activities in compliance with all applicable federal, state, DOE, and local environmental requirements, and contains Programs for Pollution Prevention and Waste Minimization. Environmental Management System, fully integrated into ISMS, complies with DOE O 450.1, *Environmental Protection Program*. Additionally, a site Environmental Management System Policy was approved by the Senior managers of this DOE site office, this NNSA site office, the contractor, the contractor responsible for site safeguards and security, the site Environmental Laboratory, and the U.S. Forest Service. All site organizations participate in a site-wide environmental program described in the *site Environmental Management System Description Manual*, G TM-G 00001, Rev. 3. As described above for worker and public safety, the engineering, operational, and maintenance controls provided by the *Conduct of Engineering and Technical Support Manual* (E7), *Conduct of Project Management and Control Manual* (E11), *Conduct of Operations Manual* (2S), *Conduct of Maintenance Manual* (1Y), *Facility Disposition Manual* (1C) are the primary mechanisms that ensure the site missions are achieved while protecting the environment. An example of commitment to Pollution Prevention and Waste Minimization is Procedure Manual E7, Procedure 1.41 *Pollution Prevention in Design*. That procedure provides the process, responsibilities and requirements for inclusion of Pollution Prevention into the design phases of new facilities and modifications to existing facilities. Properly applied, any additional cost incurred in design/construction to achieve Pollution Prevention and Waste Minimization objectives will be offset over the life of the facility by minimizing future waste management and environmental remediation cost.

A.6. ISMS DESCRIPTION CHANGE CONTROL PROCESS

The change control process for this descriptive section of the S/RID is the same as for any other portion of this S/RID, as described in S/RID Functional Area 00.

A.7. GLOSSARY

AA - Authorization Agreement: A documented agreement between DOE and the contractor that contains the terms and conditions that DOE relies on to determine that a nuclear facility can be operated safely and in compliance with all applicable laws and regulations relating to worker and public safety and protection of the environment.

AB – Authorization Basis Documents: The set of Safety Basis documents that must be approved by DOE.

AHA – Assisted Hazards Analysis

ALARA – As Low as Reasonably Achievable

CHAP – Consolidated Hazard Analysis Process

CMC – Chemical Management Center (formerly the Chemical Commodity Management Center)

CPB – Contract Performance Baseline (similar to the former AOP but for multiple years)

DCOP – Disciplined Conduct of Projects

DNFSB – Defense Nuclear Facilities Safety Board

DOE-EM – DOE Office of Environmental Management

DOE-NNSA – The part of DOE activities at this site with National Nuclear Security Administration Programs.

DOE site office – The part of Department of Energy site office not associated with NNSA

DOE site – A term used to include all DOE and NNSA site Operations

Clean-Up Incentives – Incentives similar to PBIs, except for clean up work only

ESH&QA - Environment, Safety, Health & Quality Assurance

FEB - Facility Evaluation Board, independent assessment organization

FOSC – Facility Operations Safety Committee

Hazard Analysis – A term used broadly in ISM to discuss all aspects of hazards identification and analysis, safety and accident analyses and associated documentation

IPMS – Integrated Procedure Management System

KPI – Key Performance Indicator

MCS – Management Control System

PAAA – Price Anderson Act Amendments

PBIs – Performance Based Incentives (similar to former Annual Operating Plan (AOP) except for multiple years – used for NNSA work under a contract)

QAMP – Quality Assurance Management Plan

SB – Safety Basis: The documented safety analysis and hazard controls that provide reasonable assurance that a DOE nuclear facility can be operated safely in a manner that adequately protects workers, the public, and the environment. (See AB above)

SGCP – Soil and Groundwater Closure Projects (formerly Environmental Restoration)

Intranet – site Information Network Environment – the site intranet

SPPC – site Policies and Procedures Committee

S/RID – Standards/Requirements Identification Document

SSSP – site Safeguards and Security Plan

STAR – site Tracking, Analysis, and Reporting database

SUD – site Utilities Department

SWP – Safe Work Permit

WA/EP – Work Authorization/Execution Plan under a contract (formerly Work Authorization and Performance Baseline (WAPB) and prior to that, Annual Operating Plan (AOP))

A.8. BIBLIOGRAPHY: DOCUMENTS CONTAINING ISMS MECHANISMS

(a) Management Policies (MPs) and Charters

MP 1.2 Management Policies, Requirements, and Procedure System

The contractor will establish and maintain a controlled system of written management directions in the form of policies, requirements and procedures. These management directions will govern the activities of the contractor

employees performing work under the prime contract with the Department of Energy (DOE) as well as those of its subcontractors.

Unless otherwise stipulated, the provisions of these policies, requirements, and procedures apply to the contractor and other members of the Performing Entity (as listed in the contract) for management and operations at this site and to subcontractors performing work for any member of the Performing Entity when required by contract or applicable law.

Written management directions provide the contractor and subcontractor employees with clear documented guidelines consisting of policies, work procedures, performance requirements, process or equipment operational limits, and rules of conduct. This policy gives Functional managers approval authority for company-level policies, procedures and processes. Line management is responsible for determining the need and initiating the preparation of operating procedures.

MP 1.11 Open Communication

The contractor recognizes that free and open expression of employee workplace issues and concerns is a fundamental characteristic essential to the safe, efficient and effective operation of this site. In order to safeguard employee and public health and safety, ensure compliance with applicable laws and regulations, and support mission to operate this site in a safe, efficient and cost effective manner, the contractor promotes and encourages open and honest communication of issues and concerns that have the potential for adverse affect on the site or its employees. It is the policy of the contractor that employees be allowed to identify and seek resolution of their workplace issues and concerns in a reprisal free environment, with the expectation that they will be fully addressed. The Employee Concerns Program (ECP) provides an independent and impartial avenue for the contractor and subcontractor employees to seek assistance in addressing concerns related to environmental, safety, health, quality, safeguards & security, waste/fraud/abuse, mismanagement, reprisal and other matters, where management systems or existing programs have failed to adequately address the issue, the employee genuinely fears retaliation should existing avenues be sought, or the employee requires anonymity.

MP 1.18 Employee Training

The contractor will provide training that supports employee performance of work assignments, and that contributes to the safety and formality of operations. All of training activities will be compliant with applicable DOE Orders, Federal and State laws/regulations, and training requirements, procedures, and policies. A graded approach to all training activities will be utilized to ensure training is developed, implemented, and evaluated in a cost effective, efficient manner. The Training managers Committee will advise management on site training needs, program goals, and priorities.

MP 1.22 Integrated Safety Management System

The contractor operates within a framework aligned with the principles and functions of Integrated Safety Management. The objective of ISM is to systematically integrate safety into management and work practices at all levels so that missions are accomplished while protecting the public, the worker, and the environment. This is accomplished through effective integration of safety management into all facets of work planning and execution. Stated more simply, the objective of the Integrated Safety Management System (ISMS) is to “Do Work Safely.” ISMS is the overall management system for conducting work under this contract, (hereafter referred to as the contract) including subcontracted work. ISMS satisfies all requirements of the DOE Policy 450.4, *Safety Management System Policy*, and DOE Acquisition Regulations (DEAR) clauses 970.5223-1, *Integration of Environment, Safety, and Health into Work Planning and Execution*, 970.5204-2, *Laws, Regulations, and DOE Directives* and 10 CFR 851 *Worker Safety and Health Program*. The DEAR clauses appear in the contract, whereas DOE P 450.4 and 10 CFR 851 appear in the *Standards/Requirements Identification Document (S/RID – the contractor-RP-94-1268)*. S/RID satisfies the requirements of DEAR 970.5204-2.

For the purpose of this policy, the term safety encompasses protection of the public, workers, and the environment, including safeguards and security, pollution prevention, and waste minimization. Since safeguards and security requirements are integrated into ISMS, the ISMS also satisfies the basic requirements of DOE P 470.1, *Integrated Safeguards and Security Management System (ISSM) Policy*. Additionally, the terms employees and workers include subcontractor employees.

This procedure applies to members of the performing entity for management and operations at this site, and to subcontractors performing work for any member of the Performing Entity when required by subcontract or applicable law.

This policy also establishes a mechanism for the contractor to meet the applicable requirements in support of contractual obligations. For a current list of Source Document references, go to the Standards/Requirements Identification Document (S/RID) webpage accessible through the site intranet.

MP 2.19 Workplace Violence Policy

This policy sets forth position that violence, threats of violence and intimidation, or coercion in the workplace will not be tolerated. goal is to provide a safe work environment that is free from violent behavior and threats of physical violence. Any occurrence of violent behavior or threat of physical violence is unacceptable conduct and is strictly prohibited. To assure a workplace free of violence or threats of violence, this policy is to be implemented at all work locations. This policy applies to all employees and/or applicants of the contractor and its partners. Additionally, this policy establishes responsibilities for appropriately responding to incidents of workplace violence.

MP 3.3 Procurement and Materials Management

The contractor will develop, implement and maintain a fully documented Procurement and Materials Management System, including subcontract management and field procurement engineering, in accordance with the contract. This system will provide for purchasing and asset management operations that will be conducted consistent with the highest standards of good business ethics and conduct, and in accordance with approved policies and procedures. Materials Management operations will be conducted in accordance with applicable laws, regulations, and directives.

MP 3.6 Transportation

The contractor will ensure all transportation functions are conducted in the safest and most cost effective manner. The contractor Transportation Program including: shipping and trucking operations, transportation support services, hazardous materials services, traffic services, mail services, driver safety compliance, centralized trucking and railroad operations, will comply with applicable U.S. Department of Transportation regulations and U.S. Department of Energy orders and directives. Overall guidance for implementing and maintaining the Transportation Program is provided in appropriate manuals and procedural documents.

MP 3.32 Earned Value Management System (EVMS)

The contractor will apply EVMS – an integrated management control system – to all work at site that is managed as a project. Use of EVMS will allow both the DOE and Program and Project managers to have visibility into cost, schedule, and scope/technical progress on their contracts for the purpose of performance measurement and management. The Facility Evaluation Board Project Review Team (FEB-PRT) will assess project compliance with established procedures (including ISMS implementing procedures).

MP 4.1 Environmental Assurance

The contractor will:

- Operate and maintain company-managed facilities in compliance with applicable laws, regulations and Department of Energy (DOE) directives for the protection of the environment, and the safety and health of personnel.
- Design, construct and operate new facilities in a manner that ensures that exposure of individuals and population groups to radioactive and other hazardous materials is as low as reasonably achievable (ALARA).

