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Program Description Document

Integrated Safety Management System

Idaho National Engineering
and Environmental Laboratory

Form 412.14
10/9/2003
Rev. 05

EXECUTIVE SUMMARY

This Program Description Document (PDD) describes the Bechtel BWXT Idaho, LLC (BBWI) Integrated Safety Management System (ISMS). The ISMS was mandated by a Department of Energy Acquisition Regulation (DEAR) Contract Clause 48 Code of Federal Regulations (CFR) 970.5223-1 and applied to contract DE-AC07-99ID13727. This document applies to the Management and Operating (M&O) contractor that manages work under this contract. Subcontractors that are doing work for the M&O contractor are also included. It does not apply to non-M&O contractor-operated facilities, tenant federal agencies or other federally operated facilities. The documents used to construct the Integrated Safety Management System include:

1. Department of Energy (DOE) G 450.4-1B, "Integrated Safety Management System Guide" (March 2001)

2. 48 CFR 970.5223-1, "Integration of Environment, Safety, and Health into Work Planning and Execution" (June 1997) (Contract DE-AC07-991D13727, Clause I.19)

3. 48 CFR 970.5204-78, "Laws, Regulations, and DOE Directives" (June 1997) (Contract DE-AC07-99ID13727, Clause I.60)

4. DOE P 450.4, "Safety Management System Policy" (October 1996)

5. Defense Nuclear Facilities Safety Board (DNFSB)/TECH-16, "Integrated Safety Management" (June 1997)

6. DNFSB/TECH-19, "Authorization Agreements for Defense Nuclear Facilities and Activities" (April 1998)

7. DOE P 450.5, "Line Environment, Safety, and Health Oversight" (June 1997)

8. DOE P 450.6, "Secretarial Policy Statement, Environment, Safety, and Health" (April 1998)

9. Revised Contracting Officer Guidance on Integrated Safety Management System Description Document Development and Implementation for Contract DE-AC07-941D13223 (OPE-OS-98-104) dated July 29, 1998.

This document describes the model and construct of integrated safety management used to prescribe the procedures and processes necessary to do work safely. It begins with the development of a set of requirements primarily identified in Lists A and B of the contract, but includes other requirements identified in the scope of work, contract clauses, etc. These requirements form the basis for the development of work processes, guided by the ISMS core functions and guiding principles, that permeate the organization from the site, through the facilities, to the worker, with a primary focus on the worker. The result is a coherent and comprehensive methodology to achieve world class safety performance.

The fundamental premise of the ISMS is to "**Perform Work Safely**." This is achieved by implementing formal processes that provide rigor and discipline to work execution. The ISMS protocol directs that all work be done safely through appropriate prescriptive work planning and execution. Planning and execution are driven by worker safety requirements that demand the necessary tools, training, procedures, equipment, and behaviors. When the work is completed, formal feedback mechanisms are used to improve the work planning and execution process, including the analysis and control of hazards, and achieve continuous improvement. To navigate toward safety excellence, we have acknowledged that the workforce, particularly at the craft level, is the fundamental ingredient. We understand very well that the workforce is the key to achieving safety excellence.

Worker involvement was added to the original seven guiding principles. We firmly believe that worker involvement is fundamental to grounding the ISMS initiative, and is the underlying principle that will guarantee its success. The Voluntary Protection Program (VPP), initiated in 1995, provided an appropriate vehicle to initiate the worker involvement process. Our success with our represented employees is a manifestation of the program's value to working safely. It is important to note that, in May 2001, Idaho National Engineering and Environmental Laboratory (INEEL) became the first national laboratory to receive star status under the DOE VPP.

The ISMS was developed in accordance with the guidance provided in DOE G 450.4-1A and was implemented through a work breakdown structure to logically develop the process and requirements documents needed to integrate the diverse missions and activities. The logic led to developing the contract requirements (see Figure 1); mapping the work process against the core functions and guiding principles to capture process gaps and duplication of company requirements documents; and an evaluation of the appropriate "flowdown" of requirements to programs and procedures. Figure l, ISM Requirements Selection Model, illustrates this logic by depicting how contract requirements are the "roots," which "feed" the development of company-level procedures. These company procedures reside in 17 Company Manuals from which Project Directors or Associate Laboratory Directors at the facility/project/program level "pick" requirements that are applicable to perform their work activities safely. If necessary, the Directors supplement the "picked" company-level procedures with facility/project/program-level procedures to implement the requirements in a specific manner. The requirements ("fruit") that were picked by each facility/project/program are documented in applicability matrices (per management control procedure [MCP]-2447, "Identification and Rolldown of Requirements") as part of the requirements rolldown process.

This document is organized into six sections: (1) Integrated Safety Management System Overview; (2) Business, Budget, and Contracts Process; (3) Site Requirements and Programs; (4) Authorization Agreements; (5) ISMS Core Functions and Guiding Principles; and (6) Maintaining an Approved ISMS.

Section 1, Integrated Safety Management System Overview, discusses the objective of ISMS as the provision of a safe workplace in which to work safely while protecting the worker, the public, and the environment. It defines the components of the five core functions and eight guiding principles, connects the ISMS infrastructure with the contractual language requirements, and provides a roadmap for the integration of existing corporate procedures.

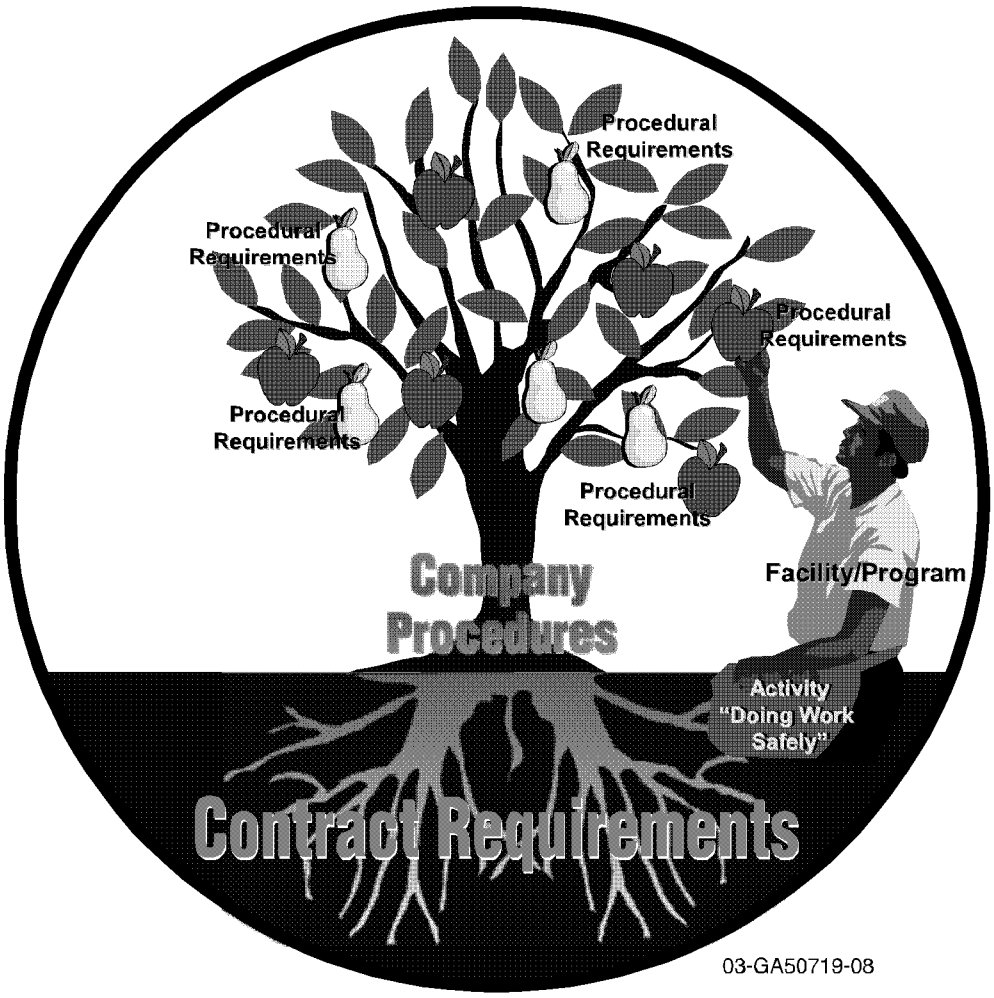

Figure 1. ISM requirements selection model.

Section 2, Business, Budgets, and Contracts Process, explains how the Environmental, Safety, and Health (ES&H) activities are integrated into the business process. It includes a discussion of work scope definition, current mission requirements, budget and funds allocation, task prioritization, lifecycle work planning and execution, and continuous improvement and feedback mechanisms.

Section 3, Site Requirements and Programs, describes the components of the ES&H programs that implement the requirements identified in the contractual documents.

Section 4, Authorization Agreements, is a discussion of the basis for DOE authorization to operate hazardous facilities.

Section 5, ISM Core Functions and Guiding Principles, is a detailed discussion of the ISMS infrastructure, addressing the five core functions and eight guiding principles. It describes the integration of the components, from the company level down to the activity level.

Section 6, Maintaining an Approved ISMS, describes the mechanisms by which BBWI will measure, maintain and improve the effectiveness of the ISMS.

ISMS is the blueprint for continuous improvement in the safe execution of work, in a way that embodies imagination, enthusiasm, technical competence, rigor, discipline, common sense, opportunity for increased efficiency, and an urgency for worker safety to be a core "value."

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FIGURES

1. INTEGRATED SAFETY MANAGEMENT SYSTEM OVERVIEW

U.S. Department of Energy (DOE) P 450.4, "Safety Management System Policy," dated October 15, 1996, identifies the following six primary components of ISMS:

1. Objective
2. Principles
3. Functions
4. Implementation
5. Responsibilities
6. Mechanisms.

The first three components are described in detail in the DOE policy and apply universally across the DOE complex. The last three—implementation, responsibilities, and mechanisms—are unique to each DOE site and are tailored by each site according to a site's mission and organizational structure. As such, this section provides a brief review of the first three components, whereas Section 5 of this document provides a detailed description of the BBWI Integrated Safety Management System (ISMS).

1.1 Objective

The objective of the ISMS is to provide a safe workplace and to perform work safely while protecting the worker, the public, and the environment. For purposes of this document (Program Description Document [PDD]-1004, "Integrated Safety Management System"), "safety" encompasses environment, safety, health, and quality assurance (ESH&QA), including pollution prevention and waste minimization. This document establishes the roles and responsibilities for the implementation of an ISMS.

In accordance with PDD-16, "Overview of the Safety and Health Program," and PDD-1012, "Environmental Management System," management is committed to strive for excellence in the conduct of operations in order to ensure the health and safety of our personnel, the public, and the environment. All jobs will be performed only when the risk of sustaining injury or illness is as low as possible. This concept initiated the development of the Voluntary Protection Program (VPP) Bill of Rights and is an intrinsic part of all programs and procedures. The Bill of Rights states:

I have a right to:

- *Willingly participate in Safety and Health Issues*
- *Report or stop unsafe acts and conditions without fear of reprisal*

- *Accident/incident and safety inspections results*
- *Become actively involved.*

The Bill of Rights were developed based on the "Worker Rights Under the Occupational Safety and Health Act of 1970."

Through the people, programs, and procedures, management seeks to meet its mission and customer expectations while ensuring adequate safety; however, mission and customer expectations must yield if adequate safety and environmental protection cannot be achieved.

1.2 Guiding Principles

This subsection outlines the seven guiding principles for a strong ISMS, as established by DOE P 450.4. It also outlines guiding principle number eight, Worker Involvement, which is imperative to this site's ISMS implementation strategy success. These principles, combined with the core functions outlined in Subsection 1.3, are the fundamental concepts that were verified in the functional areas. Processes were then aligned with these ISMS concepts. The Eight Guiding Principles of ISMS are:

1. **Line Management Responsibility for Safety**. Line management is responsible for the safe and efficient conduct of work to ensure the protection of the public, the workers, and the environment.

2. **Clear Roles and Responsibilities**. Clear and unambiguous lines of authority and responsibility for ensuring safety are established and maintained at all organizational levels.

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 executed.

5. **Identification of Safety Standards and Requirements.** Before work is performed, the associated hazards are evaluated, and standards and requirements are established that, when properly implemented, provide adequate assurance that the public, the workers, and the environment are protected from adverse consequences.

6. **Hazard Controls Tailored to Work Being Performed**. Administrative and engineering controls to prevent and mitigate hazards are integrated and tailored to the work and associated hazards.

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

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

1.3 Functions

The framework for the ISMS is organized around the following Five Core Functions:

1. Define the scope of work

2. Identify and analyze hazards associated with the work

3. Develop and implement hazard controls

4. Perform work within controls

5. Provide feedback on the adequacy of controls and continuous improvement in defining and planning work.

The five core functions provide a distinct, phased approach in the continuing cycle of conducting safe work. Figure 2 illustrates the approach taken to understand the core functions as they relate to actual work.

1.4 Company Structure

There are two main divisions of BBWI; Idaho National Engineering and Environmental Laboratory (INEEL) and the Idaho Completion Project (ICP). These two divisions were established to align with the DOE's new contracting strategy for the site.

The INEEL division consists of Nuclear Energy, National Security, Energy and Environmental Sciences, Energy and Engineering Technologies, Test Reactor Area (TRA), Specific Manufacturing Capability (SMC), and associated functional support organizations.

The ICP division encompasses five major projects: Clean/Close INTEC, Clean/Close TAN, Buried Waste Cleanup, Complete Balance of INEEL Cleanup, and Eliminate Mixed Low Level Waste (MLLW) Backlog/Services.

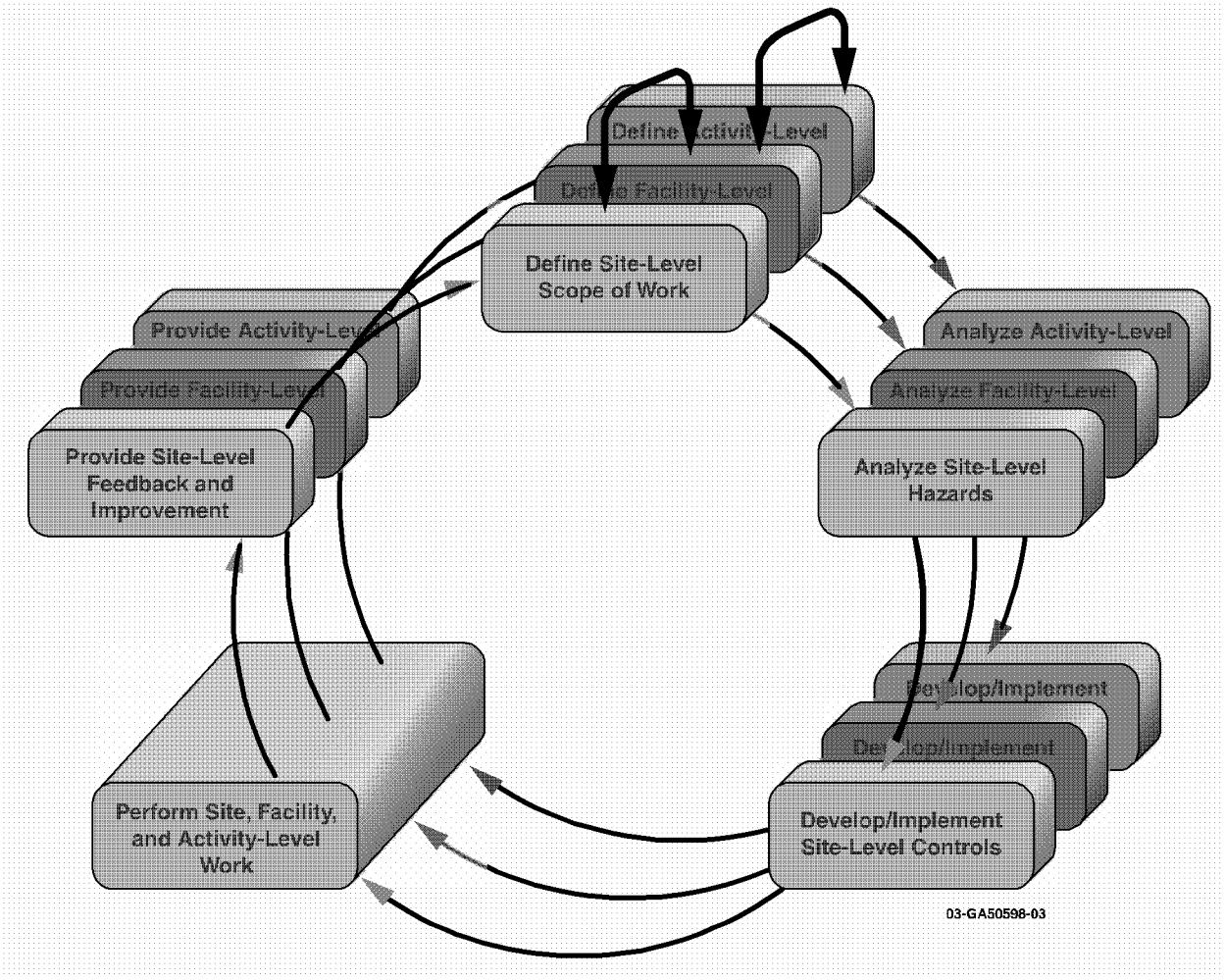


Figure 2. ISMS work output model.

The BBWI President provides overall leadership, direction, and integration for the INEEL and ICP. Roles and responsibilities for INEEL and ICP are discussed in detail in PDD-1005 and ICP-PDD-1005, respectively. Supplemental to PDD-1005 and ICP-PDD-1005, operating organizations have MCPs that define the roles and responsibilities for the personnel who work in their organizations.

For the purpose of this document, the term "company-level" is used to mean BBWI, encompassing both the INEEL and the ICP. All company-level procedures apply to both the INEEL and the ICP, with the exception of some procedures that have been tailored to meet the requirements of ICP. Those procedures that have been duplicated and tailored for ICP have been reissued with an "ICP" designator preceding the document number, for example ICP-PDD-1005. All other company level procedures, regardless of the title (e.g., some procedure titles include "INEEL"), apply to the entire company.

1.5 ISMS Infrastructure

The set of documents listed in Figure 3 and in Appendix B forms the foundation of the implementation of ISMS at the company/site and facility/activity levels. The ISMS infrastructure also includes:

- DOE Acquisition Regulation (DEAR) 48 CFR 970.5204-78, "List of Applicable Laws and Regulations" (List A), that includes federal, state, and local laws, and the "List of Applicable Directives" (List B) that incorporates DOE requirements and regulations,
- Company-level programs that assign responsibility for the requirements and implementing documents and processes such as management, prioritization and allocation of resources, budget, and cost management, and
- Specific safety management programs and procedures that implement ESH&QA requirements at the site, facility, and activity levels.