- Reduce to the maximum extent practicable the purchase and use of hazardous materials. Where such use is necessary; store, use, recycle, treat, and dispose of these materials in a manner that ensures appropriate protection for the environment and human health.
- Manage all facilities and activities in a cost-effective and environmentally responsible manner, minimizing the generation of all types of waste (non-hazardous, hazardous, radioactive, and mixed) and continually striving to reduce the load on waste treatment, storage, or disposal facilities by reducing the quantity or toxicity of waste.
- Establish a Process Ventilation Management Program to ensure that the site's process ventilation systems will perform their important role in minimizing employee exposures and unplanned environmental releases of airborne radioactive contamination and other hazardous materials.
- Establish a Refrigerant Management Program to provide site wide coordination for the reduction of chlorofluorocarbon (CFC) refrigerant usage and support required refrigerant containment practices.
- Identify and characterize all waste streams with sufficient accuracy to ensure regulatory compliance and to allow proper minimization, segregation, treatment, storage, and disposal.

MP 4.2 Quality Assurance

The contractor provides products and services which meet the requirements and expectations of our customers. Quality Assurance Program (QAP) will be implemented in a manner supporting implementation of: safety, disciplined operations, cost effectiveness, continuous improvement, and teamwork. This policy also establishes a mechanism for the contractor to meet the applicable requirements in support of contractual obligations.

MP 4.3 Medical Programs

The contractor will implement an employee medical program in compliance with applicable Department of Energy (DOE) requirements and federal and state regulation requirements. It is the policy of the contractor to provide a quality occupational health program that assures physical capable workers by providing preplacement, medical certification and surveillance services, provides assessment of the impact of work on employees health and that promotes the physical and mental well-being of our customers while maintaining medical information in a confidential, ethical and legal manner.

MP 4.4 Radiological Protection

The contractor will provide for the radiological protection of employees, other site contractor and subcontractor personnel, visitors, and members of the general public from radiation exposure originating from operations of the site. Radiation exposure of the work force and public will be controlled such that radiation exposures are well below regulatory limits, that there is no radiation exposure without commensurate benefit, and that it is maintained as low as reasonably achievable (ALARA) at all times. No person will take or cause to be taken any action inconsistent with the requirements of 10 CFR 835 or any program, plan, schedule, or other process established by 10 CFR 835. However nothing in 10 CFR 835 will be construed as limiting actions that may be necessary to protect health and safety.

MP 4.5 Nuclear and Process Safety

The contractor will manage this site in a manner that ensures there is no undue risk of nuclear and process accidents that could adversely affect the health or safety of employees, visitors, members of the general public or the environment. For all activities, the continued assurance of the capability and capacity for safe operations will remain paramount to protect facilities and the environment from unacceptable risks. (See also MP 6.10; Procedure Manual 11Q; the contractor-SCD-3)

MP 4.7 Occupational Safety Policy

The contractor will provide a safe, clean, working environment for employees, visitors, subcontractors, and the public that facilitates effective job performance and is in compliance with all applicable regulations and the philosophy of the DOE. Higher standards of care in the practice of occupational safety and health will be provided as needed for personnel or public protection, essential program continuity, or national security. The safety and health of employees will be of the highest priority of the contractor. Work will stop immediately rather than continuing unsafely.

MP 4.8 Control and Accountability of Nuclear Material

The contractor will implement and maintain a graded safeguards program to ensure that nuclear materials are protected, controlled, and accounted for; that safeguards programs are designed to meet defined threats; and that programs are effectively coordinated and integrated at all levels of operation. This policy will implement applicable Department of Energy (DOE) orders. The contractor will control and account for all nuclear materials which have been entrusted to it. This accountability requirement will be a paramount concern in all organizations that use or store nuclear materials.

MP 4.9 Integrated Safeguards and Security Management

The purpose of this policy is to formalize an Integrated Safeguards and Security Management (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 Department of Energy (DOE) directives and contracts. The ISSM system framework encompasses all levels of activities and documentation related to Safeguards and Security management throughout the DOE complex.

Throughout this policy, the term ISSM includes all topical areas of safeguards and security (e.g., personnel, physical, information, nuclear safeguards, cyber security) and related cross-cutting areas (e.g., export control, classification, foreign visits and assignments, and foreign travel). ISSM will ensure the adequate protection of DOE assets (e.g., classified matter, unclassified sensitive matter, and U.S. Government property).

MP 4.10 Computer and Technical Security

The contractor will operate computer and telecommunications systems in a secure environment that stresses strict adherence to communications and operations security, test procedures, and technical surveillance countermeasures (TSCM). This policy implements applicable Department of Energy (DOE) orders.

The contractor will protect classified and sensitive unclassified data that is processed on computers and transmitted over telecommunication systems. To meet this requirement, the contractor will determine and apply the most cost effective computer security measures and train computer users in the use of all available and applicable safeguards. The measures chosen will be consistent with the available technology, processing, frequency, the classification level or sensitivity of data handled or produced, the environment in which the computer system operates, the degree of risk that can be tolerated, and other factor that may be unique to the system. Each employee and line manager will apply this policy in the conduct of daily activities, in developing plans and procedures, and in the construction of new facilities or installation of new equipment.

MP 4.11 Control of Classified and Sensitive Information

The contractor will protect classified and sensitive information through the use of the Information Resources Control (IRC) Program. This program will implement applicable Department of Energy (DOE) orders.

The contractor will comply with DOE orders and federal laws governing the receipt, storage, use, and distribution of classified and sensitive information. Documents or other materials developed in support of classified programs will be properly marked and protected. Line management will ensure that this policy is

considered in every aspect of their operations. Each employee will understand and comply with his responsibilities under this policy and ensure the compliance of all other employees.

MP 4.12 Emergency Preparedness

The contractor will provide for the continued safety of employees, other contractor personnel, visitors, and members of the general public during emergency conditions such as serious accidents or natural disasters. Preparations will be made to manage emergency conditions. This will include minimizing the risk of personnel injury and maintaining exposure of employees, the environment, and the public to radioactive or hazardous materials to a level as low as reasonably achievable (ALARA).

MP 4.15 Industrial Hygiene

The contractor provides a place and condition of employment that is free from, or protected against, recognized hazards that cause or are likely to cause sickness, impaired health and well-being, or significant discomfort and inefficiency among workers. This occupational health objective is achieved through a professional, comprehensive Industrial Hygiene (IH) program based on management commitment and employee involvement, worksite analysis, hazard identification, hazard prevention and control, and safety and health training

MP 4.16 Fire Protection

The contractor is committed to support a level of fire protection and emergency response capability sufficient to minimize the potential for accidental death, serious injury, and significant property losses from fire and related hazards consistent with the best class of protected property in private industry. The contractor provides a comprehensive fire protection program that achieves defense in depth for this site. Additionally, an emergency response capability is being maintained that will provide reasonable assurance that a sufficient number of emergency responders will arrive in a timely manner at the scene of any credible emergency with sufficient resources to effectively mitigate it. This includes emergencies involving casualties. This policy establishes that fire protection program will address the following objectives:

- Minimize the potential of occurrence of a fire or related event.
- Minimize the potential for a fire that causes an unacceptable on-site or off-site release of hazardous or radiological material that will threaten the health and safety of employees, the public, or the environment.
- Minimize the potential for accidental death and serious injury from fires and related events.

- Minimize the potential for vital DOE programs suffering unacceptable interruptions as a result of fire and related hazards.
- Minimize the potential for property losses from a fire and related events exceeding defined limits established by DOE.
- Minimize the potential for critical process controls and safety class systems being damaged as a result of a fire and related events.
- Provide an acceptable level of safety from fire and related hazards for DOE personnel, contractor personnel, and for the public to include appropriate facility and site-wide fire protection, fire alarm notification and egress features, and access to a qualified and trained fire protection staff, including fire protection engineers, technicians, and a fully staffed, trained and equipped fire department that is capable of responding in a timely and effective manner to site emergencies.

Specific support activities for organizations will be specified by memorandum of understanding. The specific requirements of this policy are met through implementation and enforcement of a comprehensive fire protection and emergency response program, which is documented in (insert reference(s) to applicable contractor fire protection and emergency response program documents. Example: Procedure Manual 2Q, Fire Protection Program Manual, other manuals in the 2Q series, and facility specific procedures.) This program is based on the site Standards/Requirements Identification Document (S/RID) which invokes applicable DOE orders, nationally recognized fire codes and standards, and accepted industry practices.

MP 4.20 Conduct of Operations

The contractor will establish and maintain a conduct of operations program to enhance the safe operation of its facilities. Conduct of operations will, as a minimum, apply to all programs and functions of its facility operations that may have an impact on the safety of the public, environment, and personnel. "Conduct of Operations" is defined here as the minimum acceptable level of performance expected of operations and support personnel that may affect safety.

MP 4.24 Protection of Human Subjects in Research

The contractor will implement a program to ensure that the rights and welfare of human research subjects are protected. All research involving human subjects conducted at this site, or by employees at other locations, will be conducted in accordance with requirements for protection of human subjects found in Department of Energy (DOE) regulations and other pertinent federal, state, and local laws or regulations. For the purposes of this policy, research is defined as systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge.

NOTE: The contractor does not conduct basic human experimentation, for example, research necessary to evaluate new treatments for cancer. However, to ensure that proper protection is afforded to individuals, the DOE applies the requirements for protection of human subjects to a wide range of situations that normally might not be considered human subjects research.

MP 4.25 Behavior Based Safety (BBS)

It is the policy of the contractor to establish and sustain a Behavior Based Safety (BBS) process to reduce workplace accidents. The BBS process promotes safe operation of site facilities through enhanced worker awareness. The BBS process supports the site's goal of world class safety performance and vision of an injury-free culture by promoting safe behaviors and eliminating at-risk behaviors.

MP 5.5 site and Facilities Management

The contractor will effectively manage all property and facility resources for which it has responsibility in accordance with corporate policies and guidelines, government regulations, DOE requirements, and procedures.

MP 5.7 Configuration Management

It is policy that configuration management be used in development, design, construction, start-up, maintenance, operation, and dispositioning of all nuclear facilities and for other facilities that will implement configuration management to help achieve full accountability and traceability in the areas of safety, environment, and health protection.

In accordance with this policy, configuration management of facility structures, systems, components (SSC) and process computer software, ensures that technical baseline documents completely and accurately state the SSC's functional, physical, and operational requirements and physical configuration satisfies the requirements stated in its technical baseline documents; and that processes are implemented to maintain compatibility between an SSC's requirements, technical baseline documents and physical configuration throughout the SSC's life cycle.

MP 5.20 Maintenance Management

The contractor will implement and maintain a safe and cost effective maintenance program for all assigned DOE site systems, structures, components and stand-alone assets.

MP 5.24 Facility Disposition

The contractor will conduct disposition of designated excess facilities and associated equipment in accordance with S/RIDS, applicable DOE Orders, and supplemental manuals as listed in the References. All related activities will be performed in a cost effective manner through systematic planning, scheduling,

execution, evaluation, and documentation to ensure the health and safety of the worker, the public, and the environment. This policy is applicable to all activities for facility disposition. Disposition begins when the DOE terminates facility operations for the purpose of a defense, research, or other mission and declares the facility excess (including process equipment and all associated assets) to the department's needs.

MP 5.27 Engineering and Construction Subcontracting

The contractor will support (DOE) contract reform initiatives in the areas of engineering and construction by implementing cost-effective strategies to maximize fixed-price task subcontracting. Work control and daily planning practices will isolate tasks to the extent possible so that risks of subcontractor activities adversely impacting operations and/or operations adversely impacting subcontractor commitments and safety are minimized. Site management and overhead support will be minimized by maximizing the freedom of the contractor to perform defined tasks within isolation boundaries established through work control and the subcontract.

MP 5.35 Corrective Action Program

The contractor establishes and implements a company-level corrective action program that serves to correct and prevent recurrence of problems affecting personnel safety, operational safety, regulatory compliance or business operations. This program is required for managing problems that are identified through company-level deficiency identification processes, lower-level processes that result in documenting problems, and selected external processes that may result in identification of problems. The corrective action program includes the following elements:

- Problem Identification (including Extent of Problem determination);
- Significance Determination (basis for tailored approach);
- Problem Analysis (including Extent of Condition determination);
- Lessons Learned Evaluation;
- Corrective Action Development;
- Implementation and Closure; and
- Effectiveness Reviews.

Company-Level Processes

As a minimum, the following company-level deficiency identification processes are included within the scope of this policy:

- Problem Identification and Resolution (PIR) Process;
- Price Anderson Amendments Act (PAAA) and 10 CFR 851 Noncompliance;
- Occurrence Reporting System (ORPS) to include Department of Energy (DOE) Occurrences/Events Reportable & Non-Reportable Occurrences/Events within the specified Reporting Groups of the DOE Occurrence Reporting System;
- Quality Assurance (QA) Stop Work Orders (SWO);
- QA Audits/Surveillances;
- Management Assessments (that is, Self-Assessment, Performance Analysis);
- Integrated Safety Management Evaluations (that is, Facility Evaluation Board {FEB} evaluations); and
- Security Incident Inquiries.

Lower-Level Processes

Lower-level Business Unit/Facility/Project processes that result in identifying and documenting problems, as defined within this policy, are included within the scope of this policy. This includes, but is not limited to, problems identified through assessments, reviews, critiques, and other similar activities. However, it is not intended that this corrective action program be used to manage results from processes such as: worker injury/illness incidents (unless ORPS reportable), Behavior Based Safety observations data, or facility self-correcting processes.

External Processes

In addition to the above processes, results from the following DOE actions that serve as sources for the identification of problems, as defined within this policy, are included within the scope of this policy:

- Type A and Type B Accident Investigations;
- Operational Readiness Reviews (ORR);

- Reviews and Environmental Safety & Health (ESH) Stop Work Orders issued by DOE; and
- Office of Independent Oversight and Performance Assurance Program Assessments.

MP 5.36 Chemical Management

The contractor will:

- Establish and maintain a chemical management policy that is in compliance with all applicable regulations and site specific policies and procedures.
- Design, construct and operate new facilities in a manner that ensures that effective exposure of individuals and population groups to hazardous chemicals is acceptably below Permissible Exposure Limits and other published Occupational Exposure Limits.
- Reduce to the maximum extent practicable the purchase and use of hazardous chemicals. Where such use is necessary; store, use, recycle, treat and dispose of these chemicals in a manner that ensures appropriate protection for the environment and human health.
- Manage chemicals in all facilities and activities in a cost-effective and environmentally responsible manner while minimizing the generation of all types of waste.
- Establish and maintain a chemical excess program that seeks to reuse, sell or donate chemicals as an alternative to disposal.
- Establish chemical use programs that are in compliance with all applicable Occupational Safety and Health Administration (OSHA) regulations.
- Establish a Hazardous Material Transportation Program to ensure proper shipment of Department of Transportation (DOT) Hazardous Chemicals across public roads.
- Disposition all unwanted chemicals in an environmentally responsible manner

This policy establishes the Chemical Commodity Management Center (CCMC), which is responsible for—

- Establishing chemical management policy;
- Providing guidance for the site-wide management of chemicals;

- Establishing and maintaining site procedures for the site management of chemicals;
- Reviewing and approving chemical purchases while implementing controls on the purchase of Resource;
- Conservation and Recovery Act (RCRA) hazardous and OSHA chemicals to control site access to these chemicals, where appropriate;
- Managing Excess Chemical Program; and
- Managing Hazard Communication Program.

The Chemical Management Program will be consistent with the policy stated above and contractual provisions with Department of Energy (DOE). The formalized controls will be based on applicable DOE directives and applicable federal, state and local regulations. The Chemical Management Program will be kept current and will require prompt notification and incorporation of any relevant regulatory changes.

Charter 6.3 Maintenance Policy and Procedure Committee (MPPC)

The Maintenance Policy & Procedure Committee (MPPC) is responsible for providing site maintenance leadership, promoting excellence and cost effectiveness in the conduct of maintenance, resolving site-wide and programmatic maintenance issues, and sponsoring professional development of maintenance personnel. The MPPC is the site focal point for the development of site wide maintenance policy. Within its area of cognizance, this committee:

- Develops policies and procedures;
- Sponsors Maintenance Program Evaluations;
- Sponsors sub-committees to address specific maintenance issues;
- Identifies and approves programmatic improvements;
- Assesses and justifies impacts of policy and procedure changes to the site Policy and Procedure Council (SPPC);
- Reviews maintenance tailored approached ideas and implementation plans;
- Identifies/defines/oversees site maintenance goals, objectives, and strategic direction; and
- Establishes a regular and formal communication sub-committee that:

- Promotes safety,
- Includes interaction with other functional areas and site initiatives,
- Shares best practices, lessons learned and new technologies, and
- Receives input from and provides input to the SPPC.

Charter 6.8 site Fire Protection Committee (SFPC)

The site Fire Protection Committee (SFPC) is a standing committee responsible for overview and serves in an advisory capacity for the site Fire Protection Program. The SFPC is the means for site organizations to participate in formulating resolutions to fire protection issues. The SFPC establishes minimum and sufficient, cost-effective implementation procedures for site-wide fire protection issues, and provides development and oversight of Procedure Manual 2Q, *Fire Protection Program Manual*.

Charter 6.9 site ALARA Committee (SAC) & ALARA/ Radiological Awareness Subcommittees (A/RAC)

The site ALARA Committee (SAC) ensures that exposures to radiation and radioactive material are maintained at levels as low as reasonably achievable (ALARA) as defined in 5Q, Radiological Control. The committee reviews the overall conduct of the radiological control program to ensure continuous improvement. The ALARA/Radiological Awareness Subcommittees (A/RAC) of the site ALARA Committee are established as a multidiscipline forum for the line and support organizations. As line organizations are ultimately responsible for ALARA activities, these subcommittees provide a direct link to the work force with respect to radiological work being planned and performed.

Charter 6.10 Nuclear Criticality Safety Review Committee (NCSRC)

The Nuclear Criticality Safety Review Committee (NCSRC) implements site policy, provides for site coordination of nuclear criticality safety technical issues, procedures requirements, and practices; promotes nuclear criticality safety in the operation of facilities; and provides guidance in the area of compliance with appropriate criticality safety related Department of Energy (DOE) Orders and Standards. Business Unit/Area Criticality Safety Committees and the Nuclear Incident Monitor (NIM) Committee report to the NCSRC.

The NCSRC serves to:

- Provide reviews of management policies and procedures related to nuclear criticality safety to determine the degree of uniformity of standards of implementation and operation across the site and recommend changes as necessary.

- Recommend changes to management policies and initiates changes to procedures when deemed appropriate.
- Provide technical/policy consultation and advice to, and site level coordination of, the Business Unit/Area Criticality Safety Committees (CSCs), and the Nuclear Incident Monitor (NIM) Committee, and reviews technical, policy, and management issues identified by these committees at least annually.
- Investigate areas of criticality safety concern deemed significant by this committee and revalidate, as necessary, the status of criticality safety in facilities that have had to demonstrate that criticality safety controls are not needed.
- Identify issues and serve in an advisory capacity related to the training of the site's criticality safety support staff and formulate any necessary recommendations for improvement. (The staff includes those personnel who determine criticality safety limits, who ensure compliance with the limits, and who provide independent review of the products of these personnel.)
- Identify issues and serve in an advisory capacity related to the nuclear criticality safety training of site personnel.
- Develop a vision for nuclear criticality safety at the contractor and plans to achieve that vision.
- Respond to criticality safety issues and common problems related to facility conformance to DOE Orders.

The Facility managers Forum (FMF) is a site wide organization of managers representing field operating organizations. In the area of disciplined operations, the FMF recommends policy to senior management, integrates improvement initiatives or corrective actions, and exchanges lessons learned and best practices.

Charter 6.12 Quality Assurance Policy Committee (QAPC)

Quality Assurance Policy Committee (QAPC) provides the leadership and strategic direction for Quality Assurance (QA) Program. The QAPC also serves as the forum for discussion and resolution of company-wide quality matters.

The QAPC investigates, analyzes and acts on company-wide quality issues and initiatives. The QAPC members are the single points-of-contact that represent all Business Units in the development of company-level QA Program management policies, documents and procedures. The QAPC provides information and direction to quality assurance personnel and regularly communicates with the Department of Energy site Operation Office (DOE-SR) and National Nuclear

Security Administration (NNSA) Quality organizations on various quality assurance topics.

Specifically, the QAPC:

- Develops and recommends approval of Quality Assurance Policy (MP 4.2, “Quality Assurance”) and -RP-225, “Quality Assurance Management Plan (QAMP).”
- Ensures development of company-level quality assurance program documents and implementing procedures for consistent implementation by organizations using a graded approach.
- Identifies, defines and establishes the strategies and tactics for implementing Quality Assurance Program in a disciplined manner with a focus on continuous quality improvement.
- Provides leadership for the integration of QA program elements with other company-level programs such as Integrated Safety Management, Conduct of Operations, Engineering, Maintenance, etc.
- Provides liaison with other site-level organizations that are responsible for the direction of other portions of the QA Safety Rule – 10 CFR 830.120 Subpart A “Quality Assurance Requirements” and DOE Order 414.1B, “Quality Assurance.”
- Participates in assessments of QA Program.
- Reports the status of the QA Program to President and the Management Council.
- Elevates significant company-level QA issues to Senior Management for resolution.
- Charters standing subcommittees to perform specific activities and address specific issues and task teams to perform specific actions.
- Oversees the development of new programs and site initiatives that involve activities affecting quality.