At the company level, the ISMS begins with the documents that describe the scope of work to be accomplished. The DOE defines the company-level scope of work on an annual basis. Priorities are established between Department of Energy Headquarters (DOE-HQ), Department of Energy Idaho Operations Office (NE-ID), and Bechtel BWXT Idaho, LLC (BBWI). Program work and commitments are formalized in the contracts. Budgets are developed using estimates generated by line organizations. These budgets include the ESH&QA resources required to execute work safely and to maintain the infrastructure of the facilities. This budgeting process is defined in Companywide Manual 5, "Project Cost and Schedule Controls." Strategic direction and policy is provided by the Integrated Executive Council (IEC). The role of the IEC is to implement management processes and systems, and ensure the guiding principles for safety management are implemented in all activities. The Charter for the IEC is Charter (CTR)-15, "Charter for the Integrated Executive Council."

After DOE approves the program requirements, project work requirements flow down to the company level for planning, scheduling, and work execution. The office of the president provides the contractor integration and coordination to ensure successful implementation of company-wide programs and policies at the site facilities, and ensures quality work and safe, secure, efficient and environmentally responsible operation of facilities and processes at the site. There are two main divisions of the company; INEEL and ICP. Roles and responsibilities for each division are discussed in PDD-1005 and ICP-PDD-1005, respectively, and are outlined in Section 5.1 of this document.

Authorized work activities in each nuclear facility are documented in either a basis for interim operation (BIO) or a Documented Safety Analysis (DSA), and are implemented through the facility's operational safety requirements (OSRs), technical standards/specifications (TS/Ss), or technical safety requirements

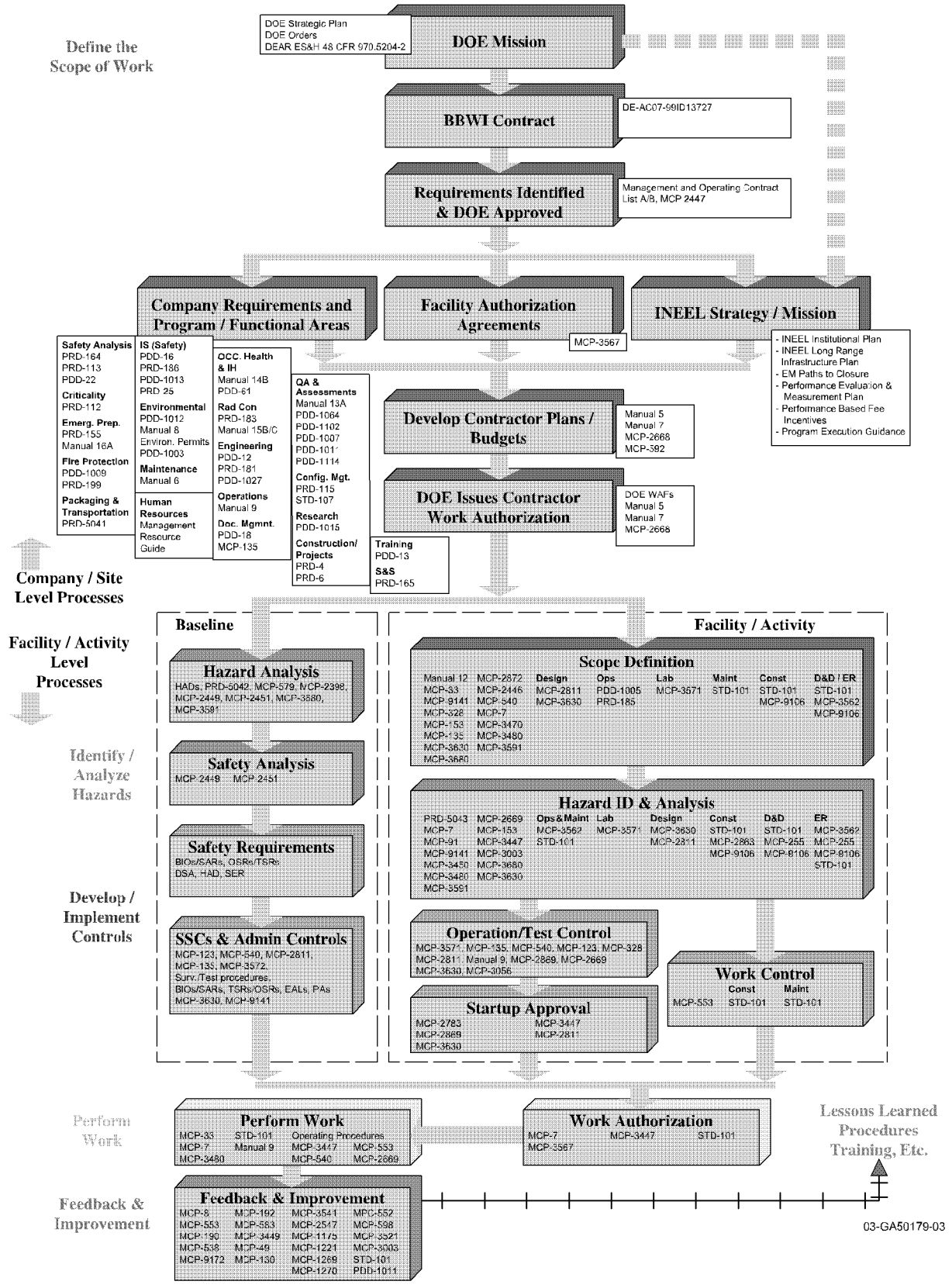


Figure 3. ISMS infrastructure.

(TSRs). These documents—along with applicable environmental permits, Environmental Impact Statement or Assessment and other safety documents—form the safety envelope of the facility. For category 1 and 2 nuclear facilities, authorized work activities are specified in the applicable facility's authorization agreement. At the facility level, the facility manager is responsible for ensuring that, prior to execution, all activities in the facility are authorized within the safety envelope. Each new work requirement is evaluated against the approved safety basis in accordance with management control procedure (MCP)-123, "Unreviewed Safety Questions." The MCP-123 process ensures that work can be performed within the approved safety basis; or that the necessary approval from DOE will be obtained prior to the start of work.

Occasionally, work requirements introduce a new capability that is not included in the approved safety basis; or a change to existing facility structures, systems and components (SSCs) is necessary. This results in process development, engineering, design, installation, and testing before the new process or facility modification is incorporated into the facility's safety basis and accepted by Operations. Any change to the facility, regardless of whether it is a modification to an existing SSC or a new process startup, undergoes the same programmatic lifecycle, which is governed by formal engineering procedures (MCP-2811, "Design Control," and a task baseline agreement [TBA]). This lifecycle incorporates reviews and inputs from project work subject-matter experts (SMEs) and appropriate ESH&QA support personnel to ensure safety controls are designed into the final product.

Changes to existing SSCs are initiated through procedure MCP-2811 which in turn invokes procedure MCP-123. From within the change control process, the detailed technical scope of work is defined by Form 431.37, "Engineering Change Form," and by MCP-2811, while administrative requirements are referenced by the TBA. MCP-2811, in turn, invokes the appropriate engineering procedures for preparing calculations and analyses, identifying hazards and performing analyses, ensuring appropriate controls are built into the design, and obtaining design approval from the customer. After significant modifications to a facility, operations are resumed after an appropriate level of readiness review or readiness assessment is conducted in accordance with MCP-2783, "Startup and Restart of Nuclear Facilities." This process can be used for all types of activities, processes, modifications and facilities utilizing a graded approach dependent upon risk.

Task level hazards are identified and analyzed in accordance with the requirements of Program Requirements Document (PRD)-25, "Activity Level Hazard Identification, Analysis, and Control." Appropriate controls for the hazards are identified from the facility Authorization Basis (AB) and from infrastructure safety functional areas using the following processes, depending on the type of work activity.

MCP-3562, "Hazard Identification, Analysis and Control of Operational Activities," is used to create a job safety analysis (JSA) that describes the steps in a job, lists all of the hazards associated with the work, and identifies the methods for controlling or mitigating those hazards. This procedure contains an extensive hazard-screening list to be used by a Hazard Evaluation Group (HEG) when analyzing the hazards. The HEG is a team of operations, SMEs, and other appropriate disciplines that assess the operational procedure using the ISMS core functions and guiding principles. Facility walk downs, document reviews, and a number of other actions are performed during this analysis process.

MCP-3571, "Independent Hazard Review," provides work control guidance to personnel authorizing or performing experimental projects for Research and Development (R&D). A hazard mitigation guide is developed to identify the ESH&QA hazards associated with proposed experiments and/or R&D activities. The guide provides instructions on the need to prepare an Independent Hazard Review (IHR) checklist and hazard mitigation plan. The guide also provides references to applicable procedures and guidelines relating to the particular environment, safety, and health area being considered. Based upon the hazards identified in the hazard mitigation guide, a graded approach is used to specify the hazard review process.

MCP-3480, "Environmental Instructions for Facilities, Processes, Materials, and Equipment," is used to provide instructions for activities with environmental requirements, and to provide direction regarding mitigation of environmental hazards. Based on the type of activity, MCP-3480 identifies applicable requirements, instructions, and hazard mitigation controls.

The scope of maintenance, construction, and environmental remediation/ deactivation, decontamination, and dismantlement (DD&D) work is defined using Standard (STD)-101, "Integrated Work Control Process;" PRD-4, "INEEL Project Management System Requirements;" PRD-6, "Environmental Restoration Project Management," and MCP-9106, "Management of INEEL Projects." The hazards for all are identified during the planning stage using STD-101 or MCP-3562. Work packages are prepared and approved by the responsible line manager. Facility work is authorized and scheduled to be performed via the facility Plan-of-the-Day (POD). Work is executed in the facilities in accordance with the procedures contained in Companywide Manual 6, "Maintenance," and Manual 9, "Operations."

For construction work, the identified hazards and hazard mitigation actions are passed down to the construction subcontractor through contract documents (contract general conditions, contract special conditions, and the "BBWI Subcontractor Requirements Manual") in accordance with PRD-1007, "Work Coordination and Hazard Control." The subcontractor is required to prepare a JSA that defines the planned hazard mitigation actions. The JSA is reviewed by a safety engineer and the applicable subject matter expert and approved where applicable. For environmental remediation activities, as required by law (Comprehensive Environmental Response, Compensation, and Liability Act

[CERCLA]), hazards are identified through preparation of a health and safety plan (HASP) prepared in accordance with MCP-255, "Hazardous Waste Operations and Emergency Response Activity Health and Safety Plans," and STD-101. MCP-255, Form 432.05, "Hazards Review For Construction Projects," and Form 432.58, "Construction Management Job Safety Analysis," are used to identify, analyze, and control the hazards associated with the construction installation. Acceptance of the design and installation and turnover to operations follow the directions in MCP-2811, MCP-3056, "Test Control," and MCP-9106.

Improvements in the site assessment and feedback programs have been focused on the internal assessments described by PDD-1064, "Integrated Assessment Program (IAP)." MCP-9172, "Developing, Integrating, and Implementing Assessment Plans and Schedules," describes the process for developing, integrating, and maintaining the integrated assessment plan and schedule. MCP-8, "Performing Management Assessments and Management Reviews," provides instructions for performing management assessments to determine the adequacy and effectiveness of an organization's management programs. It also provides instructions for performing management reviews to identify systemic issues, potential risks, and areas for improvement. MCP-552, "Performing Independent Assessments," provides instructions for performing independent assessments to verify that performance criteria have been met and to determine the adequacy and effectiveness of programs and management systems. MCP-1221, "Performing Inspections and Surveillances," provides the instructions for performing inspections, which are usually detailed walkdowns of designated areas to determine compliance with regulatory and procedural requirements, and surveillances, which are typically focused on a single operation, activity or process. Each organization's assessment program is a self-administered process used to identify and implement changes that promote continuous improvement by increasing safety, compliance, and operational efficiency. The IAP consists of a variety of assessment activities that are directed by the facility or organizational integrated assessment plans and schedules. As part of the maintenance of ISMS, the Facility Evaluation Board (FEB), which is discussed in PDD-1064 and chartered in CTR-69, "Charter for the Facility Evaluation Board," is used to verify the effectiveness of the ISMS.

1.6 Institutionalization through Standards-Based Safety Management

The ISMS infrastructure includes company-level ESH&QA functional areas that have existed for many years. The ISMS focuses on integrating these functional areas using the line manager as the focal point through which all work activity is planned and authorized. The integration of the ESH&QA functional areas and the work control processes that exist at the core of the ISMS relies on the implementation of a compliance management system. Programmatic requirements flow down from DOE requirements and regulations and from applicable industry standards which are documented in the M&O contract. Company-level programs that implement these requirements are institutionalized through company-level

procedures. Figure 4 depicts this flow-down of standards and requirements into company-level manuals and implementing procedures. These procedures and manuals define the roles and responsibilities for implementing the ESH&QA functional area requirements, with a strong focus on the responsibilities of line management for functional area performance.

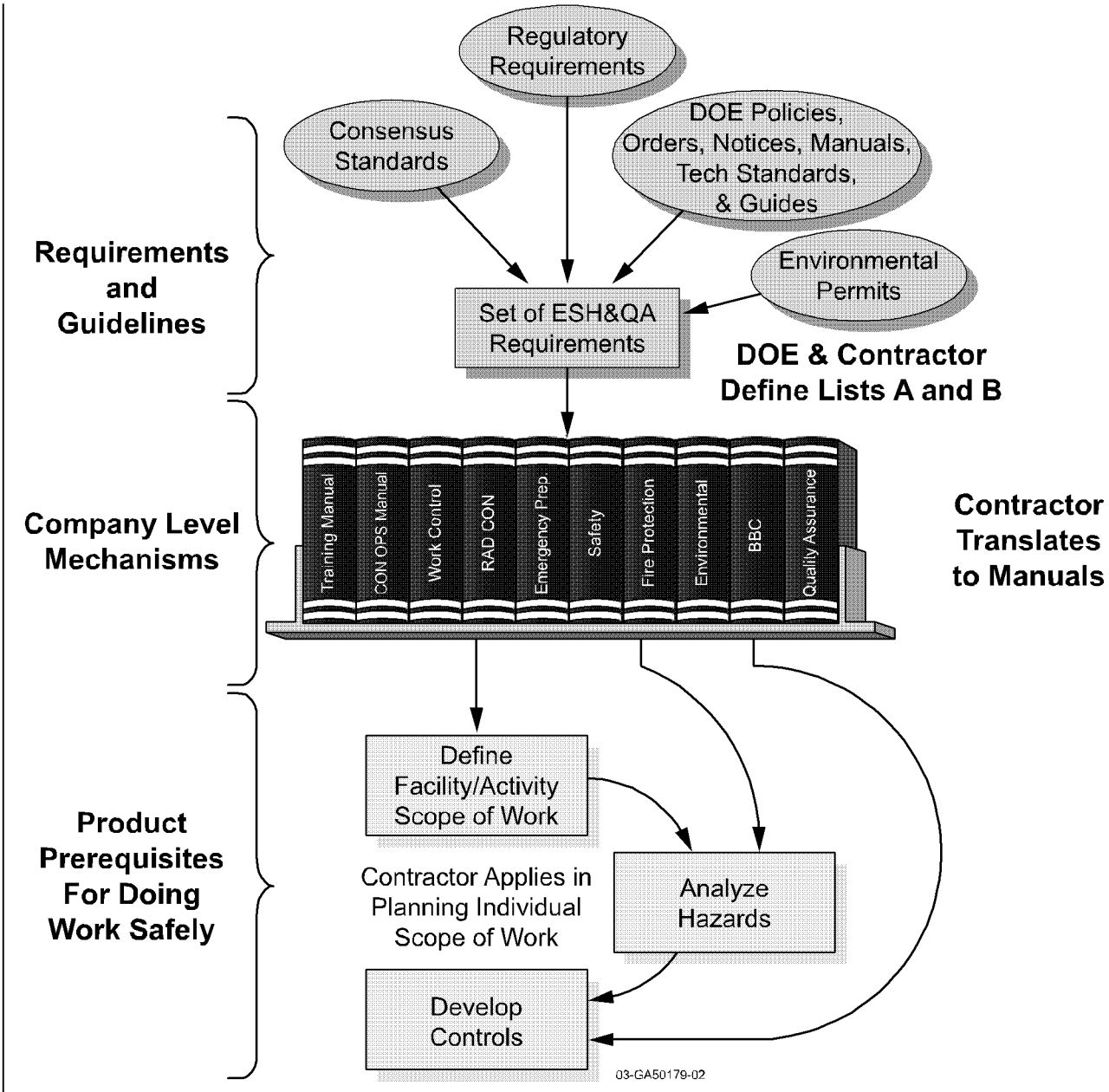


Figure 4. Standards-based safety management.

1.7 Minimal Performance Requirements

Section I.66(a) *Conditional Payment of Fee, Profit, or Incentives* of the BBWI Contract requires BBWI to "develop, obtain DOE approval of, and implement a Safety Management System in accordance with" Section I.19 *Integration of Environment, Safety, and Health into Work Planning and Execution* of the BBWI Contract. Specifically, Section I.19(c) requires BBWI to "manage and perform work in accordance with a documented Safety Management System (System) that fulfills all conditions in paragraph (b) of [Section I.19] at a minimum."

BBWI has developed and obtained DOE approval of PDD-1004, which is the Safety Management System of the INEEL. Therefore, implementation of the Safety Management System defined by PDD-1004 constitutes the minimum performance requirements.

Although the evaluation of performance against PDD-1004 is in part subjective, the following examples are among the means to determine whether the minimum performance requirements of Sections I.19(b) and I.66(a) have been met:

- System performance will be evaluated by BBWI in accordance with Section 6 of PDD-1004. DOE may validate the BBWI evaluation by independent review or by participation in or oversight of the evaluation. The evaluation shall assess whether Continuing Core Expectations 1 through 9 of Section 6 of PDD-1004 have been substantially satisfied and if the System is effective for performing work safely.

- When oversight or analysis indicates that BBWI has not proactively evaluated, identified, resolved, and improved significant System issues.

2. BUSINESS, BUDGETS, AND CONTRACTS PROCESS

The DEAR ES&H contract clause (48 CFR 970.5223-1) and DOE P 450.4 require that ES&H functions and activities be integrated into work processes. This section of the ISMS description identifies how ESH&QA functions and activities are integrated into the business process (see Appendix C). A goal of the business process is to ensure that missions are translated into work with tasks properly identified, prioritized, and funded so that the work is accomplished safely.

2.1 Assess Mission Requirements

Work is performed under one contract: Contract DE-AC07-99ID13727. The site has two major missions that are funded by the Office of Nuclear Energy, Science, and Technology (NE) and the Office of Environmental Management (EM). NE is the Program Secretarial Office for the site.

The NE mission is to develop and demonstrate advanced nuclear technologies that provide clean, abundant, affordable, and reliable energy. The laboratory will also conduct basic and applied research to protect our nation's critical infrastructure

and enhance our national security, facilitate DOE's legacy cleanup and stewardship responsibilities, and advance energy-related sciences. The INEEL Strategic Plan focuses efforts on NE priorities, maintains emphasis in areas of critical importance to DOE and other customers, and facilitates completion of accelerated cleanup at the INEEL. This plan is aligned to DOE's draft Strategic Plan and the President's National Energy Policy. Through technical excellence, the INEEL will maximize the value to the taxpayer and continue to be a cost-effective, environmentally responsible resource for the nation.

The ICP project execution plan (PEP) for accelerating cleanup of the INEEL describes Bechtel BXWT Idaho's approach to accelerate the reduction of environmental risk at the INEEL by completing the Department of Energy's (DOE's) cleanup responsibility faster and more efficiently without adverse impact to safety of the worker, the environment, and the public. In May 2002, DOE, the Idaho Department of Environmental Quality (IDEQ), and the Environmental Protection Agency (EPA) signed a letter of intent formalizing an agreement to pursue accelerated risk reduction and cleanup at the INEEL. The letter provides the foundation for a collaborative plan for the accelerated cleanup of the INEEL; the DOE *Environmental Management Performance Management Plan for Accelerating Cleanup of the Idaho National Engineering and Environmental Laboratory* (DOE PMP) implements the letter of intent; and the ICP PEP describes the project execution strategy.

Although the major sources of site funding are the DOE NE and EM Programs, the site also receives funded work from the Nuclear Regulatory Commission (NRC), DOD, and other DOE and non-federal agencies. With the exception of some Work for Others projects, all funds pass through NE-ID. Projects funded by sponsors other than DOE differ in the way funding is requested.

NE-ID has established the Performance Evaluation and Measurement Plan (PEMP) that covers the administration of the fee. The PEMP is structured to reflect the goals and objectives of the DOE Strategic Plan and the DOE PMP. In addition to the performance requirements of the PEMP, DOE annually issues Program Execution Guidance (PEGs), further defining mission requirements and objectives for work at the site. NE-ID expects the Management and Operations (M&O) Contractor to incorporate Program Execution Guidance or similar documents into work planning.

The site mission is to be accomplished while maintaining worker safety. Mission work is performed according to applicable processes identified in DOE directives; federal, state, and local environmental regulations and permits; NRC regulations; permits; court orders; formal agreements; and legislation formulated by the federal and state governments. A series of companywide functional area manuals contain procedures for ensuring that work is completed as required.

2.2 Requesting Funds

Once the mission has been assessed, the funds are requested to accomplish that mission. The budget request process requires significant interaction between the program and line organizations, and NE-ID to ensure that mission objectives—including ES&H objectives—are properly planned. The funds request process for DOE work begins in the second quarter of the fiscal year. The funds request is normally prepared more than two years in advance of when the work will actually be performed.

The funding request process begins with planning the indirect rates (MCP-2668, "Financial Planning, Administration and Control of Indirect and Other Distributable Activities/Work"). As part of the process, the IEC develops and approves the strategy for the out years. The IEC develops the out-year strategy, approves new initiatives, and ensures balance between indirect funded initiatives and program needs. Once the out-year strategy is approved, Business Management develops the associated indirect rates. These proposed planning rates are submitted to the NE-ID Chief Financial Officer for final approval. The IEC also reviews and makes decisions on changes to the Indirect Baseline during the fiscal year.

Annually, NE-ID delivers a budget call letter that communicates expectations. an internal call letter is then issued for non-EM work and EM-funded work that defines the objectives, timetable, and format that will be followed to prepare the submittal (MCP-3546, "Management of the Budget Formulation Process"). Directions for the EM portion of the budget request are augmented with additional direction from DOE-HQ on how to prepare the update to the EM Paths to Closure (PTC) document. DOE guidance for preparing the PTC contains clear guidelines and requirements regarding ES&H. Chapter 5 of the PTC guidance states:

"Public, Worker, and Environmental Risk – EM's policies include ensuring safety and health of workers and reducing risks to the public and the environment. Accordingly, site baselines and Paths to Closure documents should be developed consistent with the statement "do work safely or don't do it." Hazard management is an integral part of setting priorities, sequencing project work, measuring progress, and demonstrating that EM is managing hazards. Initiatives in Site Paths to Closure should place priorities on projects that reduce risks."

The process starts with an understanding of the overall program and customer objectives and requires that planning align with the DOE mission. The program/project manager must identify key milestones, establish the initial schedule, and ensure that all work activities have been considered in the budget request development. Every request must have a cost estimate that describes the basis for the estimate and includes all resources that will be required to complete the work scope. The cost estimate should cover every element of work to be performed using appropriate cost estimating techniques. DOE requires that 100% of the budget request be validated every five years. Two validation checklists are

used to ensure that the request is comprehensive. One of these checklists specifically addresses the ES&H planning in the request.

It is BBWI policy to request all funding necessary to meet all compliance requirements and to maintain minimum safe conditions for facilities and operations. In instances where the funding targets provided by DOE are lower than the required funding, BBWI provides information to support supplemental funding requests to clearly identify the impacts of the funding shortfall.

2.3 Prioritization of Tasks and Allocation of Resources

Budgets are established and controlled for ES&H activities ensuring adequate protection of the public, workers, and environment, compliance with contract requirements, and compliance with regulatory agreements.

In the major programs, a prioritization process is used to ensure that the most important work is included in the budget requests and is funded by DOE or other program sponsors. EM Program priorities are addressed in the ICP PEP. The PEP establishes ICP key cleanup initiatives, critical success factors, project execution principals, key drivers, and a revised contracting strategy to guide work scope prioritization.

ES&H activities are planned and identified in accordance with Budget Year Execution Planning Guidance. Once the budgets are approved, the authorized work is then controlled in accordance with established change control processes. The change control process includes the management of scope, schedule, budget, and risk. Change Control requirements are defined in MCP-3416, "Baseline Change Control," and MCP-2668.

Work in the ATR and SMC programs is prioritized by the nuclear operations program managers, project managers, associate laboratory directors, operations management, and facility managers. The priorities are set to meet sponsor schedule and requirements while maintaining facility and worker ES&H and essential services. Reviews and approvals are obtained from sponsors and NE-ID program and site managers.

The remaining company work consists primarily of unique projects that are treated as stand-alone contracts. The funds for these projects must cover all tasks to complete the work. If additional funding is required, the requestor must go back to the customer and request additional funds.

The IEC is responsible for prioritization of indirect-funded work. Additional direction for prioritizing indirect-funded work can be found in MCP-2668. Evaluation and prioritization of discretionary R&D funding (e.g., Laboratory Directed Research and Development funding) is performed by the INEEL organization, with review and oversight by the IEC. Company-level priority decisions are made by the IEC in instances of unresolvable resource conflicts between major programs.

2.4 Approval of Requested Funding

Once the funds request is prepared, it is formally transmitted to NE-ID. The request is reviewed, approved and transmitted to DOE-HQ for consolidation into the congressional appropriation process.

2.5 Company Work Breakdown Structure

The Contractor develops a Company Work Breakdown Structure for the purpose of identifying all direct-funded work performed. This structure displays the work in a logical grouping and serves as the mechanism for managing and reporting progress against the work. MCP-12, "Company Work Breakdown Structure," defines the process for developing and maintaining this structure.

2.6 Project Execution Plan

Direct and indirect funded projects require a Project Execution Plan (PEP) as defined in MCP-9106. This document serves as an overall roadmap for project participants. The details of a PEP vary with the complexity of the project. Guide (GDE)-70, "General Project Management Methods," provides additional guidance in the development of PEPs.

Project managers are responsible for establishing multi-discipline project teams. One of the key responsibilities of the team is to develop the PEP during the planning phase of the project. As part of the development of the PEP, applicable environmental, safety, security, and quality assurance requirements are identified and strategies are defined for managing these elements—ensuring compliance with the requirements of ISMS. The project team performs a risk analysis per MCP-9106 and GDE-70. Based on the results, a risk management strategy is developed and incorporated into the PEP, or in a separate risk management plan depending on the level of the risks identified.

Other key elements of the PEP are the project Work Breakdown Structure, project schedule, cost estimate, and funding requirements. A Planning and Controls Engineer also participates on the project team to ensure the use of project controls tools and reporting criteria (Manual 5) are properly defined and utilized. When the development of the PEP is complete, it goes through a management review cycle with the program sponsor and applicable stakeholders, with final approval by the project manager and program sponsor.

2.7 Baseline Development

In accordance with guidance described in MCP-3794, "Baseline Management," a three-year baseline is developed to document scope, schedule, and cost of all direct-funded work. This baseline is documented in the Detailed Work Plan (DWP) and is approved by NE-ID. The DWP documents the detailed technical schedule, and cost elements of all work to be conducted in the execution year, plus an additional two years. Out year planning documented in the Life Cycle

Baseline (LCB) is used to support the out year funding request process outlined in Section 2.2. The development cycle for the DWP occurs in the May through September timeframe annually and is based on funding targets provided by NE-ID. The development cycle for the LCB occurs in October through January time frame. The DWP and LCB for each program or project is developed by the multi-discipline project team, who ensures ES&H scope and facility requirements are factored into the planning.

The indirect work scope is also developed during this time period using the process described in MCP-2668. Funding for indirect work activities is reflected in burdened rates in the DWP.

Criteria identified in the PEMP and PEGs are factored into the direct and indirect baselines to ensure the flow-down of mission requirements.

Estimated labor and non-labor resources required to perform the work scope are identified during the planning process. Labor requirements include both skilled labor and supervisory requirements, as well as technical personnel (such as procedure writers, training support, and engineers) and ESH&QA personnel (such as nuclear safety engineers, radiological engineers and technicians, and industrial hygienists). Expected levels of maintenance support based on the maintenance backlog and preventive maintenance schedule and planned capital equipment and facility upgrades are included in the resource estimates.

In the major programs (EM, ATR, SMC), a budget reconciliation process matches project work, ES&H, and plant infrastructure requirements with available funding based on priorities.

Once the planning process is completed, the DWP, LCB, and Indirect Budget documents are provided to NE-ID for approval. Once approved, the plans establish the baseline for the execution year and the out year life cycle.

2.8 Approval to Begin Work

NE-ID authorizes BBWI to begin work via a work authorization form (WAF) and the Approved Funding Program (AFP). The WAF provides information on funding, work scope, and period of performance. For programs with multi-year, on-going work, NE-ID provides a PEG document to initiate the next rolling wave of planning and the WAF to authorize execution of the baseline.

2.9 Managing Work within Controls

Once NE-ID approves the planning documents and provides funding authorization, work is allowed to begin as described in MCP-13, "Funds Authorization," and MCP-22, "Work Authorization."

Work performed by a subcontractor (MCP-1185, "Acquisition of Goods and Services"), that is performed onsite and involves complex or hazardous work

must comply with DEAR clause 970.5223-1. This clause is added to subcontracts through the BBWI Subcontractor Requirements Manual.

Technical, cost, schedule, and funding performance of work is tracked against the NE-ID approved baseline plans. Common Project Control tools and methods are used to monitor performance as described in project PEPs and in MCP-3805, "Trend Program," MCP-3923, "Funds Management," and MCP-3822, "Performance Measurement, Analysis, Estimate at Completion, and Reporting," and MCP-2668.

Formal change control methods are used to obtain approval of baseline changes per MCP-3416, MCP-2668, and as defined in PEPs. ESH&QA Branch participation in the various Change Control Boards ensures that proposed changes to planned program or funding properly consider potential ESH&QA impacts. Affected ES&H Managers are also required to complete a checklist for any changes to budgeted items to identify any negative impacts to contract requirements.

2.10 ES&H Infrastructure Maintenance Process

"Environment, Safety and Health Infrastructure" activities are defined as the surveillance, maintenance, and support activities required to control facilities in a safe, stable condition and to maintain the facility systems and infrastructure in the operational condition dictated by approved safety and compliance documentation. The ES&H Infrastructure Maintenance process is designed to ensure that individual and cumulative effects of incremental reductions in ES&H infrastructure funding do not result in conditions that can cause or contribute to accidents with serious adverse consequences to workers, the public, or the environment.

The process requirements are contained in the following documents:

- GDE-112, "Detailed Work Plan Development Process Guidance," is used in conjunction with MCP-3794, "Baseline Development," to develop the scope, schedule, and cost baseline for direct-funded work. As directed in GDE-112, an ES&H Representative assesses the planned work scope for safety, health, and environmental compliance and approves all direct funded control account packages. GDE-112 also prescribes the use of activity codes to "flag" ES&H infrastructure activities at the work package level, which provides for effective monitoring and management of changes to these activities. These codes are used to identify and analyze the individual and cumulative effects of incremental reductions for funding ES&H infrastructure.

- MCP-3416, "Baseline Change Control," describes the process and system to manage changes to the direct-funded scope, schedule and cost baseline as defined in the DWP and the LCBL. This process utilizes one of five defined

change control boards, dependent on the level and scope of the change. Each change control board includes membership of an ESH&QA representative. The ES&H Infrastructure Change Checklist (Form 130.02) must be completed for all cost, scope, and schedule changes and must be approved by the appropriate level of ES&H management and line management, as defined in the procedure.

- MCP-2668, "Financial Planning, Administration, and Control of Indirect and Other Distributable Activities/Work," identifies responsibilities and provides direction to the ES&H Manager with respect to planning and change control for indirect-funded work. It requires that an ES&H representative assess planned work scope for safety, health, and environmental compliance. Additionally, the ES&H representative is required to assess all changes to approved work scope to ensure that there are no negative impacts to List A/B or other requirements. The ES&H Infrastructure Change Checklist (Form 130.02) must be completed and approved by the assigned ES&H Manager and the Project Manager to document this analysis for new and changed work packages. The ES&H Infrastructure Change Checklist requires increasing levels of approval authority based on the scope of the change, as defined in the procedure.

2.11 Lessons Learned, Feedback, and Continuous Improvement

As part of the lessons learned and improvement process, program, project, and functional support managers are expected to identify potential problems and prepare corrective action plans in their program/project reports. The objective of these plans is to recover to the baseline schedule as quickly as possible. Variances from the plans are considered as an early warning system that action needs to be taken.

The contractor conducts periodic Program Reviews with NE-ID to discuss cost and schedule progress and significant issues. The EM, Nuclear Reactor (Test Reactor Area [TRA]/ATR), and SMC Programs conduct program reviews with their program sponsors.

3. SITE REQUIREMENTS AND PROGRAMS

The following company-level programs implement contract requirements.

3.1 Integrated Requirements Management

Integrated Requirements Management (RM) provides a solid infrastructure for requirements identification, implementation, and compliance. This function mandates compliance with requirements, including ESH&QA requirements, derived from source documents. Compliance with these requirements ensures protection of the health and safety of the worker, the public, and the environment. RM also ensures protection of national security from vulnerabilities and hazards,

including those that may arise as company activities and/or missions change. RM is administered by:

- Maintaining the traceability of requirements from their source to implementing documents
- Communicating applicable requirements to affected organizations and areas for implementation
- Tracking requirement implementation status
- Supporting functional area and compliance assessments and audits.

Appendix D is a flow diagram of the RM process and MCP-2447, "Requirements Management," assigns responsibilities and provides instructions for the process used to direct and maintain traceability of requirements into implementing documents.

3.2 Conduct of Operations

The Conduct of Operations Program ensures that facility operations are managed, organized, and conducted in a manner that results in a high level of performance and, therefore, contributes to safe and reliable operations. The program consists of companywide procedures that are based on DOE Order 5480.19, "Conduct of Operations Requirements for DOE Facilities," and governs facility and activity operations. PDD-60, "Conduct of Operations," is the program description document that describes the procedures that implement Conduct of Operations.

3.3 Maintenance Management Program

The Maintenance Management Program establishes the management and performance of safe, efficient, and cost-effective maintenance of facilities and equipment and, therefore, contributes to safe and reliable operations. The program consists of company wide procedures that are based on DOE O 433.1, "Maintenance Management Program for Nuclear Facilities," and DOE ID Order 433.A, "Maintenance Management Program." PDD-600, "INEEL Maintenance Management Program," is the program description document that describes the procedures that implement Maintenance Management.

3.4 Engineering

PDD-1027, "Conduct of Engineering," and PDD-12 describe the approach and identify the procedures for implementing the Quality Assurance Program requirements and Systems Engineering program requirements that are applicable to engineering processes and activities. The basic objectives of the Engineering Program are to define the processes that must be performed to consistently produce high-quality design products, to ensure competent personnel are assigned to perform engineering tasks under an appropriate level of supervision, to identify

the organizational positions responsible for making process and technical decisions related to engineering design, and to provide guidance to support that decision making.

MCP-2811 provides instructions for managing design-related activities and engineering changes to establish and maintain configuration management of operational facility technical baselines. Any change to design requirements, the physical configuration, or related documents initiates the engineering change control process until consistency is regained.

3.5 Configuration Management

The Configuration Management Program defines the process for documenting the functional and physical characteristics of SSCs during their lifecycle. Configuration management also entails controlling changes and providing information on the status of changes to ensure the technical baseline of the program, project, or facility is kept current. The Configuration Management Program applies to nuclear and non-nuclear facilities that are categorized as Safety Class, Safety Significant for Safety Consequence, and to mission critical SSCs categorized as consumer grade. PRD-5074, "Design Control," PRD-5092, "Software Quality Assurance," and PRD-4, "INEEL Project Management System Requirements," provides configuration management requirements. The Company Configuration Management Program implements the following activities:

- Identification of Configuration Controlled SSCs
- Configuration change control
- Configuration status accounting
- Configuration verification and assessments.

3.6 Environmental Management System

The EMS is designed to integrate environmental protection, pollution prevention, and regulatory compliance into work planning and execution throughout all work areas as a function of the ISMS. The EMS program elements are founded in the five core functions of the ISMS and the elements of the ISO 14001, Environmental Management System Standard. The major elements of an effective EMS include policy, planning, implementation and operation, checking and corrective action, and management review. Through implementation of the ISMS, effective protection to workers, the surrounding communities and the environment can be achieved, while meeting operating objectives in compliance with regulations. The environmental policy is implemented through the programs described in PDD-1012 and by applying the principles of ISMS to integrate pollution prevention, environmental protection practices, and environmental regulatory requirements into the daily planning and performance of work.

3.7 Voluntary Protection Program (VPP)

The DOE VPP was established to promote, and give recognition to highly effective safety and health programs. The focus of VPP is on management commitment, worker involvement, work site analysis, hazard prevention and control, and safety and health training. The VPP criteria as established in the U.S. Department of Energy Voluntary Protection Program, Part I: Program Elements and Part IV have been successfully implemented: Onsite Review Handbook. As a result of a DOE Headquarters Onsite Review conducted in April 2001, the site was recognized with DOE VPP Star status in July 2001. The site will be re-evaluated in the Star program every three (3) years. The purpose of the re-evaluation is to determine continued qualification in the program. Each February, the Contractor is required to submit a VPP Report which includes injury incidence and lost workday rates for the past year, employment figures, hours worked by the employees and contractors, and results from the Annual Program evaluation.

As specified by DOE VPP Part I: Program Elements, an annual evaluation of the program is performed assessing the effectiveness of each element and sub-element described in Section II.E. The evaluators identify areas for improvement and the VPP Units develop corrective action plans to improve these areas. Employees who are trained and competent evaluate the program, actively participating in their own safety process.

DOE encourages all contractor sites to strive toward continuous improvement of occupational safety and health, and that certainly is the expectation of VPP. As a Star site, we strive for continuous improvement and are willing to share our experience and methodology with other sites who are working toward the same recognition. The overarching goal of VPP is to continue our work toward zero injuries and illnesses using worker involvement and management leadership. This goal is obtained by an ongoing emphasis on the five (5) key elements of VPP:

1. Management Commitment is essential to empower employees to be active participants in the safety program. The safety policy is the foundation to the safety program, and it is a document that is practiced in day-to-day work activities. Management must continue to be visible to the workforce, and this is done by obviously participating in the various programs themselves, setting the example.