Charter 6.13 Regulatory Compliance Committee (RCC)

The Regulatory Compliance Committee (RCC) is a site-wide committee that provides a forum for communication and resolution of site-wide issues regarding elements of Integrated Safety Management System (ISMS). The RCC consists of managers and senior personnel representing operating and support organizations. The RCC develops and revises company-level compliance assurance and

reporting procedures. The RCC provides information and direction to organizations and interfaces with the Department of Energy site office on various compliance and standards topics, including Price-Anderson Program matters.

Charter 6.15 Solid Waste Management Committee (SWMC)

Solid Waste Management Committee (SWMC) develops and approves solid waste policy, and makes recommendations to the site Policy and Procedure Council (SPPC) on other policies and initiatives that impact solid waste management. The SWMC provides a forum for communication and resolution of sitewide issues regarding elements of this site's solid waste programs. The SWMC's area of cognizance includes sanitary, low level, mixed, hazardous, and transuranic wastes but does not include high level waste programs as defined in DOE Order 435.1, Radioactive Waste Management.

Charter 6.17 Site Business managers Committee

site Business managers Committee (SBMC) provides company-level leadership, direction, and oversight for the integrated planning, budgeting, and execution of the contract Scope of Work. The SBMC is responsible for the overall planning and policies that ensure the integration of all business activity in a manner that maximizes corporate performance while enhancing the company's position with the customer for future work. This includes:

- The integration of:
 - Corporate and Business Unit (BU) strategies.
 - BU plans, schedules, and budgeting activities and execution schedules including the Yearly Fiscal Plans, the Work Authorization Execution Plan (WAEP), Out-Year plans, Life Cycle estimate submittals, and the associated Organization budgets.
 - Corporate-sizing and cost reduction programs.
 - Corporate business system training.
 - Corporate performance review processes.
- Providing issue resolution recommendations to Management Council and Corporate Change Control Board.
- Providing a forum for communication and resolution of cross-functional and cross-organizational issues both within and between the contractor and the Department of Energy (DOE).
- Developing priorities for resources.

- Reviewing projected government furnished services and items (GFSI) changes and analyze potential impacts on scope execution plans.
- Recommending and sponsoring process improvements for work execution.

Charter 6.18 Site Environmental Regulatory Integration Committee

This site Environmental Regulatory Integration Committee (ERIC) provides a structured setting for the management of the site's environmental management system and timely communications among Business Unit environmental managers. The ERIC provides a forum that will enhance the understanding of environmental hazards, requirements, and policies, achieve sitewide consistency in the implementation and integration of these requirements into facility operations, and improve cost effectiveness in the site environmental management system. The ERIC formulates environmental practices and implementation of regulatory requirements based upon subject matter expert interpretations of the regulations. Consideration will be given to best management practices and commercial benchmarks and will be tailored as required to meet applicable Department of Energy (DOE) and site unique requirements. In this regard, the ERIC's goal is to achieve compliance with regulatory requirements while addressing operational/economic constraints.

Charter 6.20 Safety and Health Review Committee

The Safety and Health Review Committee (SHRC) is chartered by the site Policy and Procedures Council (SPPC). The SHRC provides a vehicle for participation and communication among organizations with regards to all facets of safety and health policies and procedures. The SHRC acts as a forum among organizations for safety and health procedure requirements, development, management, training and use within the contractor.

Charter 6.25 Chemical Management Committee

This site Chemical Management Committee (CMC) provides a structured setting for programmatic review and ongoing development of the site's chemical management program. It provides a communications forum for the discussion and resolution of chemical management issues by Business Unit representatives. The CMC provides a forum that will enhance the understanding of chemical requirements and policies to help achieve sitewide consistency in chemical management, and enhance understanding of chemical management issues.

Charter 6.28 Training managers Committee (TMC)

The Training managers Committee (TMC) provides a vehicle for communications among training personnel associated with all organizations. The TMC is a forum for consistent programmatic integration of activities, problem identification and resolution, and policy development among Training Program manager and

Business Unit Training managers, with direct involvement of selected training professionals from across the site. The TMC provides assistance in the formulation and implementation of training policy and practices for the site are based upon requirements, best practices and benchmarks and are tailored as required to meet applicable DOE and site unique requirements.

Charter 6.29 Information Technology Steering Committee (ITSC)

Information Technology Steering Committee provides company-level, mission-centered oversight and focus for the planning, validation, and recommended investments in this site's information technology systems and infrastructure. The scope includes all information technology systems and infrastructure.

Charter 6.31 Project Management Committee (PMC)

The Project Management Committee (PMC) is responsible for fostering successful execution of projects and promoting overall excellence in Project Management. PMC serves as a management resource to support project teams and operations customers in meeting project commitments.

Charter 6.32 Conduct of Engineering Committee

The Conduct of Engineering Committee oversees the processes and procedures affecting conduct of engineering, engineering technical support, and configuration management on site. The Conduct of Engineering Committee is responsible for the development of processes, procedures, and appropriate training modules that apply cost effective applications to meet DOE requirements for the execution and control of nuclear and commercial/industrial designs and the methods to maintain those designs.

Charter 6.33 Authorization Basis Steering Committee (ABSC)

The mission of the Authorization Basis (AB) Steering Committee is to provide a forum for the identification and resolution of issues relating to the development, implementation, and maintenance of authorization basis related processes at site. The AB Steering Committee is a joint Department of Energy site office and Committee consisting of managers and senior professionals representing DOE-SR and operating and support organizations. The AB Steering Committee is responsible and accountable to the site Policy and Procedures Committee (SPPC), the site Chief Engineer, and the DOE site Safety and Radiation Protection Division Director. The AB Steering Committee develops and maintains Authorization Basis Implementation Documents for site. These documents:

- Record decisions of the AB Steering Committee for defining and implementing AB process activities at site that are not fully defined in

documents invoked through the Standards/Requirements Identification Documents (S/RIDs);

- Clearly define the level of consistency to be maintained in the AB processes and products;
- Clearly define who selects and approves the preferred alternative where alternatives in AB processes are available; and
- Implements site policy, provides interpretation, clarification, and direction, as necessary, to supplement criteria in DOE Orders, etc., to achieve the desired consistency.

The AB Steering Committee identifies issues with the AB process (or issues may be brought to the AB Steering Committee) develops resolution to those issues, and implements the improvements in the process.

Charter 6.34 Packaging and Transportation Committee (PTC)

The Packaging and Transportation Committee (PTC) oversees site practices associated with packaging and transportation of radioactive and non-radioactive hazardous materials. The PTC serves as the policy-implementing board for sitewide packaging and transportation, both onsite and offsite. Specifically, the PTC is responsible for oversight of Standards/Requirements Identification Document (S/RID), Functional Area 13 and -SCD-4, Assessment Performance Objectives and Criteria, Functional Area 19.

Charter 6.35 Procurement Specification Committee (PSC)

The Procurement Specification Committee (PSC) is a standing committee that oversees development of and revisions to procurement specification procedures and addresses issues related to the procurement process and recommends solutions.

Charter 6.36 Engineering Standards Board (ESB) and Technical Committees

The Engineering Standards Board (ESB) oversees site policy for the development, maintenance, and application of current codes and standards in conformance with applicable Department of Energy (DOE) Orders. The EBS is responsible for establishing operating policy for the site engineering standards program, establishing technical committees and defining technical scope responsibilities for these committees, sponsoring the development and revision of the site Engineering Standards Manual (site ESM) and site Engineering Practices Manual (site EPM), and issuing site ESM and site EPM documents as controlled distribution documents.

Charter 6.38 First Line managers (FLM) Advisory Committee

The First Line managers (FLM) Advisory Committee provides independent review, assessment, and approval of revision to all policies, procedures, and programs that impact FLM job function, and provides for uniform communication of critical information to all FLMs. The Committee provides a forum for communication of FLM issues and concerns to senior management, and for generation of a timely response.

Charter 6.41 Planning, Scheduling, and Controls Committee (PSCC)

The Planning, Scheduling, and Controls Committee (PSCC) is a site-wide committee that provides a forum for the development and maintenance of a site-wide planning, scheduling, and controls process for the contractor. The specific charter of the committee is to:

- Ensure that the contractor has a site controls process for providing the cost and schedule direction to plan, analyze, coordinate, and monitor the current and future missions, and allow a consistent and concise reporting capability.
- Define site integration process for all levels of cost and schedule controls.
- Prepare formal procedures and/or desktop guidance for site scheduling and controls systems.
- Coordinate the development and implementation of procedures and standards that have site wide implications.
- Standardize controls software, hardware, training and services that have cross-organizational impacts.

The committee serves as a clearinghouse to provide coordinated efforts to develop, research, and implement Controls needs for the site in cooperation with all Business Units.

Charter 6.42 Workforce Planning Committee (WPC)

Workforce Planning Committee provides strategic guidance and direction for the management of the work force, and ensures processes and programs to facilitate work force restructuring are developed and implemented. The Workforce Planning Committee has oversight responsibility for all workforce-related activities pertaining to staffing or resource driven initiatives.

Charter 7.5 Management Council

Management Council is the senior management entity advising President and Executive Vice President on key policy decisions of site wide impact. Management Council will make recommendations that affect employee development, business strategies, financial performance, and operational excellence to executive management for final approval. President sponsors and chairs Management Council. The Executive Vice President and Business Unit Directors reporting to the President are members. The only membership substitutions are Deputy managers or designated alternates.

(b) **1B Management Requirements and Procedures (MRPs)**

Procedure Manual 1B, MRP 1.06 Employee Concerns Program (ECP)

In accordance with policy on "Open Communication", employees are encouraged and expected to identify and seek resolution of their workplace issues and concerns such that employees and management can work together to resolve these issues in an equitable and professional manner. Employees are expected to express their concerns directly to their supervision or management, or through the appropriate avenue, program or service as is available to address specific workplace issues. Employee Concerns Program (ECP) is available to assist employees in seeking resolution of their workplace issues and concerns if resolution through the established channels cannot be achieved, the employee fears reprisal should existing avenues be sought, or the employee wishes to remain anonymous. The ECP provides an independent and impartial avenue for the contractor and onsite subcontractor employees to seek assistance in addressing concerns related to environmental, safety, health, quality, safeguards & security, waste/fraud/abuse, mismanagement, reprisal and other matters under the above noted conditions. This procedure establishes the guidelines for expressing and responding to workplace issues and concerns that are identified to ECP in accordance with the open communication policy.