2. Employee Involvement is the key in maintaining full implementation of the VPP criteria. Employees have active and meaningful ways of participating in and contributing to the structure and operation of the safety program. This involvement results in "ownership" of the safety and health program by all employees.

3. Work Site Analysis includes all aspects of the work control process, the analysis of new facilities and processes, comprehensive safety and health surveys, routine inspections, a process for employees to report hazards and

participate in their correction, an injury/illness investigation process, and tracking and trending. All of these systems together bring a comprehensive understanding of potentially hazardous situations and of the ability to recognize and mitigate hazards.

4. Hazard Prevention and Control provides the mechanisms for controlling hazards, which can be substitution, engineering controls, administrative controls, or the use of personal protective equipment. Written rules and procedures are in place to prevent potential hazards from appearing in the work areas. The medical and emergency preparedness programs are integrated into and are an essential compliment to the safety and health program.

5. Safety and Health Training is vital in ensuring that employees are familiar with their responsibilities and are competent to perform their work activities. Employees are properly trained in hazard recognition and safety and health protection before they are assigned to a task. Employees are fully aware of their responsibilities and duties as it pertains to emergency situations.

3.8 Industrial Safety

The Industrial Safety Program is established to prevent employee injury from industrial hazards that may be encountered in the workplace. Site-wide program requirements and procedures that establish a baseline for compliance with applicable industrial safety codes and standards are found in Manual 14A, "Safety and Health – Occupational Safety and Fire Protection." Industrial safety requirements are integrated in various safety management processes as they apply to the identification and analysis of hazards and to determining the appropriate controls for employee protection. The responsibility for establishing site-wide industrial safety program requirements and interpretations belongs to the Safety and Health Directorate. Implementation of the industrial safety requirements is the responsibility of line management, supported by industrial safety professionals who are assigned to the area/facility ESH&QA managers.

3.9 Industrial Hygiene

The Industrial Hygiene organization is involved in the recognition, evaluation, and control of environmental factors or stresses, arising in or from the workplace, which may cause illness, impaired health and well being, or significant discomfort among workers. The industrial hygienists work as members of a safety and health team using ISMS principles in the evaluation of work areas and employee work activities. Specific industrial hygiene requirements, procedures and general policies are presented in Manual 14B, "Occupational Medical and Industrial Hygiene." The responsibility for establishing site-wide industrial hygiene program requirements and interpretations belongs to the Occupational Safety and Health Directorate. Implementation of the industrial hygiene requirements is the

responsibility of line management, supported by industrial hygiene professionals who are assigned to the area/facility ESH&QA managers.

3.10 Fire Protection

The Fire Protection Program is implemented through Manual 14A. The Fire Protection Program focuses on recognizing, evaluating, preventing, and controlling fire hazards in the work place, minimizing fire losses, and ensuring that the level of life safety is in compliance with applicable National Fire Protection Association (NFPA) standards. The responsibility for establishing site-wide fire protection program requirements and interpretations belongs to the Safety and Health Directorate. Implementation of the fire protection program requirements is the responsibility of line management, supported by fire protection professionals who are assigned to the facility ESH&QA managers. Specific fire protection program responsibilities also reside with the site Fire Department, the Life Safety Systems Technical Support Organization, and Engineering. The program description document for Fire Protection is PDD-1009, "INEEL Fire Protection Program."

The Fire Marshal's Office has been established to support the NE-ID Authority Having Jurisdiction (AHJ) responsibilities and to serve as the ID AHJ as necessary. This includes fire protection and life safety related activities and conditions that are to be approved, inspected, witnessed, and/or performance tested in accordance with minimum national codes and standards. The Fire Marshal is authorized to issue interpretations of the National Fire Codes, Uniform Building, and Uniform Fire Code. The Fire Marshal establishes acceptable policy, program and procedures for the review and approval of all fire protection systems and life safety systems. The Fire Marshal also investigates fires, explosions, accidents and occurrences involving installed fire protection and life safety systems and other hazardous conditions, as determined necessary.

3.11 Radiological Control

The Radiological Control Program is described by PRD-183, "INEEL Radiological Control Manual" (Manual 15A). This manual describes the program for controlling exposure to ionizing radiation and for handling radioactive materials. PRD-183 contains those requirements that are fundamental to the Radiation Protection Program, including those mandated by 10 CFR 835.

The Radiological Control Program includes all aspects of radiological control applicable to performing hazardous work, including:

- Excellence in radiological control
- Radiological standards
- Conduct of radiological work

- Radioactive materials
- Radiological health support operations
- Training and qualification
- Radiological records.

3.12 Chemical Management

A site-wide Chemical Management Program has been developed and is described in PDD-1013, "Chemical Management Program." The Chemical Management Program implements standardized processes and controls that provide compliant chemical management practices. A key element of chemical management is the INEEL Chemical Management System (ICMS). ICMS is described in MCP-2873, "INEEL Chemical Management System (ICMS)." ICMS is an electronic database that when used, identifies, tracks, and reports chemicals, chemical products, and hazardous agents. It is used to support various life cycle tracking and reporting requirements such as Emergency Preparedness, Community Right-to-Know Act, and Uniform Building Code. ICMS provides hazard identifications through Chemical Data Summary Sheets for safety analysis and hazard control activities.

3.13 Waste Management

The Waste Generator Services (WGS) Program was developed to provide an effective and compliant process for the management of hazardous, low-level, conditional industrial, and mixed, low-level waste streams. The prime objective is to ensure waste characterization-related activities are performed in compliance with all applicable laws and regulations governing these activities. Waste Generator Services provides full-service, turnkey, professional management of waste. Other objectives include providing a streamlined approach to waste determination, proactively working with generators to minimize the generation of waste, achieving single-point accountability for management of each waste stream, and improving cost-effectiveness. PDD-1003, "Waste Generator Services Program," provides the program description. Waste Generator Services procedures are contained in Manual 17, "Waste Management."

3.14 Criticality Safety

The Criticality Safety Program ensures appropriate actions are taken to prevent and mitigate the consequences of a criticality accident. Program requirements and recommendations are based on DOE Orders, industry standards, and best management practices. These requirements and recommendations apply to the design, construction, operation, maintenance, and decommissioning of all facilities that contain or handle fissile material, with the exception of fissile material in nuclear reactor cores, which is exempt. They also apply to all facilities, regardless of the design or modification date, unless a waiver based on

safety significance, cost, and consequence is obtained. The complexity and type of facility will determine the applicable requirements and recommendations for that facility. PRD-112, "Criticality Safety Program Requirements Manual," provides the program requirements and source documents.

3.15 Occupational Medicine

The Occupational Medicine organization provides a comprehensive medical program using an occupational paradigm. The goals of Occupational Medicine are preventing occupational injuries and illnesses and educating workers in methods of optimizing their physical and mental health. This organization provides services in areas that include the Occupational Medical Program, Employee Assistance Program, Wellness Program, and the Workman's Compensation Administration Program. The program description document for these programs is PDD-61, "Occupational Health Program."

3.16 Quality Assurance

The Quality Assurance (QA) Program consists of systems used to manage, perform, and assess work, including activities assigned to external organizations. Program requirements are contained in Manual 13A, "Quality and Requirements Management Program Documents." The Quality Assurance Program is based primarily on 10 CFR 830.120, "Quality Assurance Requirements" and DOE Order 414.1A, "Quality Assurance." 10 CFR 830.120 provides QA requirements for managing nuclear facilities. DOE 414.1 provides QA requirements for managing nuclear and non-nuclear facilities. Additional source documents include ASME NQA-1, "Quality Assurance Requirements for Nuclear Facility Applications," 1- CFR 60 Subpart G, 10 CFR 71 Subpart H, 10 CFR 72 Subpart G, DOE/RW/0333P, and DOE and industry standards.

3.17 Emergency Management

The Emergency Management System is an all-hazards program. This means that it includes considerations for mitigation, response, and recovery from hazards presented by emergency events involving radiological, toxicological, and all other potential sources of injury or harm to personnel, the environment, or material resources. The program includes the requirements of DOE Order 151.1A, as well as those associated regulations issued by other governmental agencies. It specifically includes 10 CFR 73 for the Fort Saint Vrain Independent Spent Fuel Storage Installation (ISFSI) and Three Mile Island Unit 2 ISFSI. PRD-155, "Emergency Management System," provides requirements and references for emergency management. Manual 16A, "INEEL Emergency Plan/RCRA Contingency Plan," describes the program.

3.18 Training and Qualification

Training and qualification programs are established to ensure employees are trained to safely, competently, and effectively perform their job functions, while

protecting themselves, the public, and the environment. Companywide Manual 12, "Training and Qualification," is applicable to all training-related activities conducted by or for the contractor. The manual outlines the processes for conducting analysis, design, development, implementation, and evaluation activities, but is not intended to describe specific training programs. Description of training programs is done using a training program plan, a training program description document, or a training implementation matrix, as appropriate. The procedures in Manual 12 are written to allow for the use of a graded approach, as appropriate, to job and facility hazards and requirements. The manual follows the systematic approach to training (SAT) model. The Annual Training Process (ATP) is the systematic method used to identify, validate, cost and schedule existing and new training requirements. The process ensures that all applicable regulatory training requirements from the contract are efficiently and consistently incorporated in employee training plans. PDD-13, "Conduct of Training," provides the program description.

3.19 Safeguards and Security

The Safeguards and Security Program is managed through the Integrated Safeguards and Security Management System (ISSMS) as defined in DOE Policy 470.1. The ISSMS is based on the same core functions and guiding principles as the Integrated Safety Management System. The ISSMS provides a formal and structured process for planning, performing, assessing and improving secure conduct of work through the tailored application of risk-based protection strategies.

The Safeguards and Security Program ensures appropriate measures are in place to provide a secure environment for program and facility operations and provides for the protection of and accountability of classified and sensitive information, nuclear materials, and computer systems and other assets. DOE orders, manuals and notices and other regulatory documents define the requirements for the Safeguards and Security Program. Company manuals 11 A-E contain implementing documents that establish program requirements in the areas of program management, protection program operations, physical security systems, classified matter protection and control, nuclear materials control and accountability, and personnel security.

3.20 Issues Management

The Issues Management Program, described in PDD-1007, "Issues Management Program," is designed to be an integrated company process that enables management to understand and prioritize, based on risk significance, the correction of issues. These issues may be facility specific, site-wide or programmatic in nature and may be identified by external agencies, independent assessments, management assessments, inspections, surveillances, and employees during the conduct of work assignments. Issues may be identified during research and development, manufacturing, installation, testing, operations, and maintenance activities. The program also provides for ensuring that adequate

corrective actions are implemented to prevent recurrence of undesirable events or conditions through appropriate causal analysis, corrective action, verification and follow-up. The program also includes lessons learned as an integral component of the Issues Management Program. Tracking and status of issues are supported through the use of the Issues Communication and Resolution Environment (ICARE) system.

3.21 Integrated Assessment Program

The Integrated Assessment Program described in PDD-1064 is designed to be a comprehensive, integrated, risk-based approach to determine compliance with requirements and the adequacy and effectiveness of programs and processes in meeting customer and management expectations. All organizations perform management assessments and reviews and, as applicable, inspections and surveillances. Independent assessments performed by Functional Areas, FEB, Independent Oversight, and Internal Audit provide for continuous improvement in support of the site's missions and ISMS goals.

3.22 Packaging and Transportation

The Packaging and Transportation Program is established to ensure materials and items are packaged and shipped on-site or off-site safely and in accordance with applicable regulations. PRD-5041, "Packaging and Transportation," and PRD-310, "INEEL Transportation Safety Document," specify and interpret those requirements specific to packaging and transportation of materials to ensure optimum safety, economy, efficiency, and cargo security, while meeting regulatory statutes, directives, and policies. The program is based on 10 CFR 830, Subpart B, and 49 CFR regulations, invoked by DOE Order 460.1A. The packaging and transportation program also involves the design, procurement, and selection of appropriate packaging to mitigate the hazards of the material being shipped. MCP-2669, "Hazardous Material Shipping," located in Manual 17, provides instructions for the receipt and shipment of hazardous material.

4. AUTHORIZATION AGREEMENTS

An authorization agreement is a documented agreement between the DOE and BBWI for the safe operation of Hazard Category 1 and 2 nuclear facilities. Definitions for Hazard Category 1 and 2 nuclear facilities are provided in MCP-2449, "Nuclear Safety Analysis." Hazard Category 1 and 2 nuclear facilities are identified in MCP-2446, "Controlling Lists of Nuclear Facilities and Nuclear Facility Managers." The authorization agreement describes the terms and conditions under which BBWI is authorized to operate its nuclear facilities. The authorization agreement is reviewed and approved by senior BBWI and NE-ID management in accordance with MCP-3567, "Authorization Agreement with Authorization Basis List."

An authorization agreement serves as the basis upon which DOE authorizes operation of a nuclear facility. The authorization agreement is maintained by the nuclear facility manager and is kept with the Documented Safety Analysis for easy access by operations personnel.

Developing an authorization agreement is the responsibility of the nuclear facility manager; however, the manager should obtain input and concurrence from appropriate facility SMEs and appropriate management before a draft authorization agreement is submitted to BBWI senior management and NE-ID for approval. Authorization agreements will be revised or cancelled, as appropriate, when there is a major change in facility activities, such as a changed mission, changed operating limits, changed permits, or the documents listed in the authorization agreement are replaced. Each Authorization Agreement requires an annual review.

5. ISM CORE FUNCTIONS AND GUIDING PRINCIPLES

The preceding portions of this document have addressed the basic structure of the ISMS as requirements flow down from the contract and are implemented by line management via mechanisms prescribed in company-level programs and procedures (see Appendix B). This section addresses in greater detail these specific mechanisms and how they are integrated at the company/site levels and at the facility/activity levels to ensure work is performed safely in accordance with the five core functions and eight guiding principles. Figure 3 illustrates the ISMS infrastructure, with references to the broader set of implementing procedures and other mechanisms that make up the ISMS.

5.1 Guiding Principle 1 – Line Management Responsibility for Safety

The company line management structure is pictured in Figure 5. The office of the president provides the contractor integration and coordination to ensure successful implementation of company-wide programs and policies at the site facilities; and ensures quality work and safe, secure, efficient and environmentally responsible operation of facilities and processes at the site.

There are two main divisions of the company; INEEL and ICP. The Company President provides overall leadership, direction, and integration for the INEEL and ICP. Roles and responsibilities for INEEL and ICP are outlined below and are discussed in more detail in PDD-1005 and ICP-PDD-1005, respectively. Supplemental to PDD-1005 and ICP-PDD-1005, operating organizations have MCPs that defines the roles and responsibilities for the personnel who work in their organizations.

5.1.1 INEEL Line Management Structure

The INEEL division consists of Nuclear Energy, National Security, Energy and Environmental Sciences, Energy and Engineering Technologies, Test Reactor Area (TRA), Specific Manufacturing Capability (SMC), and associated functional support organizations.

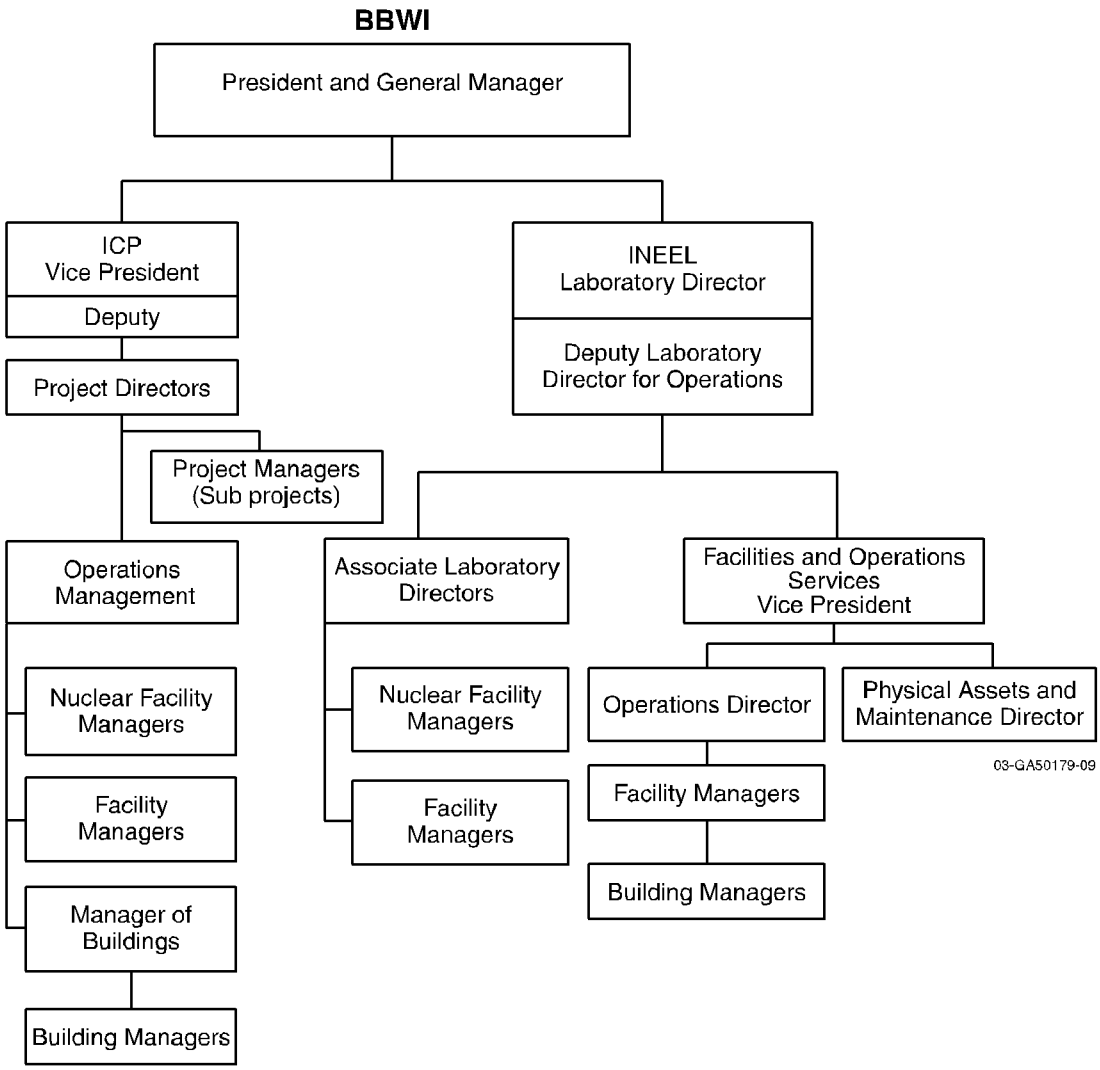


Figure 5. Company Line Management Structure.

The INEEL line management responsibilities are defined below.

INEEL Laboratory Director. The INEEL laboratory director provides leadership, direction, and integration for the INEEL. Responsibilities include ensuring work is performed safely, securely, cost-effectively, and in a compliant manner. The laboratory director manages performance of the INEEL to ensure attainment of INEEL performance criteria.

INEEL Deputy Laboratory Director of Operations. The INEEL Deputy Laboratory Director of Operations provides operational leadership, direction, and integration for the INEEL as delegated by the laboratory director. The Deputy Laboratory Director of Operations has delegated authority to take actions in support of ALDs to assure excellence in operations. The Deputy Laboratory Director of Operations is responsible for the Conduct of Operations Program.

Associate Laboratory Directors. Associate laboratory directors are assigned to the following organizations: Nuclear Energy, National Security, Energy and Environmental Sciences, Energy and Engineering Technologies, TRA and SMC. Each ALD provides overall leadership, direction, and integration for the assigned programs, and provides line management direction to direct reports and oversees work through operational managers [nuclear facility managers (NFM), facility managers (FM), building managers (BM)], directors, department managers, laboratory or tenant managers for the execution of work within the program for which the ALD has responsibilities. The ALDs ensure quality work is performed within the defined scope, schedule, and in a safe, secure, cost-effective and compliant manner.

Nuclear Facility Managers. Nuclear facility managers (NFMs) are assigned in accordance with the requirements in MCP 2446, "Controlling Lists of Nuclear Facilities and Nuclear Facility Managers." Roles and responsibilities and the qualification program for NFMs are defined in STD-1109, "Nuclear Facility Manager/Non-Nuclear Facility Manager/Building Manager Qualification." The NFMs are responsible for equipment, structures, activities, processes, and personnel in assigned nuclear facilities to ensure the safety of the workers, the public, the environment, and the processes.

Facility Managers/Building Managers. Facility managers (FM) and Building Managers are assigned by the ALD and the Facilities and Operations Services Vice President to be responsible for the equipment, structures, activities, processes, documents, and personnel of a facility that is classified as a low, moderate, or high hazard non-nuclear facility as defined in NE-ID Order 420.D, "Requirements and Guidance for

Safety Analysis." FMs and Building Managers are qualified in accordance with STD-1109, "Nuclear Facility Manager, Facility Manager and Building Manager Qualification." FMs are assigned responsibility for a non-nuclear facility, identified in MCP-3740, "Controlling Lists of Non-nuclear, Radiological, and other Industrial Facilities and Facility Managers."

Facilities and Operations (F&O) Services Vice President. The F&O Services Vice President is the line manager under the direction of the INEEL laboratory director for facility management services of non-nuclear facilities at areas other than TRA. The F&O Services Vice President manages a non-nuclear facility management organization that oversees work directly and through facility managers, department managers, supervisors, foremen, and the workers to perform operational and support activities. In addition, the non-nuclear facility management organization provides a point of contact to establish line management responsibility for tenant issues. The F&O Services Vice President is also responsible for the Conduct of Maintenance Program.

Physical Assets and Maintenance Organization (PAMO) Director. The PAMO Director reports to the F&O Services Vice President and trains, equips, and provides maintenance resources and services to support INEEL requirements, and sells services to ICP. The PAMO Director ensures the maintenance functional area requirements as defined by Manual 6, *Maintenance of Real Property and Physical Assets* are implemented in daily activities.

Operations Director. The operations director is the line management for operational support activities and reports to the F&O Services Vice President. The Operations Director provides facility managers for the tenant facilities. The facility managers ensure work is performed safely, abnormal events are appropriately categorized, and immediate actions are taken to minimize the event, and initial notifications/reports are made.

5.1.2 ICP Line Management Structure

The ICP division encompasses five major projects: Clean/Close INTEC, Clean/Close TAN, Buried Waste Cleanup, Complete Balance of INEEL Cleanup, and Eliminate Mixed Low Level Waste (MLLW) Backlog/Services.

The ICP line management responsibilities are defined below.

ICP Vice President and Deputy. The Vice President and the Deputy of the ICP provide the overall line management leadership, direction, and

integration for the ICP. They obtain the funding, ensure development of the integrated work schedule, and are ultimately responsible for the safe completion of the work. They interface with DOE to develop the project schedules, obtain budget approval, and identify milestones and project-related performance measures. They ensure the identified resources required for safely completing ICP work are available and coordinate with the appropriate ICP organizations to obtain these resources.

Project Directors. Project Directors (PDs) are assigned to each of the five ICP projects. Project Directors are responsible for defining the scope, establishing project priorities, and obtaining the funding to accomplish the project in a safe, secure, cost effective, and compliant manner. PDs ensure proper implementation of the requirements of ISMS/VPP, Conduct of Operations, Conduct of Maintenance, and other appropriate regulations and requirements. They also ensure facilities are operated safely and meet the requirements of Authorization Agreements, Permits, and other safety basis documents.

Operations Management. Operations Management (OM) implements the ICP goals and expectations for achieving safe and efficient operations. Operations Management encompasses titles such as Facility Authority and/or Operations Directors. OM is responsible for ensuring that work is performed safely by implementing and ensuring operations are conducted within Company and facility requirements (such as authorization basis, DOE rules and regulations, and environmental regulations and permits) in their respective organizations and facilities.

Project Managers (Sub Projects). The Project Managers (PMs) are line management responsible for developing and managing sub-projects and managing the appropriate sub-project personnel in execution of project planning and monitoring of sub-project progress. PMs also ensure operational work for the sub-project is directed through the appropriate OM organization to accomplish the work safely and according to regulatory and Company requirements.

Nuclear Facility Managers. Nuclear Facility Managers are individuals who report to OM and are assigned the responsibility for equipment, structures, activities, processes, and personnel in one or more assigned nuclear facilities to ensure the safety of the workers, the public, the environment and the processes. Nuclear facility managers (NFMs) are assigned in accordance with the requirements in MCP-2446, "Controlling Lists of Nuclear Facilities and Nuclear Facility Managers." Roles, responsibilities, and the qualification program for NFMs are defined in STD-1109, "Nuclear Facility Manager, Facility Manager, and

Building Manager Qualification." The NFM is responsible to develop and maintain the authorization agreement.

Facility Managers. Facility Managers are individuals who report to OM and are assigned the responsibility for the equipment, structures, activities, processes, documents, and personnel in one or more assigned facilities that are classified as a low, moderate, or high hazard non-nuclear as defined in NE-ID Order 420.D, "Requirements and Guidance for Safety Analysis." A Facility Manager (FM) will be qualified in accordance with, STD-1109, "Nuclear Facility Manager, Facility Manager, and Building Manager Qualification." A FM is assigned responsibility for a non-nuclear facility, identified in MCP-3740, "Controlling Lists of Non-nuclear, Radiological, and Other Industrial Facilities and Facility Managers."

Managers of Buildings/Building Managers. Managers of Buildings or Building Managers are individuals who report to the OM and are assigned the responsibility for equipment and structures in one or more buildings not classified as nuclear or other-than-nuclear. A Building Manager will be qualified in accordance with STD-1109, "Nuclear Facility Manager, Facility Manager, and Building Manager Qualification."

5.1.3 Site Steering Committees

In addition to the INEEL and ICP line management positions, committees have been formed at the company level to assist and advise line management on specific programs, processes, and activities that also support safe operations. The following is a summary of these committees' responsibilities:

Integrated Executive Council. The IEC reports to the BBWI President and General Manager and makes company-wide strategic, business, operational, policy, and resource decisions and recommendations that support day-to-day and strategic management and operations. The IEC provides timely, integrated, informed decisions that are well communicated and implemented. The IEC focuses on company-wide issues including general communications (Office of the President agenda), strategic directions and decisions (strategy agenda), general requirements, initiatives, and policies (operational agenda), and financial decisions (financial agenda). The IEC operates as a single management body to ensure that decision making and communications are fully integrated and represent perspectives from all parts of the organization. The IEC ensures the guiding principles and policies of Integrated Safety Management (ISM) are implemented and institutionalized. The IEC

Charter, CTR-15, formalizes the assignment of senior managers to the IEC and defines the roles and responsibilities of the IEC.

Senior Operations Review Board. The Senior Operations Review Board (SORB) provides advice and recommendations to the BBWI Executive Vice President and Chief Operating Officer with a focus toward maintaining operational excellence. Additional focus of the SORB is ensuring effective and timely problem resolution, preventing problem reoccurrence, and fostering continuous improvement as they relate to operation of the INEEL and ICP. This board provides a management-level review of issues and activities. Specifically, the board evaluates and monitors the implementation, prioritization, and effectiveness of major initiatives, significant site-wide issues, and related corrective actions and adverse trends. Associate Laboratory Directors and Operations Management address significant project/facility-specific issues to the SORB as part of feedback, lessons learned, and accountability. The SORB charter and membership is described in CTR-3.

Integrated Operations Council. The Integrated Operations Council is a site wide organization of Associate Laboratory Directors, Project Directors, Area Operations Directors, and Facility Managers representing operational interests at BBWI. The Council makes recommendations to the Senior Management Team on changes to Conduct of Operations policies, standards, and expectations, and procedures necessary for operational excellence. The Council provides a forum for communication among operational management. The Council coordinates integration of Conduct of Operations site wide and approves changes to the Operations Manual. The Council reports to and is sponsored by the INEEL Vice President and Deputy Laboratory Director of Operations and the General Manager, ICP Field Services. Membership and specific roles/responsibilities are described in CTR-14, "Charter for the Integrated Operations Council."

Senior Maintenance Management Council. The Senior Maintenance Management Council (SMMC) recommends policy and provides strategic direction for the Maintenance Management Program with the objective of achieving continuous improvement in the performance and cost-effectiveness of maintenance, as described in PDD-600, "Site Maintenance Management Program." The Vice President & Deputy Laboratory Director of Operations champions the achievement of the SMMC's objectives. Membership and specific roles/responsibilities can be found in CTR-600, "Charter for the Senior Maintenance Management Council."

Operational Safety Board. An OSB is established by operations line managers to ensure work in the facility is safely executed within the bounds of existing and authorized safety bases and other requirements. To accomplish this goal, the OSB must be involved in the planning of work activities (hazard identification and analysis and development of implementing controls); technical reviews of documentation; configuration control of SSCs; and the development and maintenance of AB documentation, procedures, and training. PRD-5043 provides the requirements and guidance for those organizations and operations that should develop OSBs and the mechanisms for OSB charter development and approval. PRD-5043 also identifies the guidelines for the development, implementation, and execution of OSBs. The OSBs will function to coordinate and validate the associated analysis, planning, and execution of work and operations for applicable facilities. Additionally, the OSB will provide the mechanism to review and oversee the results of programs and processes that identify and provide feedback to enhance the facility's work activities and safety envelope. The OSB membership and roles/responsibilities are specifically defined in facility charters.

Corrective Action Review Boards. Corrective Action Review Boards (CARBs) and CARB Coordinators are used at the discretion of the Associate Laboratory Directors, Program Directors, and Project Directors to ensure that the area Issues Management Program is functioning effectively and efficiently. The cognizant Director is the CARB chairperson and assigns membership, including senior representatives of area operations, QA, engineering, and procurement, as desired. The CARB reviews area-specific issues, corrective actions, and process deficiencies for adequacy and effectiveness of issue prioritization, cause analysis determination, corrective action planning, timeliness of issue processing, corrective action verification and validation, and review of available performance indicators to identify relevant trends. Each CARB meets as necessary and has a specific charter.

Facility Operations Review and Implementation Board. The Facility Operation Review and Implementation Board (FORIB) assists their line managers by ensuring that the issue of and changes to companywide and project/facility-specific documents are viable, capable of being implemented, and will not adversely impact operations (see MCP-135, "Creating, Modifying, and Canceling Procedures and Other DMCS-Controlled Documents"). The FORIB reviews procedures from the standpoint of the site facilities, areas, and operations, keeping their cognizant Director informed of results of their review. It is chartered in CTR-2, "Charter for the Facility Operations Review and Implementation Board."

Site Training Review and Implementation Board. The STRIB is chartered to review for line management companywide documents and implementation plans for training requirements. The STRIB ensures personnel are trained to new or revised companywide documents prior to issuance. The STRIB accomplishes this by reviewing the proposed changes and giving concurrence to the appropriateness of training delivery, target audience, and the timeline for implementing the training. The STRIB coordinates with the Site Training Directorate to ensure effective implementation of required training. The STRIB is chartered in CTR-16, "Charter for the Site-Wide Training Review and Implementation Board." (See Subsection 5.3, Guiding Principle 3 – Competence Commensurate with Responsibilities, for more discussion of the FORIB and STRIB functions.)

5.2 Guiding Principle 2 – Clear Roles and Responsibilities

5.2.1 Roles, Responsibilities, Accountabilities and Authorities

Work performance expectations for managers are communicated as part of their R2A2s. R2A2s are a summary description associated with a job position or assignment. R2A2s are a tool to align roles, responsibilities, accountabilities, and authorities to the strategic direction of the site. Organizational alignment and R2A2s are an important part of the Performance Measurement System (see Figure 6). R2A2s have been developed to provide a high-level description of the roles, responsibilities, accountabilities, and authorities of the Senior Leadership Team, Management System Owners, managers and staff, with the intent to include all employees. Collectively, these R2A2s provide the framework for how responsibilities have been aligned with the strategic direction of the site. R2A2s do not provide detailed job descriptions or functional responsibilities associated with work processes. This level of detail is provided through Employee Position Descriptions (EPDs) and/or company policies and procedures.

5.2.2 Line Management

Roles and responsibilities for INEEL and ICP line management are described in PDD-1005 and ICP-PDD-1005, respectively, and broadly outlined previously in Subsection 5. l.

5.2.3 Support Organizations

Support organizations assist line management in ensuring work is performed safely. These organizations are responsible for development, maintenance, and improvement of the company-level programs described in Section 3. They also implement and/or assist line

Figure 6. Performance measurement system.

management in implementation of program requirements, assess the adequacy of implementation, and measure and analyze performance. Personnel in some of these organizations are matrixed to the line organizations to assist in program implementation.

A Functional Support Manager (FSM) is assigned responsibility for each program. Subject Matter Experts (SMEs) are assigned to assist the Functional Support Managers. FSMs and SMEs are identified in LST-1, "Management Systems, Management System Owners, and Company-Level Subject Matter Experts." Roles and responsibilities of FSMs and SMEs are identified in PDD-1005 and ICP-PDD-1005.

Functional Support Managers report to support organizations in both INEEL and ICP. INEEL support organizations include Facilities and Operations Services, ESH&Q Services, Business Management Services, and Security and Emergency Services. INEEL owns various services

which ICP may buy. INEEL services include: bus operations; cafeteria; environment, safety, health, and quality (ESH&Q) management (occupational medicine and radiological controls); strategic planning/education; financial operations; supply chain management; support services; communications; labor relations; training; information resource management; safeguards and security, emergency services and physical assets management.

The ICP Functional Support organizations include Project Integration, Project/NE Transition, Field Services, Business Services, Technical Services, and Safety, Health and Quality Assurance (SH&QA).

The ICP organization owns various services which INEEL may buy. The ICP services include: core services for planning and controls; prime contracts; construction management; conduct of engineering; and waste generator services (including chemical management, packaging and transportation).

5.2.4 Interface Agreements and Tenant Use Agreements

Included in the INEEL and ICP Line Management and Operations Manuals are guidelines which provide examples of when Interface Agreements (between two organizations) may be used to provide a clear definition and separation of responsibilities and authorities regarding the extent and boundaries of ownership of the various site facilities or between projects/facilities and other organizations performing activities within their area. This agreement is a controlled document under the document control designation of IAG.

Interface Agreements must embody the five core functions and eight guiding principles of ISMS to ensure 1) the scope of work is defined and understood; 2) the hazards are identified, tailored to the work being performed, and mitigated; 3) the work is performed under the proper controls and authorization; 4) clear roles and responsibilities are defined, including line management responsibility for safety; 5) priorities are balanced; 6) requisite training is identified; and 7) feedback mechanisms are identified.

A tenant use agreement ensures that building and process hazards are identified, and defines the roles and responsibilities of the tenant. A tenant is defined as an individual or organization that occupies space and/or has hazardous activities that fall under a responsible line manager. MCP-9141, "Developing Tenant Use Agreements," includes guidelines for determining whether a formal Tenant Use Agreement is needed, making sure pertinent hazards are identified, and developing and maintaining a Tenant Use Agreement.

5.3 Guiding Principle 3 – Competence Commensurate with Responsibilities

5.3.1 CCR Process

The Competence Commensurate with Responsibility (CCR) process represents an integrated company-wide effort that ensures work is performed safely by qualified workers in accordance with procedures. The process participants include Human Resources, Training, Document Control, Quality Assurance, specific review boards, and line management. Appendix E illustrates the process.

Blocks 1 through 3 of Appendix E show the beginning of the process. When a manager identifies the need to hire an employee, the hiring manager and HR personnel write an employee position description that identifies job duties, necessary education, and years of experience required for the position. As job candidates are identified, the hiring manager validates that the candidate's education and experience meet EPD requirements. During the interview process, the hiring manager ensures that the candidate meets the more stringent job-specific pre-employment requirements. Candidates being considered for senior management positions must also meet the requirements of organizations external to the hiring manager's organization, and the selected candidate must be approved by a Senior Management Review process. (See Management Resource Guide).

After candidate selection is complete, new employee orientation and training are performed in Blocks 4-6. In these blocks, a new employee checklist is completed, general employee training is completed, an individual training plan is developed, and employee initial training and qualifications are completed.

After the hiring process, the nucleus of the CCR process is the Annual Training Process (ATP). The ATP provides a systematic method to identify, validate, cost and schedule existing and new training requirements. The ATP provides the basis for and documents the employee's initial training and qualifications that are identified and conducted in Blocks 4-6. The ATP serves the same purpose for all continuing training and qualification requirements implemented throughout the remainder of the CCR process depicted in Appendix E.

The ATP includes Book 1, Training Requirements and Costs. Book 1 catalogues employee training and qualifications (initial and continuing) consistent with the three tiers of the CCR triangle – General Employee Training, Functional Area Training, and Facility Specific Training. The training requirements (course and qualifications) are defined using a set of standardized job codes. Job codes define the training and qualification

requirements for a specific position that the employee must complete to be considered "competent" to perform safe and efficient work.

The ATP is discussed in more detail in Section 5.3.2.

The three tiers of the CCR triangle provide a structured framework that defines the origin of training and qualification requirements and their management. The three tiers are:

General Employee Training. Employees complete the general requirements and ES&H training required for all site employees (for example, Environment, Safety, Health and Quality Assurance Awareness Training; Environmental Protection & Compliance Policy Training; General Hazard Communication; and Initial Security Briefing). This also includes site access training requirements.

Functional Area Training. Employees complete site-wide job or task qualifications specific to their functional discipline. At this level, employees are qualified on the knowledge and specific tasks required for all members of the functional area (for example, a Radiological Control Technician [RCT] would complete RCT training specified in the RCT job code).

Facility-Specific Training. Employees complete facility-specific training and/or qualification (for example, facility hazard recognition [environmental-, radiological-, and safety-related], special entry requirements, criticality control areas, contacts, or facility-specific task qualification).

In Block 4, the employee completes new employee orientation and general employee and applicable site access training and qualifications documented in Book 1.