Procedure Manual 1B, MRP 1.24 Development, Review and Approval of Memoranda of Understanding/Memoranda of Agreement

This procedure provides guidance in developing a Memorandum of Understanding (Agreement) (MOU/MOA) for interfacing organizations, should such an agreement become necessary. MOUs/MOAs are developed and used whenever organizational interfaces between Business Units/Departments or organizations/functions require clear, written definition of responsibilities not addressed in established procedures. This procedure does not apply to outside subcontractors. Generally, an MOU/MOA will be necessary when performing or receiving services inside another facility, using that facility's resources, or interfacing with the facility's systems or equipment. MOUs/MOAs do not replace or contradict approved procedures and are not intended to "authorize" work. They are not to be used to provide work instructions.

Procedure Manual 1B, MRP 3.01 Integrated Procedure Management System (IPMS)

This procedure defines Integrated Procedure Management System (IPMS) and applies to the development, numbering, and processing of all procedures, policies, and source and compliance documents. MRP 3.26, "Management of Company-Level Policies and Procedures," MRP 3.27, "Management of Program-Specific Procedures," and MRP 3.32, "Document Control" define the requirements and provide the methods for preparation, processing, and control of company-level and program-specific procedures.

Procedure Manual 1B, MRP 3.26 Management of Company-Level Policies and Procedures

This procedure establishes responsibilities and requirements for the preparation, review, approval, revision, and cancellation of company-level policies, procedures, and charters. Company-level procedures set responsibilities for site Business Units in addition to the authoring Business Unit; consequently, the responsibility (accountability) for complying with the procedure rests with all affected Business Units. This procedure outlines the roles and responsibilities of the site Policies and Procedures Committee in the procedure review and approval process. The provisions of this procedure apply to the contractor and other members of the Performing Entity, as listed in the contract, for management and operations at the site, and to subcontractors performing work for any member of the Performing Entity when required by contract or applicable law - that generate or process company-level policies, procedures, and charters. For other procedures addressing procedure management:

- Procedure Manual 1B, MRP 3.01, *Integrated Procedure Management System (IPMS)*, explains the numbering system used to maintain the functional hierarchy of procedure manuals.
- Procedure Manual 1B, MRP 3.27, *Management of Program-Specific Administrative Procedures*, contains information about processing administrative procedures at the program-specific level.
- Procedure Manual 2S, *Conduct of Operations*, provides requirements for the generation and processing of program-specific technical and response procedures.

Procedure Manual 1B, MRP 3.27 Management of Program-Specific Procedures

This procedure serves to establish responsibilities and requirements for preparation, review, approval, revision, and cancellation of program-specific administrative procedures. Program-specific procedures are procedures (Business Unit/department/section/group), excluding company-level that provide detailed,

step-by-step, sequential actions and a prescribed, auditable method of completing a particular process or task (technical or administrative). These procedures do not set requirements for Business Units other than the one authoring the procedure. The provisions of this procedure apply to the contractor and other members of the Performing Entity, as listed in the contract, for management and operations at the site, and to subcontractors performing work for any member of the Performing Entity when required by contract or applicable law - that generate or process program-specific administrative procedures. For other procedures governing procedure management:

- MRP 3.26, "Management of Company-Level Policies and Procedures" - addresses development and processing of company-level procedures.
- MRP 3.01, "Integrated Procedures Management System (IPMS)" - explains the numbering system used to maintain a functional hierarchy of procedure manuals.
- Procedure Manual 2S, Conduct of Operations Manual - provides requirements for the generation and processing of program-specific technical and response procedures.

For those organizations with a very limited number of procedures or only administrative procedures (i.e., do not have operations and maintenance responsibilities for facilities and operating systems), MRP 3.26 can be used to fulfill format and process requirements. It will be understood that any statements in MRP 3.26 referring to senior staff are replaced by the organization's appropriate level of personnel.

Procedure Manual 1B, MRP 3.31 Records Management

This procedure establishes responsibilities and requirements for compliance with applicable U. S. Department of Energy (DOE) requirements relating to records management. The contractor is responsible to provide a comprehensive records management program that meets business purposes and the legal requirements for records, including receipt, validation, scheduling, and tracking of records.

Procedure Manual 1B, MRP 3.32 Document Control

This procedure establishes responsibilities and requirements for compliance with applicable U.S. Department of Energy (DOE) requirements relative to Document Control. The provisions of this procedure apply to members of the Performing Entity for management and operations at this site, and to subcontractors performing work for any member of the Performing Entity when required by contract or applicable law for the preparation, processing, and utilization of unclassified documents, which require controlled distribution to ensure the current versions are in place, and in use.

Procedure Manual 1B, MRP 4.03 Site Remote Worker Notification

This procedure provides guidance to all personnel who may be engaged in work in a remotely located area within the boundaries of this site. This procedure ensures all personnel working in remote areas are accounted for and can be immediately notified of radiological and/or toxic chemical releases, severe weather, and other dangers or natural disasters affecting personnel safety. This procedure also provides guidance for remote workers to request emergency response from the site Operations Center (site OC) in case of injury or some other emergency occurring at their work site.

Procedure Manual 1B, MRP 4.14 Lessons Learned Program

This procedure establishes the responsibilities and actions required for implementing Lessons Learned Program. This program promotes safe, effective operation of site facilities and enhances the safety and health of site employees and the public by applying the lessons learned from the systematic review of operating experience at site facilities, and of similar Department of Energy (DOE) complex and commercial nuclear industry facilities. The procedure administers Lessons Learned Program in the areas of quality, process safety, and personnel safety and health. Process safety not only includes conditions causing degradation of operations and equipment, but also those conditions capable of negative impact on the environment and public confidence.

Procedure Manual 1B, MRP 4.19 Requirements for Facility Operations Safety Committees

This procedure provides requirements for the Facility Operations Safety Committee (FOSC). NOTE: the FOSC is a generic title to denote a facility or organizational level of committee. If committee titles have already been established, they need not be changed; however, the functionality must conform to this procedure.

This procedure applies to the chairperson, secretary, members, alternates and interfacing personnel for the above committees and addresses function, membership, qualifications and training, and meeting requirements to provide consistent site wide application of advice and expertise. This procedure applies only to Hazard Category 1, 2 and 3 Nuclear Facilities, as defined in Procedure Manual 11Q, Facility Safety Document Manual.

Procedure Manual 1B, MRP 4.21 Problem Identification and Resolution Process

This procedure provides the process for identifying and resolving problems identified with and/or through the following activities and processes to meet the requirements of Policy Manual 1-01, Management Policies, MP 5.35, "Corrective Action Program":

- Quality Assurance Program (QAP) requirements (including Quality Assurance {QA} Audits and Surveillances)
- Radiological Protection (RP) Program requirements
- Occurrence Reporting System (ORPS) to include Department of Energy (DOE) Occurrences/Events Reportable & Non-Reportable Occurrences/Events within the specified Reporting Groups of the DOE Occurrence Reporting System

Individual Business Units may use this procedure for any additional areas within MP 5.35 Scope or as a replacement for current Business Unit-specific deficiency identification and management process. See Policy Manual 1-01, Policy 5.35, Attachment B, "Corrective Action Program Applicability Matrix," for a detailed listing of the above. Note: Upon full implementation of MRP 4.23 STAR below by all organizations and projects, MRP 4.21 will be cancelled.

Procedure Manual 1B, MRP 4.23 site Tracking, Analysis, and Reporting (STAR)

This procedure provides the process for documenting identified problems and managing their resolution to meet the requirements of Policy Manual 1-01, *Management Policies*, MP 5.35, "Corrective Action Program," and other facility/organization/project commitments and actions (i.e., non-problems) not associated with MP 5.35. This procedure is implemented using a site wide database system called "site Tracking, Analysis, and Reporting (STAR)." The STAR system is an electronic format where problems are entered, analyzed, processed, and associated actions tracked to closure. STAR is a paperless system that features routing and notification via electronic mail, electronic signature (approval), and electronic records (where applicable). A detailed User's Guide that describes the methods for processing a STAR, is available on the STAR Webpage accessible through the site intranet.

(c) Company-Level Manuals

Procedure Manual 4B Training and Qualification Program Manual

The contractor is committed to having a well-trained and competent workforce at this site. In order to accomplish this commitment, Manual 4B, Training and Qualification Program, was developed to establish standards to ensure workforce maintains the appropriate training for safe operations in a consistent and cost-effective manner. The standards included in this manual comply with the requirements of applicable DOE Orders.

Procedure Manual 5B Human Resources Manual

T management believes in equality and advancement opportunities for all employees and applicants regardless of race, color, religion, gender, age, national origin, disability or veteran status, and desires to create an environment that values diversity and maximizes human resources utilization. The contractor is committed to filling vacant positions with the best-qualified applicants. The contractor recognizes that continued success depends on developing and using the full range of human resources available to it.

Procedure Manual 6B Program Management Manual

This Manual provides site Management Control System (MCS) description and implementing procedures for the contractually invoked DOE-site Strategic Plan and EM Performance Management Plan (PMP). site MCS defines requirement and processes for site planning, budgeting and integration. It establishes MINIMUM requirements and criteria for Business Unit programs and Business Unit development of scope, schedule, budget and performance metric development to allow site prioritization and integration of scope, schedule, budget and performance metrics. The Work Authorization/Execution Plan is implemented for NNSA work. NNSA performance will be evaluated against Performance Based Incentives, whereas EM work will be evaluated against DOE Headquarters Clean-Up Incentives that are established in relation to the contract Performance Baseline.

Procedure Manual 7B Procurement Management

This manual defines the requirements for preparation, review, approval, and control of purchase requisitions for all procurements for the contractor. This manual covers activities related to preparing and processing purchase requisitions and related documents to define technical, quality and schedule requirements for any type of proposal, quotation and request for procurement of materials and services from sources outside of the contractor. This manual requires the "Subcontract Safety Checklist" for on-site services requisitions, and the "Subcontract Field Conditions" form for on-site services work determined to be hazardous from completion of the Subcontract Safety Checklist. This Manual refers to the contractor 8Q for implementing the Worker Protection Program for Subcontracted Services. See Procedure Manual 11B below for information regarding management of subcontracts after the subcontract has been awarded.

Procedure Manual 8B Compliance Assurance Manual

It is both the policy and obligation of the contractor to conduct its assigned operations and related programs at site in full compliance with all applicable rules, regulations, and directives. This manual defines and describes a single comprehensive Compliance Assurance Program that applies broadly to all operations and related programs for this express purpose. Compliance Assurance

Program encompasses general overall compliance but has emphasis on those requirements relating to public and worker safety and the protection of the environment as defined in the S/RID. A procedure in this manual establishes site-wide processes for identifying, evaluating, reporting and tracking Price-Anderson Amendments Act (PAAA) and 10 CFR 851 noncompliance and associated corrective actions with Department of Energy (DOE) nuclear safety requirements. This manual defines the administrative processes for maintaining the S/RID and non-S/RID requirements bases.