In Block 5, the employee arrives at the job; here the employee's manager and the employee discuss the employee's specific duties and responsibilities and all of the procedures that are applicable to the work that the employee will perform. In accordance with MCP-27, "Preparation and Administration of Individual Training Plans," the manager and employee complete Form 361.57, New Employee Checklist. The purpose of the checklist is to ensure that employees are fully informed of the hazards in their primary work location. The Block 5 step culminates with the development of an Individual Training Plan.

Duties, responsibilities, and procedures are used as the basis for developing the employee's training plan (see MCP-27). This process

includes the assignment of job codes from all three tiers of the CCR triangle in Book 1. Task-based training requirements that are not included in the job codes assigned to an employee are assigned on an individual basis. The individual assignment of training requirements ensures that employees have the proper training and qualifications, and at the same time enables an efficient assignment of training and qualifications to the workforce. Until the training for a task has been completed the employee is not considered "competent" to perform the task.

There are several tools that can be used to assist in identifying additional training and qualification requirements for an employee. Needs analysis processes (MCP-35, "Training Need Analysis") and/or job analysis processes (MCP-36, "Job Analysis") may be used to identify functional and facility-specific training and qualification needs. The INEEL Training Requirements Matrix (MCP-27) lists regulatory-based and task-based training requirements. All of these tools are used in the ATP process for the maintenance of Book 1. Additionally, facility-specific training implementation matrices exist for each nuclear facility in accordance with DOE 5480.20A, "Personnel Selection, Qualification and Training Requirements at DOE Nuclear Facilities." These matrices define the position-specific and facility-specific requirements for personnel affected by DOE 5480.20A.

In some cases when there is a group of people who perform similar tasks or functions, a structured training or qualification program may be designed. "Structured" means a program that has been established for a group of people who perform similar tasks or functions and have similar responsibilities. Structured training and qualification programs are described in a training program description document, management control procedure, or program description document, in accordance with MCP-33, "Personnel Qualification and Certification." The "common elements of a training program description document" are shown in Figure 7. These qualification programs are included in Book 1.

Given the content of the employee's training plan, Block 6 of Appendix E depicts the worker's completion of initial training and qualification activities (see PDD-13). At this point, the worker is considered "competent" to perform all duties and responsibilities of the position (Block 7 of Figure E-1). As employees are assigned to day-to-day activities, work control processes, TBAs, work packages, or other similar documents may be used to document additional training and qualification requirements. For TBAs, training and qualification requirements are negotiated between the requester and the performer's manager.

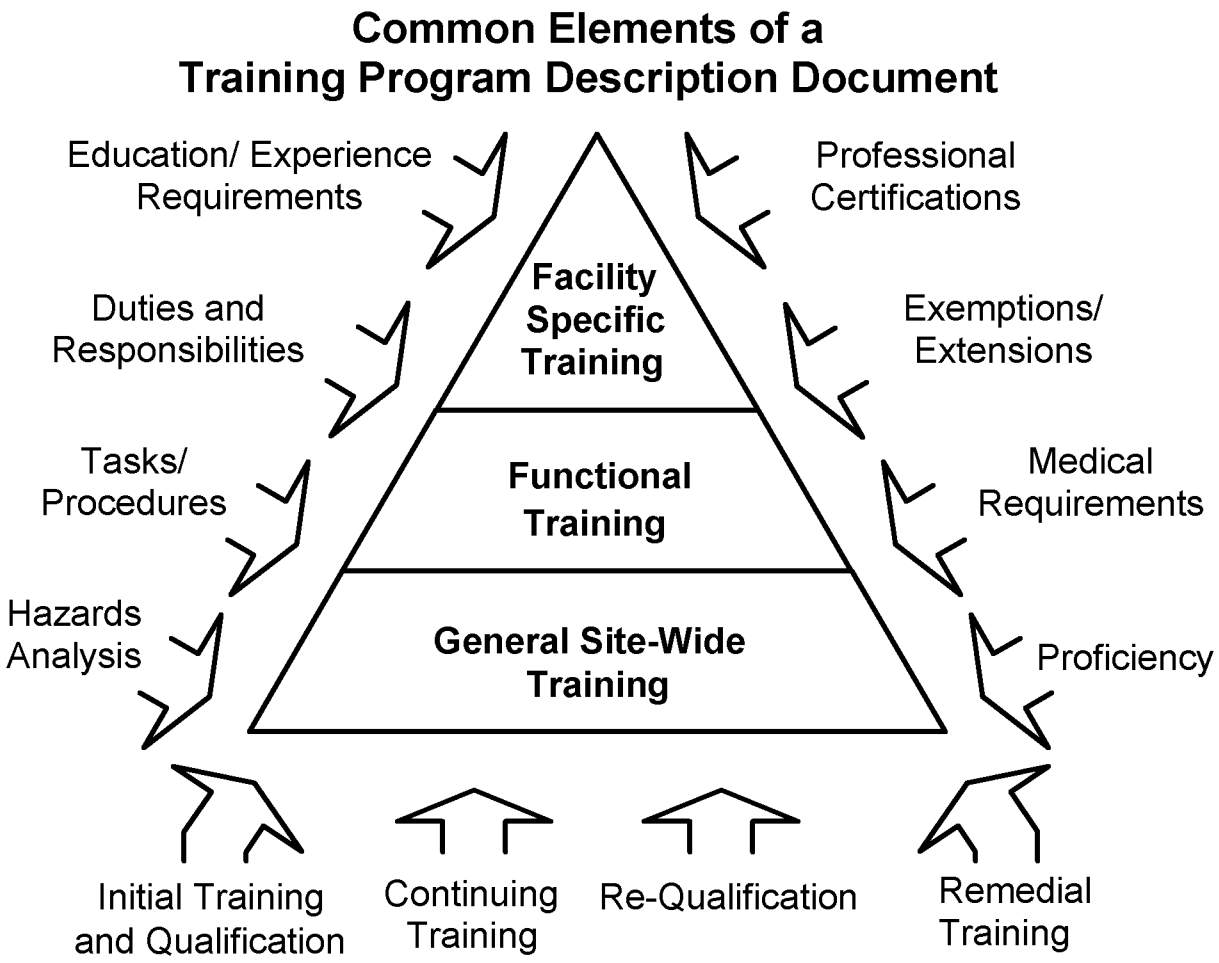


Figure 7. Common elements of a training program description document.

As shown in Blocks 8 through 12 of Appendix E, the CCR process does not end when an employee completes his or her initial training and qualifications. At least yearly, exempt and non-exempt employees receive a performance appraisal. The results of the appraisal feed into the content of continuing and/or remedial training, as needed. The continuing training and re-qualification programs include training on tasks that are considered most important and difficult, or infrequently performed. Both initial and continuing training requirements are included in Book 1.

Several other institutionalized processes (see Blocks 11 and 12) initiate changes to an employee's training plan. These processes include quality assurance activities (see MCP-598, "Corrective Action System," and MCP-192, "Lessons Learned System"), document control activities (see MCP-135), and requirements management activities (see MCP-2447).

The outputs from these processes are fed into the employee's training plan.

Managers are responsible for communicating changes in training and qualification requirements to their employees. At the same time, both the manager and employee are accountable for knowing the employee's training and qualification requirements and their status before performing work. An employee has access to her/his training plan and Book 1 through the Intranet and their Training Coordinator. Monthly each employee who routinely works at the site is issued a Qualification Card. The card contains a list of the employee's current qualifications and expiration dates.

Blocks 12 through 18 of Appendix E depict the systematic flowdown of company-level procedures and regulatory requirements into worker competency requirements. The requirements flow-down process captures new regulations and standards and submits them to the document control process as necessary. Every new or revised companywide procedure is simultaneously presented to the document review coordinators and review boards (FORIB and STRIB). The review coordinators—which represent a variety of disciplines—distribute each procedure to affected organizations and key technical points-of-contact for review of the programmatic impacts and technical content. The FORIB—which is comprised of various site representatives and a training representative—assesses the impact a procedure has on operations, while considering operations schedules and milestones. The STRIB—which is comprised of facility, program and Training representatives—determines whether training is necessary for a given procedure, and, if so, which of the structured training programs are impacted. The STRIB coordinates with Document Control and administratively ensures that 80% of the affected personnel are trained prior to the procedure's effective date.

Additionally, the STRIB Charter states that all site-wide training (MCP-9224, "Site-Wide Training Analysis and Implementation") is reviewed by the Board, regardless of its origin. The STRIB ensures that all proposed training is needed and has the correct target audience. The Board ensures that changed or new training requirements are reflected in Book 1 and the Training Requirements Matrix. The FORIB and STRIB are responsible for informing managers of changes in procedures or training requirements. The managers are then responsible for updating employee position descriptions and training plans as necessary.

During the fiscal year, all proposed site-wide training that would change Book 1 is reviewed using the Book 1 Maintenance Process discussed in Section 5.3.2. This review is conducted regardless of the initiator for the proposed training (e.g., the flowdown process, safety concern, etc.) and

is in addition to the STRIB review. The process elevates the review to senior management and examines the safety, regulatory, and fiscal impact of the proposed training. Unless there is a compelling reason to immediately conduct the training, then it is deferred for consideration in the ATP annual review cycle.

Blocks 19 through 21 of Appendix E reflect the importance of area- or facility-level documents and procedures in establishing and maintaining competent work performance. These documents go through the Document Action Request process and are sent to the appropriate review coordinator and/or site or facility document review group. The review group assesses the impact of the document on area or facility operations, determines associated training needs, and notifies applicable management of the changes. Management then ensures that the training needs are fed into the facility-specific portions of structured training or qualification programs, individual training plans, and continuing training. Annually, the Individual Training Plan for each employee is reviewed and updated to reflect additional and/or continuing training requirements (see MCP-27).

5.3.2 Annual Training Process

The ATP is a systematic method for identifying, validating, costing and scheduling both existing and new training requirements. The process ensures that all regulatory training requirements from the contract are efficiently and consistently incorporated in employee training plans, as required.

The ATP supports CCR by accomplishing the following:

- Stabilizes training during the fiscal year
- Ensures consistent training of the workforce
- Improves alignment of training schedules with program commitments.

The ATP produces two books (hard copy and electronic versions). Book 1, Training Requirements and Cost, contains the training requirements (both initial and continuing) and the cost of site-wide training. In Book 1, training requirements (courses and qualifications) are defined using a set of standardized job codes. Job codes define the training and qualification requirements for a specific position that the employee must complete to be considered “competent” to perform safe and efficient work.

Book 2, Course Catalog and Schedule, provides course descriptions and delivery schedules for the fiscal year.

An annual review and update to both Books 1 and 2 is conducted. This is scheduled in alignment with the fiscal budgeting cycle. The ATP annual review is when the vast majority of changes to Books 1 and 2 should occur. This will minimize the number of changes to employee training requirements during the fiscal year. Minimizing the amount of new or unplanned training that is introduced throughout the year 1) allows managers to control training budgets and 2) reduces the number of unplanned interruptions to programs and operations due to training. Only when there are compelling reasons to train (e.g., regulatory compliance, risk mitigation, performance problems, productivity enhancements) is new training approved for the current fiscal year.

Appendix G, Maintenance Process for Book 1, Training Requirements and Cost, shows the ATP process that keeps training and qualification requirements current. The process shown in Appendix G is applied to both the ATP annual cycle and ad hoc requests for changes to Book 1 that are made throughout the fiscal year. The maintenance process is described below.

The Maintenance Process for Book 1 begins with a request for change to Book 1. As shown in Block 2, an independent review is made of each proposed change. The independent review includes:

- Validation of training need against safety concerns and regulatory drivers.
- Validation that training is the correct solution, if a performance deficiency has been identified.
- Evaluation of the proposed training with respect to learning objectives, length, media, and target audience.
- Evaluation of the need to immediately implement the training or defer it until the ATP annual review cycle.

When the independent review concurs with the proposed change, as shown in Block 5 it is submitted to the STRIB for review and approval in accordance with MCP-9224. If the independent review concludes with recommendation to not implement the proposed training, the requestor has two options. The requestor can end the process, with no change made to Book 1, or the requestor can choose to continue the process and submit the request to the STRIB for approval.

All STRIB approved changes to Book 1 are submitted to the SORB for final approval (Block 7). The SORB review includes a final evaluation of the impact of the proposed training including safety, programs, operations, contractual, regulatory, and fiscal.

Block 8 depicts the update of Book 1 and other training information sources. Regardless of the starting point for a change to training information (e.g., Book 1, Training Requirements Matrix, Course Catalog, and Program Description Document), all sources of information must be accurate, current, and consistent.

5.4 Guiding Principle 8 – Worker Involvement

Worker involvement is considered a key ingredient of VPP and ISMS. A Company Employee Safety Team (CEST) and individual VPP Unit level Employee Safety Teams (ESTs) are used as forums for employees to be involved directly in the safety and health processes. The CEST and each of the ESTs are chartered. The CEST is chartered in CTR-26 and empowered to:

- Solicit and encourage worker involvement in, and provide direction to, safety and health programs and awareness activities
- Develop and submit solutions for company-level safety concerns and issues to senior management
- Monitor company-level safety and health trending data and take action as appropriate
- Contribute to the annual company-level safety and health goals and performance outcomes
- Establish CEST-specific annual safety and health goals and action plans annually
- Serve as the communication pathway between Unit ESTs and senior management.

The CEST is co-chaired by the President and Lab Director and an employee selected and voted upon by the team. Voting membership is comprised of two co-chairpersons, the VPP Unit EST chairpersons or their designee, and a representative of the five Unions.

In addition to being a Co-chairperson of the CEST, the President has an "open door" policy that encourages workers to discuss issues in open discussions. The President supplements this policy by conducting frequent meetings with

employees in various forums. This information dissemination provides ways in which worker concerns can be addressed in a timely manner.

The VPP effort has enabled the workforce to be directly involved in all aspects of the safety and health process. Some of these avenues of involvement are as follows:

- Facility Excellence Program
- Annual Safety and Health program evaluation/corrective actions
- Work Control pre-job planning walkdowns, pre-job briefs and post-job reviews
- Job Safety Analysis development and review
- Management and EST participation in inspections
- Participation in injury/illness investigations
- Reporting Safety Concerns and Near Misses
- Presenting Safety Shares at meetings
- Establishing safety goals and objectives
- Developing safety and health personal action plans
- Workstation and industrial ergonomic evaluations
- Safety Meetings, presenting and attending
- Involvement activities such as Safety Awareness Events, training, Daily Constitutional, Unit Newsletters and homepages
- Worker Applied Safety Process (WASP) observation and feedback process.

Worker Involvement goes beyond simple awareness and compliance with established safety and health requirements. Employees must have an active and meaningful way to participate in and contribute to the structure and operation of the safety and health program. This involvement results in “ownership” of their safety and health program by all employees.

5.5 Core Function 1 – Define Scope of Work and Guiding Principle 4 – Balanced Priorities

5.5.1 Company/Site Level

A well-defined scope of work, at both the company/site level and at the facility/activity level, is crucial to the success of the ISMS process because:

- It sets the stage for the scope and depth of hazards identification and analysis
- It is the foundation for the budget formulation allocation process
- It is the primary factor in establishing expectations and accountability.

The Business, Budgets, and Contracts Process, described in Section 2, is a key element in defining scope and balancing priorities at the highest level of the ISMS process. A fundamental objective within the Business, Budgets, and Contracts Process is to identify the scope, schedule, and costs of activities necessary to achieve DOE missions and expectations in a safe and environmentally sound manner. This process translates broad site missions into specific work packages.

5.5.2 Facility/Activity Level

Once the work scope is agreed upon at the company level, the operating organizations are responsible for completing the activities:

- While fulfilling the requirements of all applicable DOE orders and rules, and standard industrial practices and
- Within the approved authorization agreement for each facility.

Each new task is evaluated against the facility's approved Authorization Basis (AB) in accordance with procedure MCP-123. Hands-on work that may be performed in a facility generally falls into three categories:

- Operational work
- Maintenance work
- Construction (subcontracted) work.

For operational activities, the scope of authorized work is defined in POD meetings, operations and surveillance procedures, radiological work permits, round sheets and logs, and test plans. Line supervisors and managers ensure activities relating to ESH&QA issues (such as safety system operability, environmental compliance monitoring, and worker safety) are appropriately resource-loaded to ensure timely and accurate completion. Operations personnel are continuously analyzing facility and equipment conditions and resources, and initiating action to ensure activities significant to ESH&QA are promptly resolved. Safety basis controls, such as those specified in the OSRs, are closely monitored through surveillance testing, equipment status control programs, and operator rounds.

At the individual task level, work control processes (such as job safety analyses, integrated hazard assessments, safe work permits, or construction work authorizations) are institutionalized for each type of hands-on hazardous work performed. The work control processes were developed using the elements of ISMS and VPP to ensure face-to-face work planning participation by workers, line management, and the ESH&QA support personnel. ISMS and VPP elements are also used to involve the workers in hazard identification. In this way, adequate preparations are identified to reduce the possibility of injury or exposure of the worker and minimize the impact on the public and the environment. This process works because of the attention of personnel given to each other's safety needs as a result of the ESH&QA training provided to the workforce. The entire process of defining and planning the work is improved through the analysis of results gathered in the self-assessments, which are used to provide feedback on the planning process.

The scope of maintenance, construction, and environmental remediation/ Deactivation, Decontamination and Dismantlement (DD&D) construction work is defined using STD-101; MCP-9106; and MCP-2863, "Construction Work Coordination and Hazard Control." The hazards are identified during the planning stage using STD-101 through ISMS and VPP elements included in the integrated work control process (IWCP). The level of work planning required (minor, expedited, standard planned, high planned, and project work orders) is determined by screening the work scope to the threshold criterion in STD-101. The required planning elements for conducting the appropriate levels of working planning are graded to the complexity of the work, the hazards encountered in performing the work, and the uncertainty about the work and hazards it entails. For low risk, simple, routine work, minor maintenance work orders use skill-of-the-craft, applicable JSAs, and job supervisor/foreman oversight to address task hazards. The next level uses

expedited maintenance work orders that apply a hazards analysis matrix completed by the maintenance expeditor and job supervisor/foreman to identify hazards, mitigations, and controls. The results of the Hazard Identification and Mitigation process is used to determine the standard or high approach to apply to planned work orders. For planned and project work orders, the Hazards Profile Screening Checklist (HPSC) identifies the integrated work planning and control process to be used to plan the work activity. Maintenance, construction, and environmental remediation/DD&D work packages are prepared in accordance with STD-101 and GDE-6210, "Maintenance Guide," and approved by the responsible line manager. STD-101 is used to identify the hazards associated with any maintenance installation activity. Facility work is authorized and scheduled to be performed via the facility POD. Work is executed in the facilities in accordance with the procedures contained in companywide Manual 6, Maintenance, and Manual 9, Operations.

5.6 Core Function 2 – Identify and Analyze Hazards

As outlined by DOE G 450.4-1A, the objective of hazards analysis is to develop an understanding of the potential for the hazard to impact the worker, the public, and the environment. Hazard controls should be established based on this understanding and other factors related to the work. In accordance with this guidance, the objectives of hazard identification and analysis are to identify and eliminate or control hazards and, thereby, prevent or mitigate negative impact to facilities, programs, workers, the public, and the environment. Control of hazards (degree of care) is based on the magnitude of the hazard and on the associated risk of negative events involving those hazards.