Procedure Manual 9B site Item Reportability and Issue Management

Procedure 1-0, *Occurrence Reporting*, is used to implement an occurrence reporting program to ensure appropriate and timely identification, categorization, response, notification, investigation, reporting, and analysis of abnormal conditions and events in accordance with Department of Energy (DOE) Manual (M) 231.1-2, *Occurrence Reporting and Processing of Operations Information*, as committed in Standards/Requirement Identification Document (S/RID). To streamline the process and eliminate unnecessary duplication of material from the DOE directive, portions of DOE M 231.1-2 committed through the S/RID that are appropriate and technically accurate for direct use are incorporated by direct reference into this procedure. For these instances, the user is sent to the applicable portions of DOE M 231.1-2 through the S/RID webpage accessible through the site intranet. The provisions of this procedure apply to members of the Performing Entity for management and operations at this site, and to subcontractors performing work for any member of the Performing Entity when required by subcontract or applicable law.

Procedure Manual 11B Subcontract Management Manual

The primary responsibility of Procurement and Materials Management is to provide for the purchase of materials, services and supplies with the objective that they be available at the time, place, quantity, quality, and price consistent with the needs of the contractor and this site. Subcontract Management is part of the balancing of several factors that are critical to the success of the contractor in meeting goals and satisfying its customer(s). Subcontract management includes all relationships between the contractor and the subcontractor that grow out of subcontract performance. It encompasses all dealings between the parties from the time the subcontract is awarded until the work has been completed and accepted, all badges have been returned, government furnished equipment has been returned, payment has been made and disputes have been resolved. This manual is established to set subcontract management standards and requirements that are to be used at site. This manual includes incorporation documents (ID) which define the location of requirements and responsibilities of the subcontract management program that are appropriately located in other company-level procedure manuals. This manual contains the program for subcontract technical representatives (STRs).

Procedure Manual 12B Information Management Manual

This manual establishes the responsibilities for the Information Management Program. The requirements are identified in DOE Order, 200.1, *Information Management Program*. Among other topics related to business aspects of information management, this manual addresses software management methodology with appropriate emphasis on the implementation of Software Quality Assurance, software quality controls, and computer security requirements.

Procedure Manual 13B Chemical Management Manual

This manual defines major elements of a chemical safety management program for the contractor, as integrated into the following activities:

- Site Request of Chemicals

This procedure defines the responsibilities and requirements for site organizations requesting chemicals. The provisions of this procedure apply to members of the Performing Entity for management and operations at this site, and to subcontractors performing work for any member of the Performing Entity when required by subcontract or applicable law, whose operations request chemicals.

- Receipt, Storage, and Inventory of Chemicals

This procedure defines the responsibilities and requirements for the receipt of chemicals and the maintenance of the site chemical inventory. This procedure also addresses storage issues related to receipt and inventory of chemicals, in order to comply with the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, Emergency Planning and Community Right-To-Know Act (EPCRA), and the site chemical management program.

- Site Hazard Communication Program

The purpose of this procedure is to inform employees how the provisions of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200) are implemented at this site. The provisions of this procedure apply to members of the Performing Entity for management and operations at this site, and to subcontractors performing work for any member of the Performing Entity when required by subcontract or applicable law.

- Excess Chemical Program

This procedure provides requirements for the review and disposition of non-radioactive excess chemicals and chemical products at this site. The

provisions of this procedure apply to members of the Performing Entity for management and operations at this site, and to subcontractors performing work for any member of the Performing Entity when required by subcontract or applicable law. This procedure applies to all site organizations that utilize chemicals and/or products containing chemicals.

- Compressed Gas Cylinders: Purchasing, Handling, Storage and Use

This procedure establishes requirements for the purchasing, handling, storage, and use of compressed and liquefied gases in portable cylinders at this site. This procedure is currently under revision to comply with an updated NFPA requirement that applies to cryogenic liquids, which have normal boiling points below -130°F (-90°C).

- MSDS Maintenance and Availability Requirements

This procedure establishes requirements for the maintenance and availability of this site's Material Safety Data Sheets (MSDSs) to comply with Occupational Safety and Health Administration (OSHA) Hazard Communication Standard requirements as given in 29 Code of Federal Regulations (CFR) 1910.1200 (General Industry), 29 CFR 1926.5 (Construction), and 29 CFR 1910.1450 (Hazardous Chemicals in Laboratories).

Procedure Manual 1C Facility Disposition Manual

The program described in this manual uses a graded approach to requirements during the disposition phase of the facility life cycle. The program allows for consideration of differences among facilities, and it provides a method for determining the extent to which actions are appropriate for that facility. The depth of detail and the magnitude of resource expenditure for each program element are commensurate with that element's relative importance to safety and the magnitude of the hazards involved. The program outlined in these procedures represents the ideal case, where it is recognized in advance that a facility has reached the end of its useful life and steps are taken to initiate disposition. In addition to this ideal case, there have been and will continue to be facilities that are already inactive, but for which no consideration has been given to disposition of the facility. As these legacy facilities are identified, they will be evaluated as to their current condition and hazards, and inserted into this program wherever appropriate, without any major effort to back-fit previous steps or deliverables. The planning and execution for the disposition of excess facilities and/or associated equipment will be conducted using project management principles with a graded approach through the following life cycle phases:

- Transition from Operations;
- Deactivation;

- Safe Storage (Awaiting Decommissioning);
- Decommissioning; and
- Final End State and Close Out.

Procedure Manual 3E Procurement Specification Procedure Manual

This manual contains information to be used when developing or processing procurement specifications. A "Specification" used in a procurement activity is a type of procurement requirement which requires a higher level of attention. For purposes of this manual, the term specification signifies a design document used to provide a detailed description of requirements of items and/or services including installation. This manual establishes the process used to identify the functional, technical, and quality requirements associated with an item or service that is to be obtained through a procurement activity. This manual also establishes the requirements for the preparation, review, approval, and control of documents used to specify requirements for procurement of items and services at site. This manual invokes use of the site Requirements for Services Subcontracted Scopes (SR3S) database for procurements that require subcontractors to perform work at site. The SR3S database serves to assist preparers of subcontract Statements of Work (SOW) to address applicable S/RID requirements to be flowed down in subcontracts. Interpretation and maintenance of this manual is the responsibility and authority of Engineering Standards Section of the Technical and Quality Services Department.

Procedure Manual 5E Startup Test

Startup Test Manual was developed to provide guidance and identify requirements for an initial facility startup or restart testing program and to establish uniformity and consistency in methodology for the development and implementation of the test program activities. This manual applies to all organizations that perform Startup or Restart testing activities on site facilities as governed by the Startup and Restart Operational Readiness requirements contained in the Procedure Manual 12Q.

Procedure Manual 1Q Quality Assurance Manual

This manual, under the auspices of the Quality Assurance Policy Committee (QAPC), 1-01 Charter 6.12, describes the requirements, responsibilities, and controls for implementing and maintaining Quality Assurance (QA) Program. The contents of this manual are responsive to the requirements of DOE Order 414.1B, 10CFR830 Subpart A, *Quality Assurance Requirements*, and to Quality Assurance Management Plan (QAMP, -RP-92-225). The integration of the Quality Assurance Program into ISMS is addressed in this manual and in the QAMP. The procedures contained in this Manual define company-level requirements for quality achievement, verification, and improvement. As such,

these apply to all activities associated with providing the products and services to the DOE. Some procedures may be used without further elaboration. Others may require the development and use of organization-specific implementing procedures. In the event that lower-tier implementing procedures are used, the organization must maintain an appropriate cross-reference (e.g., matrix) to assure and demonstrate continuing alignment of the implementing procedures with the applicable requirements of this Manual. It should also be noted that other company-level Manuals and procedures are linked to the QA Manual. These provide additional guidance and requirements for accomplishing specific tasks or activities, e.g., engineering, procurement, records management, etc.. Where subcontractors are expected to work to these procedures, it will be stated in the applicable procurement documents.

Procedure Manual 2Q Fire Protection Program

This manual provides overall direction and guidance to organizations and site personnel responsible for implementation of Fire Protection Program, including the conduct of Fire Hazards Analyses (FHAs). This manual also establishes responsibilities to provide interpretation and assistance to ensure compliance with -RP-94-1268-012, Standards/Requirements Identification Document (S/RID) for Functional Area 12.0, Fire Protection and NFPA codes affecting fire protection to minimize losses from fire and related perils and ensure that safety objectives are met.

Procedure Manual 3Q Environmental Compliance Manual

This manual provides guidance and, when necessary, detailed information concerning proper procedures and activities as prescribed by federal, state, and local laws and regulation, Department of Energy (DOE) orders, and polices. This manual invokes Environmental Management System (EMS) that applies the principles and specific requirements of the ISO 14001 Standard in conduct of activities associated with environmental protection. Environmental Protection Program is in compliance with DOE O 450.1, *Environmental Protection Program* and Executive Order 13148, *Greening the Government Through Leadership in Environmental Management*. Failure to comply with these laws and regulations can result in actions including findings, notices of violation, fines, and criminal suits or civil suits from the public. The Environmental ALARA Program is documented in Manual 3Q1-2, Procedure 1100, and results are monitored by Monthly Radiological Releases Reports per Manual 3Q1-9, Procedure 1040.

Procedure Manual 4Q Industrial Hygiene Manual

This manual establishes the mission of the Industrial Hygiene (IH) program managed by Industrial Hygiene Programs Section to prevent occupational illnesses and preserve the health of site employees in accordance with Department of Energy (DOE) Orders and DOE-prescribed occupational safety and health (OSH) standards. The Integrated Exposure Assessment Program establishes

requirements for performing and documenting exposure assessments for chemical, physical, and biological agents. The hazard prevention and control procedure assures effective engineering, work practice, and administrative controls to control/reduce employee exposure to occupational hazards. Also, the Health (Medical) Surveillance Program and two specialized IH Programs addressing lead and beryllium are defined in this manual, as well as the Chemical Control Program that includes a Chemical Hygiene Plan. Some of the additional programs defined by this manual include Laser Safety, Laboratory and Radiobench Hoods and Local Exhaust Systems, Hazardous Waste Operations (HAZWOPER), Respiratory Protection, Training and Documentation.

Procedure Manual 5Q Radiological Control

DOE has established basic standards for occupational radiation protection in Federal Regulation 10 CFR 835, *Occupational Radiation Protection*. That regulation requires affected DOE activities to be conducted in compliance with a documented Radiation Protection Program (RPP) that addresses each requirement of that regulation and is approved by DOE. *RPP, -RP-94-1239, Radiation Protection Program for 10 CFR Part 835 Occupational Radiation Protection* links each requirement of the regulation to a specific S/RID entry, which links to an implementing policy and/or procedure. Compliance with the requirements of this 5Q manual and associated site radiological control procedures will ensure that the user is in compliance with 10 CFR 835, the RPP, and related documents. The user is encouraged to review any underlying regulatory and contractual requirements and the primary guidance documents in their original context to ensure compliance with the applicable requirements.

Procedure Manual 6Q site Emergency Plan Management Program Procedures

This manual establishes the site requirements and standard methods for the development and maintenance of an Emergency Preparedness Program. This Manual contains standards that address the following emergency preparedness program requirements:

- Development and Maintenance of an Emergency Planning Hazards Assessment (EPHA);
- Development and Maintenance of Emergency Action Level (EAL) Procedures;
- Establishing and Maintaining Personnel Accountability Programs;
- Development and Conduct of Facility Emergency Preparedness Drills;
- Site Level Emergency Services Drill and Exercise Coordination and Conduct;

- Facility/Area Emergency Response Facilities;
- Emergency Response Organization (ERO) Administration;
- Establishing the Principal Function and Related Operations of the Safety Alarm System; and
- -SCD-7, the site Emergency Plan (formerly Volume 1 of Procedure Manual 6Q) defines appropriate response measures for the management of emergencies involving the site.

Procedure Manual 7Q Security Manual

This manual has been prepared to establish the requirements for implementing company policies and to identify requirements and procedures to comply with guidelines set forth in applicable DOE Orders and site office directives. This manual establishes security controls and procedures applicable to operations performed under contract to DOE at this site. The purpose of this manual is to provide employees of the contractor and subcontractor personnel with direction as required by applicable DOE Orders and other directives.

Federal Laws and applicable DOE Orders require the contractor to protect government-owned, company-controlled property from acts of theft, diversion, arson, sabotage, or malicious destruction. The contractor is committed to security with special concerns for the protection and safety of personnel, special nuclear material (SNM), classified information, government property, and any act that may compromise or cause an adverse impact on national security or program continuity.

S&S programs are based on vulnerability/risk analyses designed to provide graded protection in accordance with the asset's importance. S&S programs are tailored to address facility-specific characteristics. Facility-specific protection programs will be documented. Risks to be accepted by DOE will be identified and documented by S&S planning documents that contain vulnerability/risk analyses. S&S programs provide a high degree of assurance of the capability to deter, detect, assess, delay, prevent, and/or inhibit unauthorized access to nuclear weapons, nuclear test devices, or completed nuclear assemblies, Category II or greater quantities of SNM, and vital equipment.

Procedure Manual 8Q Employee Safety Manual

This manual establishes company safety requirements, procedures, minimum program requirements, and defines responsibilities for their implementation. The cornerstone of safety program is the individual right of every employee, including subcontractors, to stop work if they observe employee safety being compromised. Some examples of procedures contained in this manual are:

- Management and Administration of Employee Safety Program.
 - Safety Policy and Program Responsibilities.
 - site Safety Committees (e.g., BBS Steering Committee, VPP Core Team, etc.).
 - Reporting Unsafe Practices or Conditions.
 - Workplace Safety and Health Program for site Visitors, Vendors, and Subcontractors (includes Point-of-Entry (POE) procedure that ensures all visitors, vendors, and subcontractors get a general safety, radiological, and security briefing before being allowed to enter the site).
 - Reporting, Responding, Investigating, and Recording of Occupational Injury/Illness or Near Miss.
 - Off-The-Job Safety Program.
 - Reporting Damage to Vehicles/Property Owned by the Government or Used for Government Business.
 - Final Acceptance Inspection of New, Altered, or Dispositioned Facilities or Equipment.
 - Assisted Hazard Analysis (AHA) – Task-Level Hazard Analysis.
- General Site Safety Requirements.
 - Rules for Safe Conduct.
- Safety Requirements for Specific Activities and Equipment.
 - Basic electrical safety awareness, requirements for working near overhead power lines, motor vehicles, scaffolds, aviation, boating, lockout/tagout, confined space entry, safety showers and eyewash facilities, personal protective equipment, hand and portable power tools, pedestrians, parking lots, ladders and a number of other specific activities and equipment.

Procedure Manual 10Q Computer Security Manual

Regarding Computer and Information Security, the contractor will conduct operations in accordance with applicable public law, DOE Orders and sound business practices. Management and all users of computer resources are accountable for information assets, designation of mission-essential and sensitive information, loss reporting, business resumption plans following disasters, and

security control objectives. The site's information resources must be protected in an environment of changing technology and constant competition. The purpose of the Computer Security Program at this site is to adequately and cost effectively protect the integrity, confidentiality, and availability of classified and unclassified information, networks, systems, and applications. The accomplishment of this purpose entails the establishment of further responsibilities and general program requirements for determining risk, planning, training, procuring, managing, using, and controlling computing resources in support of the DOE-site mission.

Procedure Manual 11Q Facility Safety Document Manual

Procedure Manual 11Q addresses facility hazard categorization, safety analysis and safety basis documentation requirements and provides an effective system for implementing those requirements tailored to the type and level of hazards present. This manual implements the safety documentation requirements of 10 CFR 830, Subpart B, for nuclear facilities. Requirements of hazard analysis or safety analysis and documentation of the analysis are contained in various site-wide programs and manuals. This Manual consolidates these requirements (one-stop shopping for safety basis documents). However, this manual does not cover those aspects of site-wide programs not related to safety analysis/documentation. For example, site-wide Fire Protection Program (i.e., Procedure Manual 2Q) consists of many elements, but this manual covers only those elements related to safety analysis/documentation (i.e., Fire Hazard Analysis). This manual also addresses the site programs for Unreviewed Safety Questions, Authorization Agreements, Radioactive Waste Management Basis, Linking Documents, and describes the Integrated Worker Safety Program.

Procedure Manual 12Q Assessment Manual

This manual contains the programmatic direction for Assessment Programs as follows:

- Control of Performance Objectives and Criteria (POC)

A key part of Assessment Process is a standard set of POC upon which assessments of facilities are based. Those POC are contained in -SCD-4, Assessment Performance Objectives and Criteria.

- Startup and Operational Readiness Assessments

Procedures are provided for the uniform conduct of management self-assessments (MSAs - optional), operational readiness reviews (ORRs), and readiness assessments (RAs), routine startups and startup authorization. The procedures in this section of Procedure Manual 12Q, Assessment Manual, identify the activities required of the contractor to accomplish nuclear activity startups. Based on the graded approach identified in the referenced DOE documents, various levels of and DOE

assessments (up to and including a DOE ORR) are performed to ensure that all requirements identified in startup planning documents have been satisfied prior to the startup. This graded approach is based on the hazard category assigned to the activity and, if a restart, the circumstances surrounding the shutdown.

- Self-Assessment Program

Self-Assessments are implemented throughout the contractor to:

- Measure level of performance of activities.
- Demonstrate ongoing compliance to regulatory requirements.
- Identify problems.
- Determine strengths and best practices.

This program defines the structure, principles, responsibilities, and associated requirements for Self-Assessments as applied to organizations, assessment units, and functional programs. Self-Assessments, along with Performance Analysis described below, are part of Management Assessment process.

- Facility Evaluation Board Assessments

Facility Evaluation Board (FEB) teams staffed by Operations Evaluation Department personnel:

- Provide accurate, consistent, and gradable measures of facility/project and program performance effectiveness.
- Evaluate adequacy of the line self-assessment process.
- Satisfy contractual obligations for company-level independent oversight.
- Provide ongoing evaluations of ISMS performance.

This section of the manual defines responsibilities of line management, the Operations Evaluation Department and, FEB teams as they relate to planning, conducting, reporting, and follow-up of Integrated Safety Management Evaluations (ISMEs) by the Facility Evaluation Board.

- Performance Analysis

This procedure describes Performance Analysis (PA) process and defines the minimum requirements for the process. The goal of the Performance

Analysis process is to ensure that recurring problems, issues, or events are identified and corrected, and thereby, preventing more serious or significant occurrences. The Performance Analysis process integrates event-based and review-based operational data from a variety of sources including: occurrence reports submitted to the Department of Energy (DOE) Occurrence Reporting and Processing System (ORPS), Problem Identification Report (PIR) or site Tracking, Analysis, and Reporting (STAR) managed problems, Management Assessment processes (including Performance Analysis and Self-Assessments), and other non-ORPS reportable event data. This process meets the ORPS and the Price-Anderson Amendments Act (PAAA) requirements and supports implementation of the DOE Quality Assurance Rule and Order.

Procedure Manual 14Q Material Control and Accountability Manual

The contractor implements and maintains a graded safeguards program to ensure that nuclear materials are protected, controlled, and accounted for. Safeguards programs are designed to meet defined threats and are effectively coordinated and integrated at all levels of operation. This manual serves to implement applicable Department of Energy (DOE) orders for which the contractor is contractually obligated to comply. The manual defines the following program elements: 1) Basic Requirements, 2) Material Accounting, 3) Measurement Control, 4) Material Transfers, and 5) Material Control. Material Control and Accountability Plan is an addendum to this Procedure Manual.

Procedure Manual 18Q Safe Electrical Practices and Procedures

This manual establishes Electrical Safety Program that promotes an electrically safe workplace, free from exposure to electrical hazards, for all employees and subcontractors. This manual defines the general safe electrical practices, electrical PPE and equipment inspections, and safe electric utility practices. This manual provides direction to implement the electrical safety requirements of DOE Orders, criteria and guides, and achieve compliance with applicable OSHA regulations and consensus codes and standards; e. g., National Electrical Code (NEC), National Fire Protection Association (NFPA) Code, National Electrical Safety Code (NESC) and ANSI-C2.

Procedure Manual 19Q Transportation Safety

This Manual documents the offsite, onsite in-commerce (OSIC), and onsite packaging and transportation program and demonstrates compliance with Department of Energy (DOE) transportation safety standards that require:

- All hazardous materials be handled in a safe manner to ensure required protection to workers, the public, and the environment.

- All onsite transfers of hazardous materials meet the requirements of applicable federal, state, and local regulations as well as DOE directives.
- All offsite shipments of hazardous materials meet the requirements of Department of Transportation (DOT).
- Regulations, applicable DOE orders, and other federal, state, and local regulations.
- Each person involved in the packaging and transportation of hazardous material has the required training to perform assigned job functions.

Additionally, this manual contains guidelines for facility implementation of Safety Analysis Reports for Packaging (SARP) requirements.