5.6.1 Company/Site Level Hazard Analysis

Hazard analyses are performed at the company/site level for work defined in company and site-wide mission statements. Hazard analyses are performed at the facility and activity level for work activities (such as maintenance, construction, and operations). The objective of hazards analysis is to develop an understanding of the potential for a hazard that may affect the worker, the public, or the environment and to develop a seamless hazard analysis covering the company/site-level functions and the facility/activity-level functions.

Hazards can be encountered when operating and decommissioning nuclear reactors and when managing or working with spent nuclear fuel, fissile materials, radioactive materials and ionizing radiation, hazardous chemicals of a great variety, and unexploded ordnance. A variety of other engineering test and development programs that introduce special, new, and unique hazards have been or could be conducted. In addition, the following kinds of general facility hazards can be found:

- Construction sites
- Test facilities
- Process facilities
- Environmental restoration, deactivation, decontamination, and dismantlement sites
- Laboratories
- Office buildings
- A wide variety of industrial hazards.

Hazards also include environmental hazards related to emissions and effluents, wastes, and waste management units. Similarly, activities planned at the company/site and facility/activity levels can impact environmental resources, including floodplains and streams, and natural, biological, cultural, and historic resources.

Programs that address hazards are established and implemented in company manuals. These programs include:

- Maintenance (Manual 6)
- Environmental Management (Manual 8)
- Conduct of Operations (Manual 9)
- Engineering and Research (Manuals 10A and B)
- Training and Qualification (Manual 12)
- Quality and Requirements Management (Manuals 13A and B)
- Safety and Health (Manuals 14A and B)
- Radiation Protection and Radiological Controls (Manuals 15A, B, and C)
- INEEL Emergency Plan/Resource Conservation and Recovery Act (RCRA) Contingency Plan (Manual 16A)
- Waste Management (Manual 17).

5.6.2 Facility Level Hazard Analysis

A Safety Analysis Program has been established that consists of an organized set of activities directed toward performing a safety analysis for each of the following facilities:

Nuclear Facility. A nuclear facility is defined as a reactor or nonreactor nuclear facility as categorized in accordance with DOE STD-1027-92. A non-reactor nuclear facility consists of those activities or operations that involve radioactive and/or fissionable materials in such form and quantity that nuclear hazards potentially exist to the employees or the general public. Included are activities or operations that:

- Produce, process, or store radioactive liquid or solid waste, fissionable materials, or tritium
- Conduct separations operations
- Conduct irradiated material inspection, fuel fabrication, decontamination, or recovery operations
- Conduct fuel enrichment operations
- Perform environmental remediation or waste management activities involving radioactive materials.

Non-Nuclear Facility. A non-nuclear facility is any activity or operation that:

- Does not contain quantities of potentially releasable radioactive material that meet or exceed the DOE STD-1027-92, Attachment I, Category 3 threshold criteria or the 40 CFR 302, Appendix B, Reportable Quantity (RQ) levels
- Contains quantities of potentially releasable hazardous materials that meet or exceed the 40 CFR 302, Table 40, CFR 302.4 RQ levels.

Radiological Facility. A radiological facility is any activity or operation that contains quantities of potentially releasable radioactive material that do not meet or exceed DOE STD-1027-92, Attachment I, Category 3 threshold criteria, but do meet or exceed the 40 CFR 302, Appendix B, RQ levels.

Other Industrial Facility. Other industrial facilities include any activity or operation that:

- Does not contain quantities of potentially releasable radioactive material that meet or exceed the DOE STD-1027-92, Attachment I, Category 3 threshold criteria or the 40 CFR 302, Appendix B, RQ levels

- Does not contain quantities of potentially releasable hazardous materials that meet or exceed the 40 CFR 302, Table 40, CFR-302.4 RQ levels.

Safety Analyses and Change Control

In the Safety Analysis Program, company-level program requirements documents and implementation plans specify and interpret DOE requirements. These requirements apply to BBWI as a contractor organization to the extent provided by law and/or as implemented under the BBWI contract or other agreements with DOE and NE-ID. These PRDs and implementation plans are implemented through company-level MCPs and lower-level MCPs, supplemental MCPs, or technical procedures (TPRs).

The type and extent of each safety analysis and its associated documentation is determined by the hazard categorization/classification of the facility. The hazard categorization/classification process, based on a hazard assessment of the facility/activity, an initial step in the safety analysis process, determines whether the facility is nuclear, non-nuclear, radiological, or other industrial. This process also determines whether the hazard category for nuclear facilities is Category l, 2, or 3; and whether non-nuclear, radiological, or other industrial facilities have a hazard classification of high, moderate, low, or not requiring additional safety analysis.

SAR-100, "INEEL Standardized Safety Analysis Report (SAR) Chapters," contains the standardized SAR chapters for use in DSAs prepared for Category 2 and 3 nuclear facilities. MCP-2449 requires the use of SAR-100 for development of Chapters 1, 7, 8, and 10–17 for DSAs prepared using the format and content recommended by DOE-STD-3009-94, "Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports." The facility-specific chapters, 2-6 and 9, do not lend themselves to standardization and must be developed in facility DSAs or general plant area DSAs. SAR-100 enables the development of required facility DSAs for non-reactor nuclear facilities that are more technically consistent, while significantly reducing the cost and time for preparation and approval.

Nuclear Facility Safety Analyses

Requirements for performing hazard categorizations and safety analyses for nuclear facilities and for preparing implementation plans and nuclear DSAs, are derived primarily from 10 CFR 830 and the NE-ID contract with BBWI. MCP-2449 and lower-level MCPs or supplemental MCPs implement these requirements. MCP-2446 identifies the nuclear facilities regulated by DOE under 10 CFR 830, "Nuclear Safety Management."

In order to preserve the safety basis of a nuclear entity, the unreviewed safety question (USQ) process establishes the level of approval required to make a change in the nuclear entity, make a change to a procedure described in the safety analyses, or conduct a test or experiment not described in the safety analyses. The USQ process is also used to evaluate new information that has the potential to affect the safety basis. 10 CFR 830 requirements for the USQ process are specified and interpreted in PRD-113, "Unreviewed Safety Questions." Procedures that implement these requirements are MCP-123, "Unreviewed Safety Questions," and lower-level MCPs or supplemental MCPs. MCP-2811 provides instructions for managing design-related activities and engineering changes to ensure hazard assessments are maintained current.

Non-Nuclear, Radiological, and Other Industrial Facility Safety Analyses

The safety analysis requirements that are derived primarily from NE-ID Order 420.C and 420.D are specified and interpreted in PRD-164, "Safety Analysis for Non-nuclear, Radiological, and Other Industrial Facilities." Specifically, these requirements address:

- Performing hazard classifications and safety analyses for non-nuclear, radiological, and other industrial facilities
- Preparing hazard analyses, hazard classifications, Safety Analysis Documents (SADs), Auditable Safety Analyses (ASAs), and OSRs or equivalent documentation
- Performing change control for proposed changes, proposed tests and experiments, and new information.

Detailed company-level procedures that implement these requirements are MCP-2451, "Safety Analysis for Other Than Nuclear Facilities," MCP-3740, and lower-level MCPs or supplemental MCPs.

Facility Level Identification and Analysis Procedures

MCP-579, "Performing Fire Hazard Analysis, MCP-583, Performing Fire Safety Assessments and Annual Fire Assessments," and PRD-199, "INEEL Fire Protection Program," provide the process to identify and analyze fire hazards. A fire hazard analysis consists of a focused review of the facility fire hazards and prevention and mitigation measures. A fire hazard analysis is a significant contributor to safety basis documents.

PRD-5042, "Facility Hazard Identification," specifies the requirements for identifying and documenting safety and health hazards inherent to fixed facility equipment, structures, and processes with respect to the hazard's specific location. The hazards are placed in a Facility Hazard List that serves as an input resource to the work planning process (such as STD-101). The Facility Hazard List includes, but is not limited to, hazardous chemicals stored or used in a process, operating equipment, confined spaces, fall hazards, biological hazards, and radiological contamination areas.

MCP-2398, "Developing and Maintaining Emergency Preparedness Hazards Assessments," provides instructions for developing and maintaining Emergency Preparedness Hazards Assessments. Emergency Preparedness (EP) hazards assessments provide the technical basis for the EP program and are used to determine the extent and scope of emergency planning and preparedness activities, including facility emergency action levels.

An evaluation of all activities, products, and services has been conducted to identify the environmental aspects that have the potential to affect the environment or public, or the potential to result in a noncompliance with regulatory requirements. A list of specific hazards associated with these environmental aspects has been developed to assist employees in planning their work and in mitigating the potential for environmental impacts. The resulting List (LST)-96, "Environmental Aspects Evaluation," is published on the Electronic Document Management System. The identified environmental aspects provided the foundation for developing PRD-5030, "Environmental Requirements for Facilities, Processes, Materials, and Equipment," and MCP-3480. LST-99, "Facility Hazards Identification and Control Information List," identifies environmental permits, databases, and other resources that contain information on environmental hazards. GDE-7068, "Maintaining the Environmental Management System," describes the process to update LST-96.

5.6.3 Activity Level Hazard Analysis

PRD-25, "Activity Level Hazard Identification, Analysis, and Control," invokes the procedures required to implement the activity-level hazard identification and analysis processes. PRD-25 specifies the requirements for identification, analysis, and control of ES&H hazards for work planning and execution at the activity level that flow down from contractural documents (see Figure 8) into company-level procedures. Within the program there are three primary hazard identification and analysis processes that have been developed. These processes meet the requirements of DOE Order 440.1A and DOE G 450.4-1A. The three processes are implemented in:

- MCP-3562, "Hazard Identification, Analysis and Control of Operational Activities," for operations and environmental remediation

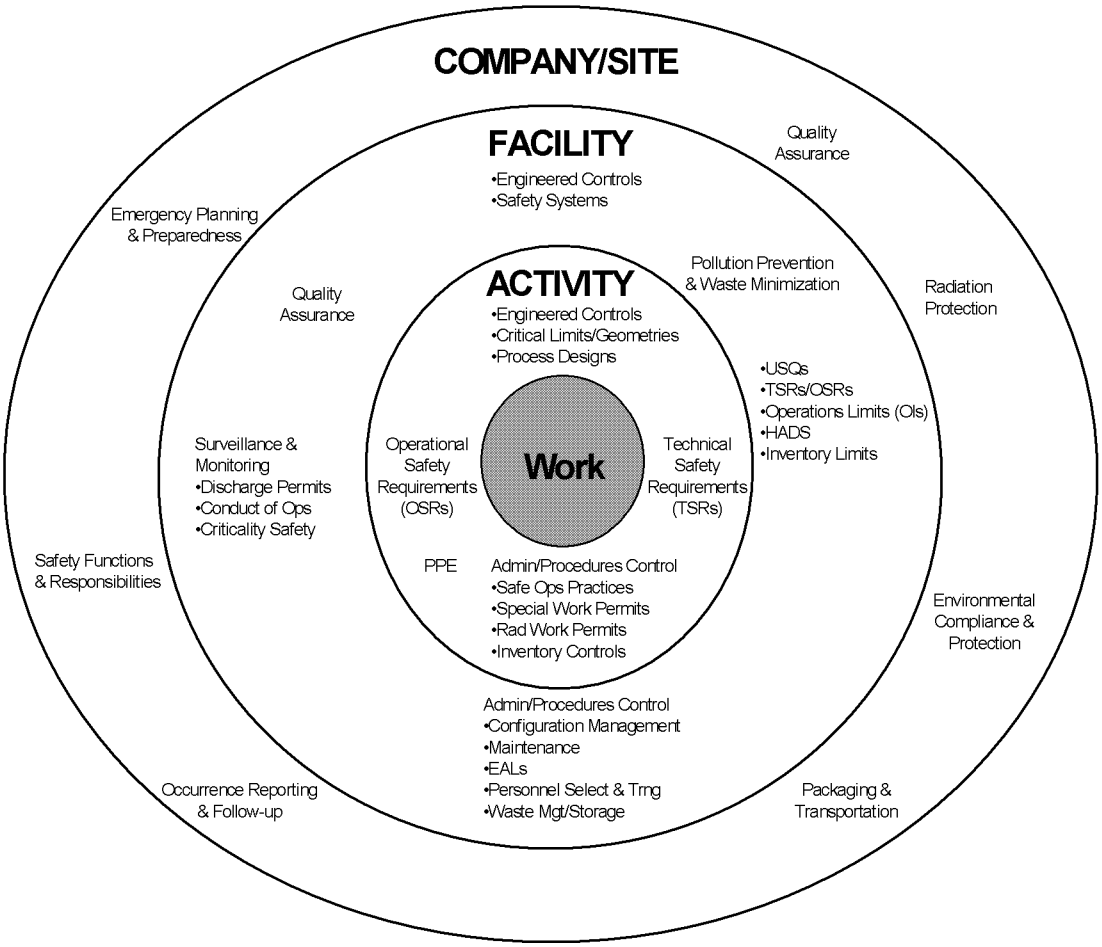


Figure 8. Company programs and controls.

- STD-101 for maintenance, modifications, construction, DD&D, and environmental remediation project activities

- MCP-3571, "Independent Hazard Review," for research and laboratory activities.

The hazard analyses ensure the appropriate degree of specialist participation, commensurate with the type of work and associated hazards. These personnel are then involved in the work planning process.

MCP-3562 is used to create a job safety analysis that describes the steps in a job, lists all the hazards associated with each job step, and identifies the methods for controlling or mitigating those hazards. This document also identifies the methodology for incorporating the hazards and necessary mitigation information into the appropriate operating procedures. The procedure contains an extensive hazard screening checklist to be used by the HEG for analyzing the hazards. Facility walkdowns, document reviews, and a number of other actions are performed during this analysis process.

STD-101 uses the HPSC to identify the hazards associated with the work and the ES&H disciplines to be involved in the analysis process. A hazard mitigation guide is used to analyze the hazards and identify the controls to mitigate these hazards. This process identifies the controls and barriers for potential radiological hazards and standard industrial hazards such as confined space, elevated work, work requiring the use of respirators, and asbestos or hazardous chemicals or materials. MCP-9106; GDE-51, "Guide for Construction Project Management," and MCP-2863 address the need for hazard identification during the construction project conceptual phase. The hazards are mitigated to the extent possible during the project definitive design stage through inclusion of mitigative actions and controls in the design documents. At the end of design, a thorough review of hazards is performed, and hazards are identified using the HPSC as directed by STD-101. For environmental remediation activities that are required by law (CERCLA), hazards are identified through preparation of a HASP in accordance with MCP-255 and STD-101.

MCP-3571 provides work control direction to personnel authorizing or performing experimental projects for research and development. A hazard mitigation guide is developed to identify the ESH&QA hazards associated with proposed experiments and/or R&D activities. The guide also provides instruction to prepare the IHR checklist and hazard mitigation plan. This plan provides references to applicable procedures and guidelines relating to the particular environment, safety, or health area being considered. Based upon the hazards identified in the hazard

mitigation guide, a graded approach is used to specify the hazard review process. Although not part of the IHR process, National Environmental Policy Act (NEPA) checklist Form 451.01 may also have to be completed and submitted to Environmental Affairs. Environmental specialists provide assistance in determining the need for the additional form.

MCP-3480 identifies activities subject to environmental review, approval and/or instruction, and identifies information resources to assist in the identification of potential environmental hazards. Personnel planning activities subject to an environmental review must prepare and submit to the Environmental Affairs organization an Environmental Checklist. The Environmental Checklist (Form 451.01) is a key process for identifying environmental requirements for a new activity. Process, operational, procedural, and physical changes have the potential to impact the environment, requirements, and/or permits. The Environmental Checklist provides environmental professionals with the information needed to identify project-specific requirements, determine if permits are required, identify potential environmental impacts and environmental hazards, and mitigation. The Environmental Checklist also provides information to make NEPA or categorical exclusion determinations. Instructions for completing the Environmental Checklist are found in Appendix A of MCP-3480.

All of the above activity-level hazard identification and analysis processes involve additional processes for specific hazards, including:

- Environmental aspects evaluation and maintenance (GDE-7068)
- Radiological work permits (MCP-7, "Radiological Work Permit")
- Safe work permits (MCP-3447, "Developing and Using Safe Work Permits")
- Industrial hygiene exposure assessments (MCP-153, "Industrial Hygiene Exposure Assessment")
- Job safety analyses (MCP-3450, "Developing and Using Job Safety Analyses")
- Criticality safety analyses (PRD-112, "Program Requirements Document for Criticality Safety Program Requirements Manual").

5.7 Core Function 3 – Develop and Implement Controls, Guiding Principle 5 – Identification of Safety Standards, and Guiding Principle 6 – Tailor Hazard Controls to Work

After the associated hazards have been identified and before work is performed, hazard analysis should be used to develop appropriate controls and identify an applicable set of safety standards and requirements. Applicable standards are used to determine the minimum level of controls that must be in place. Developing and implementing hazard controls at the company/site level or the facility/activity level include:

- Identifying applicable standards and agreed-upon sets of requirements
- Identifying controls to prevent or mitigate hazards
- Establishing boundaries for safe operations through a defined safety envelope
- Implementing and maintaining configuration of controls.

Barriers and/or controls against hazards take a variety of forms. The hierarchy of controls (engineering, administrative, and personnel protective equipment controls) outlined in DOE Order 440.1A, "Worker Protection Management for DOE Federal and Contractor Employees" is used. The hierarchy used at the company/site level is the same as that used at the facility/activity level, which is applied in a risk-based manner. Controls developed, implemented, and maintained at the facility/activity level are integrated with other controls and commitments, particularly those company/site level programs. For instance, radiological protection controls established and implemented at the facility/activity level are integrated with the company Radiological Controls Program. The same is true for industrial safety, environmental, and other types of controls. Typical barriers and/or controls are described below:

Engineering – Changes such as tools, equipment, and/or machines associated with the activity. Examples include a glove box or ventilation system for containing radioactivity, packaging for containing hazardous waste, or a guard or shield to protect the operator.

Substitution – Substitutes a safe or low hazard material or chemical for a higher hazard material so the hazard can be eliminated or reduced without relying on the use of a control method.

Work Environment – Changes control aspects of the job environment in order to avoid injury. The change may affect such things as work areas, equipment layout, illumination, or atmospheric conditions.

Environmental – Identifies the need for physical controls such as secondary containment for chemicals or air pollution equipment and planning controls to mitigate impacts to natural, biological, cultural, or historical resources. Also identifies applicable regulatory or company requirements.

Procedural – Changes written instructions that spell out what a person should or should not do to avoid an identified hazard.

Job Re-evaluation – Changes the way the entire job is performed. It should result in an improved way of doing the job from a safety, time, effort, and cost point-of-view.

Training – Identifies the need for special training, requalification frequency, dry runs, training mockups, or similar requirements.

Frequency – Reduces the number of times a hazardous task must be performed (such as substituting parts needing less frequent repair or replacement or using an automated process).

Rotation – Reduces the level of individual exposure (such as rotating personnel during an activity).

Personal Protective Equipment (PPE) – Prescribes the appropriate PPE required to eliminate or reduce the hazard.

Figure 8 represents the implementation of controls, adapted from DOE G 450.4-1A.