Procedure Manual 21Q Protection of Human Subjects in Research

This manual establishes the requirements for human subjects research conducted at this site. The majority of such research is performed by researchers from external institutions who are studying the health effects of working at site or living in neighboring communities. On occasion, employees also may conduct research involving human subjects, such as that necessary to evaluate man-machine interfaces or to test devices, products, or materials developed through research. The manual is divided into four procedures, each describing a major aspect of the human subjects research process as follows:

- HSR-1: Administration of Research Involving Human Subjects
- HSR-2: Preparation of Research Protocols
- HSR-3: Institutional Review Board
- HSR-4: Conduct of Research Involving Human Subjects

Procedure Manual 1S site Waste Acceptance Criteria Manual

The procedures contained in this Manual apply to all onsite and offsite generators processing waste for treatment, storage and disposal (TSD) at this site's facilities. The scope of this manual includes associated and sanitary, low level, mixed, hazardous and transuranic wastes, but does not include high level waste programs. The Solid Waste Management Committee (SWMC – see 1-01 Charter 6.15) has overall technical responsibility for the contents of this manual.

Procedure Manual 2S Conduct of Operations

This Conduct of Operations Manual, 2S, establishes disciplined operations of facilities by the contractor. Operating in accordance with these procedures is a

fundamental requirement for the safety of employees, the public and facilities. Compliance with these standards provides defense-in-depth against many kinds of accidents and adverse incidents by minimizing error and confusion and by providing clear means to identify problems, determine underlying causes, take preventive action before adverse events occur, and bring about continuous improvement in the quality and safety of operations. Alternate Implementation Methods for meeting the requirements of this manual may be obtained when justified according to Procedure 6.1 of this manual. Alternate Implementation Methods must meet applicable S/RID requirements.

Procedure Manual 3S Conduct of Modifications

This procedure establishes the overall process for conduct of plant modifications (except minor and temporary modifications) at the site. This procedure establishes the company level requirements and is supplemented by various other company and lower level manuals as identified within. This procedure provides an overview of the process for conducting plant modifications. This process implements key elements of a disciplined systems engineering approach to ensure that modifications meet customer needs and requirements in a high quality and cost effective manner. This manual serves as a “roadmap” to the various other site level and lower level manuals that are referenced within the body of this procedure and which direct the conduct of modifications of different types at the site.

Procedure Manual 1Y Conduct of Maintenance

This manual sets cost-effective maintenance standards that are used for equipment management at this site. These standards, as re-engineered for Maintenance, comply with the requirements of the Department of Energy (DOE) O 433.1, *Maintenance Management Program for DOE Nuclear Facilities*, as specified in the site S/RID. This manual addresses the four general categories of maintenance: 1) Corrective Maintenance, 2) Preventive Maintenance, 3) Modification, and 4) Other Support (includes work that does not fall into one of the three categories above). This Manual does not apply to the execution of non-maintenance work, such as Decontamination and Decommissioning work. The intent of this manual is to ensure an appropriately tailored approach when determining the maintenance work method. Exceptions or deviations, which must be in compliance with the S/RID, will be obtained in accordance with Procedure Manual 1Y, Procedure 20.01, when technically justified and approved in writing. Use of the Assisted Hazard Analysis (AHA) process (in accordance with Procedure Manual Procedure 8Q, Procedure 120, *Hazard Analysis*) is integrated into maintenance work by Procedure Manual 1Y, 8.20, *Work Control*. The AHA Process provides task-level hazard analysis and authorizes work to commence upon the Shift manager’s approval of the Safe Work Permit (SWP). Where procedures in this manual conflict with Project/Facility conduct of maintenance procedures, this manual will take precedence until such time as conflicts are resolved or an exception/deviation is approved and documented. Business Units, Projects, or

Facilities may supplement the requirements of this manual by providing additional implementation detail, however, such supplements/exceptions will not be deviations from the requirements of this manual. DOE has approved Procedure Manual 1Y as the site Maintenance Implementation Plan (MIP). Procedure Manuals 1Y-1 and 1Y-2 are derivative manuals of Procedure Manual 1Y that contain site procedures for E&I and Mechanical Maintenance, respectively. Project/Facility maintenance and support personnel, as well as those in Operations and Engineering, are responsible for understanding and adhering to the requirements contained in this manual including any approved deviations or exceptions that apply.

Procedure Manual E7 Conduct of Engineering and Technical Support

This Manual has site wide applicability. This Manual coordinates all engineering work among PD&CS and the Operating Business Units, including new facilities and modifications to existing facilities. Aspects of Disciplined Conduct of Projects (DCOP) have been incorporated, as appropriate, into this manual. This manual has the following sections:

- Section 1.0 – Administrative, Organization and Control
- Section 1.5 – Commercial Design Process
- Section 2.0 – Technical Baseline Change Control
- Section 3.0 – Operations Technical Support
- Section 4.0 – Safety Documentation Development
- Section 5.0 – Software Engineering and Control

Procedure Manual E11 Conduct of Project Management and Control

This Manual has site wide applicability. This Manual establishes the site responsibilities and requirements for a process to perform cost effective planning, control, and execution of projects using a risk-based approach and systems engineering methods. This Manual is applicable to all projects at this site managed by the contractor in compliance with DOE O 413.3, *Program and Project Management for the Acquisition of Capital Assets*. For the purposes of this procedure, a project is defined as a unique effort that supports a program mission with defined start and end points, undertaken to create a product, facility, or system with interdependent activities planned to meet a common objective/mission. Formal classification of an effort as a project is determined by the Chief Financial Officer. Projects include planning and execution of construction, renovation, modification, decontamination and decommissioning efforts, and large capital equipment or technology development activities. This manual has limited applicability to Soil and Groundwater Closure Projects

(S&GCP), where management and control guidance are located in the Procedure Manual C1. S&GCP at site is managed as a single strategic system with several subprojects.

Procedure Manual 1E6 Construction Management Department Manual

This Manual has site wide applicability. This Manual directs all construction activities for all facilities at this site. It is a comprehensive compilation of specialized procedures that, similar to Conduct of Maintenance and Conduct of Operations, serves to prescribe for the contractor the “Conduct of Construction” concept, recognizing that construction has a different set of types of work and hazards. It references other Manuals, as appropriate. This manual is arranged in the following topical areas:

- Program Administration;
- Craft Management and Central Shops;
- Construction Engineering Services;
- Subcontracts Administration;
- Environmental;
- Labor Relations;
- Materials;
- Project Controls;
- Construction Quality Control;
- Safety and Health Services; and
- Construction Policies and Requirements.

-SCD-3 Nuclear Criticality Safety Manual

This Manual has site wide applicability. This Manual contains a flowdown of the nuclear criticality safety requirements from S/RID. It defines and establishes Nuclear Criticality Safety Program consistent with applicable DOE requirements, industry standards, company safety policy, and accepted safety practice. It provides interpretation and guidance for the uniform implementation of these requirements and standards at this site and, as such serves as the basis for criticality safety implementing procedures and manuals at the Business Unit or lower levels of the organization.

-SCD-4 Assessment Performance Objectives and Criteria

This manual has site wide applicability. -SCD-4, *Assessment Performance Objectives and Criteria*, is a company-level source and compliance document containing a collection of specific performance objectives and criteria (POC) intended to serve as a basis for assessments conducted by the contractor. These POC are linked to a "smart sample" of source document requirements from Standards/Requirements Identification Document (S/RID) as promulgated in company level manuals. Assessments using POC selected from this document have proven appropriate for the following purposes:

- Demonstration of readiness for nuclear activity startup or restart;
- Effective identification of deficiencies and opportunities for performance improvement through self-assessment and independent oversight of operational activities;
- Development of consistent review-based data for input to the Performance Analysis process; and
- Demonstration of field adherence to policies and procedures when applied to operational activities.

Assessments using these POC also provide indication of how well Safety Management System is integrated throughout site activities.

-SCD-6 site ALARA Manual

The purpose of this ALARA (radiation exposures "as low as reasonably achievable") Source and Compliance manual is to provide the foundation of the sitewide ALARA program for exposure to onsite personnel. The Environmental ALARA Program is implemented by Procedure Manual 3Q. This manual is the means toward completing and achieving compliance with applicable rules and regulations, and implementation of consistent ALARA policies and practices. This manual contains requirements originating in 10 CFR 835 and established good practices from operating experience.

-SCD-7 site Emergency Plan

This manual has site wide applicability. The site Emergency Plan defines appropriate response measures for the management of emergencies involving this site. It incorporates into one document a description of the entire process designed to respond to and mitigate the potential consequences of an emergency. This site Emergency Plan meets the emergency response planning requirements mandated by law and applicable DOE directives and contains fifteen sections as follows:

- Introduction;

- Emergency Response Organization (Internal);
- Offsite Response Interfaces;
- Emergency Categorization and Classification;
- Notification and Communication;
- Consequence Assessment;
- Protective Actions;
- Medical Support;
- Recovery and Reentry;
- Public Information;
- Facilities and Equipment;
- Training;
- Drills and Exercises;
- Emergency Management Program Administration; and
- Emergency Management Program for Transportation.

-SCD-9 Problem Analysis Manual

This manual, which has site wide applicability, specifies the required problem analysis methodology for determining the causes of problems identified by Corrective Action Program (see MP 5.35). The level of analysis required is tailored to the relative severity of the problem being analyzed. This manual contains the Causal Analysis Tree used to determine the causes of identified problems from the Occurrence Reporting and Processing System (ORPS), Corrective Action Program, or other feedback processes.

-SCD-11 Consolidated Hazard Analysis Process (CHAP) Manual

This manual, which has site wide applicability, describes Consolidated Hazard Analysis Process (CHAP). This document was written as a guide to company-level policies and procedure manuals with regard to activities and documents related to process hazards analysis. These process hazards analyses, activities, and documents are applicable to the Department of Energy (DOE) Nuclear Facilities, Radiological/Chemical Facilities, and Other Industrial Facilities at this site operated by the contractor. Part of this Manual called

"Hazmap" is a tool that identifies and defines, for project planners, the characteristics of the various hazards analyses required at each stage of the life cycle of a facility from the conceptual, design and construction project, through the operational and finally, the D&D phases. The remainder of this manual defines features of CHAP that describe the process for developing and consolidating eleven separate process hazards analysis activities into a single integrated activity. CHAP utilizes a team approach involving personnel with the skills and knowledge necessary to address operations, engineering, hazards analysis and functional classification. In addition to the eleven process hazards analysis activities that can be consolidated as described above, the remaining specific design basis hazard analyses are more effectively integrated by the inclusion of appropriate participants on the CHAP team, such as Fire Hazards Analysts, Emergency Planning Hazards Analysts, Nuclear Criticality Safety Analysts, etc.