5.7.1 Company/Site Level Hazard Controls

The contractor is required by DEAR 970.5204-2 to comply with the requirements of applicable federal, state, and local laws and regulations (including DOE regulations) in developing and implementing controls, unless relief has been granted in writing by the appropriate regulatory agency. This consolidated listing of applicable ES&H requirements is referred to as List A, "List of Applicable Laws and Regulations," and List B, "List of Applicable Directives."

List A, "List of Applicable Laws and Regulations." This list has been developed and added to the BBWI contract with NE-ID to specify regulatory (primarily Code of Federal Regulations and Public Law) requirements.

List B, "List of Applicable Directives." The contractor is also obligated to comply with the requirements of applicable DOE directives appended to the contracts and referred to as List B, "List of Applicable Directives."

The ES&H requirements appropriate for work conducted by the contractor and approved by NE-ID represent the set of tailored ES&H requirements. These documents include DOE-HQ and NE-ID orders, manuals, and notices.

Periodic updates to List A and List B are made as necessary to reflect changes in requirements. List A is reviewed annually and updated based upon review outcome. List B is updated quarterly in accordance with NE-ID M 251.1-1. Company/site level programs that implement requirements are institutionalized through procedures.

Applicable requirements and implementing procedures are assigned to responsible management systems. Responsibility for each system is assigned to senior managers (typically VPs or GMs) and is shown in LST-1. The systems' high-level functions, interfaces, requirements, and implementing procedures are documented in Management System Descriptions. Sixteen management systems have been identified and fully described.

- Business Management
- Communications
- Emergency Management
- Facility Management (pending approval)
- Human Resources
- Information Management
- Integrated Planning and Assessment
- Intellectual Property and Technology Commercialization
- Programmatic Work Integration (pending approval)
- Project and Work Execution
- Quality Management
- Safeguards and Security
- Supply Chain
- Support Services

- Worker Safety and Health.

Implementing procedures are organized into company level manuals:

- Project Cost and Schedule Controls (Manual 5)
- Maintenance (Manual 6)
- Project Management (Manual 7)
- Environmental Compliance and Protection (Manual 8)
- Operations (Manual 9)
- Engineering and Research (Manuals 10A and B)
- Safeguards and Security (Manuals 11A–E)
- Training and Qualification (Manual 12)
- Quality and Requirements Management (Manuals 13A and B)
- Safety and Health (Manual 14A and B)
- Radiation Protection and Radiological Controls (Manuals 15A, B, and C)
- INEEL Emergency Plan/RCRA Contingency Plan (Manual 16A)
- Waste Management (Manual 17).

These company/site level procedures identify hazard controls for hazards.

Hazard controls are also implemented at the company/site level through site-wide training. The ESHQ/ISM/VPP training (blue card) provides employees with a baseline understanding of hazards and controls.

5.7.2 Facility Level Hazard Controls

To ensure the safe operation of nuclear entities and to reduce the potential risk to the public and workers from uncontrolled releases of radioactive material or from radiation exposure due to inadvertent criticality, TSRs are developed. The TSRs define the necessary conditions, safe boundaries, and management or administrative controls. Requirements for preparing TSRs for nuclear entities and for submitting

these documents for review, concurrence, approval, and oversight are extracted primarily from 10 CFR 830, Subpart B. Procedures for implementing these requirements are MCP-2449 and lower-level MCPs or supplemental MCPs. MCP-2811 manages the design-related activities and engineering changes that may result in changes to facility hazard controls.

PRD-115, "Configuration Management," and STD-107, "Configuration Management Program," apply to nuclear and non-nuclear programs, projects, and facilities that are designated as Quality Level 1; as Quality Level 2; as directly supporting a Quality Level 1 or Quality Level 2 item or safety system; or as Quality Level 3 with mission-critical SSCs (i.e., a particular unmitigated function or status of the SSC is necessary to continue the defined normal, safe operation of the facility). Quality level assignment is in accordance with MCP-540, "Documenting the Safety Category of Structures, Systems, and Components."

Also as discussed in Subsection 5.6, PRD-5042, "Facility Hazard Identification," addresses controls for facility hazards inherent to fixed facility equipment, structures, and processes with respect to the hazards-specific location. Hazard controls and mitigation guidance are specified by use of the facility hazard list in the activity-level hazard analysis process.

As discussed in Subsection 5.6, MCP-2398, "Developing and Maintaining Emergency Preparedness Hazards Assessments," provides instructions for Emergency Preparedness Hazards Assessments. The instructions in this procedure include methods and requirements for performing the following activities: developing a facility description/boundary, performing hazard identification and screening, performing hazard characterization, developing event scenarios, estimating potential event consequences, developing initial emergency action levels, developing predetermined protective actions, and developing emergency planning zones. The procedure also provides guidance on the use of the hazards assessment information by Emergency Operations Center staff for consequence assessment.

Hazard controls are also implemented at the facility level through facility-specific training programs. This level of training is accomplished through operator qualification programs, facility training for personnel with unescorted access, and other programs.

Facility Startup or Restart. The initial start-up phase is specifically devised to ensure that the facility is safe to start up and that the facility is correctly designed to mitigate hazards identified during the design phase. Authorization to operate a facility with serious safety risks is retained by

DOE and only granted upon completion of required safety reviews and operational readiness reviews (see MCP-2783 for nuclear facility applicability and requirements). Because of the diverse mission of the site, all activities are considered as potential safety risks unless otherwise demonstrated and documented. MCP-2783 provides the screening criteria used for new nuclear facility or activity startups to determine the required level of review; Operational Readiness Review, or Readiness Assessment (Graded Approach Level I, II, and III).

MCP-1126, "Performing Management Self-Assessments for Readiness," provides the mechanism for performing Management Self-Assessments (MSA) for readiness. A MSA may be conducted for a variety of reasons, but the product is always the ability of management to affirm that an activity is in a state of readiness to commence or resume unrestricted operations of a defined scope of work. MSAs for readiness are performed in preparation for an ORR, RA, and for nuclear activities that fall below the requirements of MCP-2783. The procedure also applies to preparation for unrestricted operation of radiological or other hazardous facilities or activities for which management determines that a MSA is the tool to be used to affirm readiness.

An integral part of the assessment criteria associated with these reviews is a close scrutiny of the hazard assessment.

5.7.3 Activity Level Hazard Controls

PRD-25 invokes the procedures required to develop and implement hazard controls. PRD-25 specifies the requirements for control of ES&H hazards for work planning and execution that flow down from regulatory documents.

As addressed in Subsection 5.6 for hazard identification and analysis, there are three primary documents used to specify hazard controls:

- MCP-3562 and Control of Operational Activities, for operations and environmental remediation
- STD-101 for maintenance, modifications, construction, DD&D, and environmental remediation project activities
- MCP-3571 for research and laboratory activities.

These documents provide hazard mitigation guides for identified hazards. Reference procedures are provided in the guides for additional information.

All of the above activity-level hazard control development and implementation processes involve additional processes for developing and implementing hazard controls, including:

- Environmental Instructions for Facilities, Processes, Materials and Equipment (MCP-3480)
- Radiological work permits (MCP-7)
- Safe work permits (MCP-3447)
- Confined space entry permits (MCP-2749, "Confined Spaces")
- Hot work permits (PRD-5110, "Welding, Cutting and Other Hot Work")
- Fall protection plans (PRD-5096, "Fall Protection")
- Industrial hygiene exposure assessments (MCP-153)
- Job safety analyses (MCP-3450)
- Criticality safety analyses (PRD-112).

A pre-job safety briefing, conducted in accordance with MCP-3003, "Performing Pre-Job Briefings and Post-Job Reviews," is held for all activities. The level and documentation of the pre-job brief is based on the complexity of the work, risk to employees, and level of necessary task coordination. This process provides for a discussion of the results of the hazard assessment, including the mitigation controls. It provides a forum for the workers and supervisor to conduct a final discussion of the task about to be performed.

Hazard controls are also implemented at the activity level through activity-specific training. This level of training provides information specific to the activity through the use of mock-ups, walkthrough, table-top reviews, and other mechanisms.

Activity Startup or Restart. Activity startup or restart is similar to the facility startup or restart (discussed in previous section), and is also directed by MCP-2783 and MCP-1126. The activity or project leader screens an activity to determine the rigor of the readiness review requirements prior to the startup or restart. A nuclear activity could require an ORR or a RA. If these are not required, line management may elect to perform a MSA to ensure the management systems and

processes are in place for startup or restart. These reviews assess the development and implementation of hazard controls.

5.8 Core Function 4 – Perform Work and Guiding Principle 7 – Operations Authorization

5.8.1 Company and Site Level

Contract DE-AC07-99ID13727 provides BBWI legal authority to plan and conduct work at the site. Such work includes construction, operation, and maintenance of facilities. It also includes a broad scope of activities such as studies, planning, engineering, design, research, and environmental sampling. The safety controls for all work are derived from DOE Orders and other regulations invoked in the contract and implemented in company-level procedures.

Operation Control. Operations are conducted in accordance with the company Conduct of Operations Program. Conduct of Operations is implemented using thorough and clear procedures based on identified requirements. The process requires that procedures are followed, that adequate training is provided, and that roles and responsibilities are clearly defined. Operation controls include controls used during planning to incorporate ESH&QA concerns and procedural controls used during implementation.

A comprehensive Maintenance Management Program (see PDD-600) is also in place to ensure mechanical systems remain functional and perform as intended and when needed. The principles of Conduct of Operations, Conduct of Maintenance, the ISMS core functions, and the VPP key elements provide the foundation for the ***Safety Culture*** and integrate environmental protection and compliance into the work control processes.

Integrated Work Control Process. The IWCP is the method by which ISMS and VPP are implemented for maintenance, construction, and Environmental Remediation/DD&D work activities. It provides a single process by which work is performed, and it ensures that work is screened consistently to uniform criteria, and hazards are appropriately identified, analyzed, and controlled. STD-101 provides the instructions and process controls for the IWCP.

The IWCP implements the ISMS and provides detailed guidance about how the five core functions—as related to maintenance and construction—are to be conducted. STD-101, therefore:

- Identifies the specific regulatory requirements for work activities. Other programs (such as environmental protection, radiological, control, safety and industrial hygiene, nuclear safety, and quality) have requirements that must be integrated into the process controls of this standard, but they are not duplicated in this standard.

- Describes methods and controls to identify an activity via a work request.

- Describes methods and controls to screen an activity or project for the purpose of identifying the proper level of planning.

- Describes methods and controls for the selected planning method to identify and analyze the hazards, develop the specific activity controls, and implement the specific activity controls.

- Describes methods and controls by which work processes will be performed.

- Provides a maintenance skill-of-craft checklist to assist the planner in determining work that may be planned as skill-of-craft and provides the maintenance supervisor with a checklist to verify minimum craft skills.

- Describes four methods and controls used to perform preventive maintenance, predictive maintenance, and corrective maintenance. These methods are work request exempt minor maintenance (WREMM), minor maintenance, expedited work orders, and planned work orders.

- Implements a mechanism for feedback to ensure continuous improvement through the use of a post-job review.

- Emphasizes worker involvement in the verification of task basis steps and hazards identification through work scope reviews and team planning.

5.8.2 Facility and Activity Level

Perform Work Safely. Regardless of complexity, all work activities are undertaken with full understanding by each employee involved that they are individually responsible for their own safety and the safety of others involved in or affected by the activity. Employees are qualified through training and experience to perform the tasks assigned. They understand that they are required to follow established procedures or work guidance documents for the work being undertaken. They also actively participate

in developing and changing the procedures or work guidance documents they are required to follow. Employees clearly understand that they not only have the right, but also the obligation to stop work (see MCP-553, "Stop Work Authority") at any time if they are aware that:

- An unsafe condition exists
- An unsafe act is being performed
- A non-compliant quality issue has been raised
- There is a concern related to environmental compliance and protection.

Two points are emphasized: (1) Authorization to begin work largely uses a graded approach to the amount of formality and documentation required. The approach is largely based on risk and circumstance of the operational evolution. (2) In addition, every employee involved in the evolution must clearly understand the hazards and hazard controls in place before any evolution may officially begin—no matter how complex or simple the evolution.

Work is performed by personnel who are trained and, as necessary, qualified or certified to perform their assigned task (see MCP-33). Prejob briefings (see MCP-3003) are conducted and the work procedures or instructions, results of hazards analysis, and required permits and controls necessary to the job are reviewed with the worker. Work is performed in a disciplined manner with strict adherence to procedures. The Conduct of Operations Program (Manual 9) establishes these requirements, roles, and responsibilities for operational work execution.

Maintenance work is performed by maintenance organizations assigned to individual facilities, functioning in a support role to the operating organizations. The maintenance organization and construction management work closely with operations and other support organizations to plan, schedule, and perform work. Maintenance work control centers with dedicated managers, line supervisors, planners, and craft employees are established in each facility.

The facility manager is responsible for authorizing all work that takes place in the facility, regardless of the type of work or who is performing it. Once approved, work is authorized by the facility manager through the POD meeting and is executed according to established procedures, approved work packages, or checklists.

Line supervision is responsible to ensure that, during work execution, controls remain in place. Line managers are experienced personnel who receive the necessary training and qualifications to carry out their assigned duties and responsibilities. Employee hazard communication training stresses hazard recognition and acceptance of individual roles and responsibilities for worker safety. Employees are also trained on their rights and responsibilities regarding their stop work authority (MCP-553).

5.9 Core Function 5 – Feedback and Improvement

Feedback ensures continuous improvement in the site's safety programs. Feedback and improvement occur on a continuing basis at all stages of work performance and through assessment programs. Additional feedback is gathered for analysis through various reporting systems and communication mechanisms. Feedback ensures safe performance of work by taking advantage of experience. All involved personnel, employees and subcontract employees, are encouraged to participate. Four principle mechanisms work together to provide effective feedback and improvement: employee feedback, inspections and assessments, issues management, and performance measurement.

5.9.1 Employee Feedback

The following mechanisms have been developed to ensure that employees have opportunities for providing feedback and that actions are taken to address that feedback:

Union Safety Summit. The bargaining units participate in Union Safety Summits where unions, BBWI management and NE-ID work together to communicate and resolve safety issues. Through this teaming, issues are brought to resolution effectively and timely. This meeting is supplemented by the INEEL Occupational Safety and Health Council, sponsored by NE-ID.

Post-Job Reviews. Post-job reviews, as described in MCP-3003 provide a means for feedback to ensure lessons learned (adverse events) and process improvements (good work practices) are incorporated into the work planning process.

Behavioral Observation and Feedback. As listed in Subsection 5.4, WASP provides workers a process for performing routine behavioral observations and identifying both safe and potentially at-risk behaviors. Workers use observation checklists and provide constructive feedback to those observed. This feedback to co-workers is the ultimate goal of the process—actively caring for their safety and the safety of others. WASP is a program of "prevention" at the personal level.

Maintenance Observation and Assessment. Maintenance line management is tasked to conduct frequent observations of fieldwork. MCP-6401, "Measurement, Analysis, and Reporting of Maintenance Performance," directs the completion of frequent observations of fieldwork. GDE-6111, "Maintenance Observation and Assessment," describes the process to provide on-the-spot feedback to and from craftsmen during the performance of maintenance work that encompasses compliance with the eighteen elements of the maintenance management program, as described in PDD-600. MCP-6401 directs the tracking and trending of maintenance observations to assist with determining areas of improvement for the maintenance program.

Employee Safety Concerns. Employees are encouraged to submit safety concerns including near misses into the ICARE database in accordance with MCP-598. Line management evaluates each safety concern to determine corrective actions and safety improvements, and then enters and assigns specific actions to accountable personnel in ICARE. The ICARE system thus provides the documented history of the safety concerns, corrective actions, and closure verification. The safety concerns and their resolutions are available to the originator and all others through the Intranet. Those without computer access obtain feedback through their immediate supervisor.

Ethics/Employee Concerns. The Ethics/Employee Concerns Office is established to provide an alternate process for employees to report concerns when they are dissatisfied with management response or they are not comfortable addressing an issue with management. This office is not intended to circumvent the responsibility or authority of management. Employees are encouraged to first report their concerns to their immediate manager or supervisor. The office oversees a vigorous companywide effort to promote ethical business behavior as a government contractor. Employee Concerns has a 24-hour hotline to answer employee concerns over security, safety and health, environment, facilities and maintenance, and human resources. Placards with the hotline telephone numbers are placed in every building.

5.9.2 Integrated Assessment Program

The Integrated Assessment Program (IAP), described in PDD-1064, implements contractual requirements for Integrated Safety Management and DOE rule and order requirements for Quality Assurance. These requirements are general and broad-based. It also implements specific assessment requirements in other regulations and DOE orders. The details of the program are based on applicable guides and standards.

Senior management sponsors the assessment program. Clear roles and responsibilities for execution of the program are identified in implementing documents. Performance Assurance is responsible for the IAP development and oversight. Directors and managers are responsible for ensuring that assessments are effectively planned, scheduled, and performed.

The documents implementing the IAP provide specific instructions for the development of the integrated assessment plans and schedules and for conducting management and independent assessments, inspections, surveillances, and management reviews.

Management-assessments are performed by the organization having primary responsibility for the work, process, or system being assessed. All organizations plan and schedule management assessments. Independent assessments are performed by organizations and individuals outside the direct control and responsibility of the organizations being assessed. Functional Support Areas, the Facility Evaluation Board, Performance Assurance independent oversight, and Internal Audit perform independent assessments. Inspections, surveillances, and management reviews are performed by all organizations and can be done by individuals within the organization or independent of the organization.

Assessment plans and schedules are risk-based. Required assessments are the foundation of the IAP. Required assessments were developed by the DOE based on the risks associated with the activities being assessed. In many cases, frequency is also identified for required assessments. Risk-based prioritization guidelines are provided by senior management and are supplemented by guidance from customers, regulators, and other stakeholders. This guidance supports planning additional assessments.

Assessments are identified, planned, and scheduled by directors and managers. Plans and schedules for inspections, surveillances, and management assessments and reviews are developed concurrently with plans and schedules for independent assessments. The assessment plans and schedules are prioritized, risk-based, and combined as necessary. Assessments are performed in accordance with the integrated assessment plan and schedule. Proceduralized change control criteria is used to ensure an appropriate level of rigor is applied to the change process.

During the performance of assessments, issues are identified, documented, and dispositioned in accordance with MCP-598, "Corrective Action System." The effectiveness of the integrated assessment process is measured by analyzing the performance of assessments, assessment results, and the execution of the overall process.

The following company documents are those primarily used to implement the IAP. Other documents not listed here are also used to perform assessments.

- MCP-9172, "Developing, Integrating, and Implementing Assessment Plans and Schedules," describes the process for developing, integrating and maintaining the integrated assessment plan and schedule.

- List (LST)-202, "Company Level Required Assessments," is a compilation of assessment requirements contained in Lists A and B documents and company procedures. It also describes how the required assessments are expected to be implemented.

- Guide (GDE)-203, "Planning, Scheduling and Performing Assessments," provides guidance for developing plans and schedules and for performing management and independent assessments. It also provides information to management, assessment personnel, and others involved in the assessment process to help in understanding the philosophy, requirements, expectations, and benefits of a comprehensive assessment program.

- PDD-124, "Assessor and Lead Assessor Training and Qualification Program," describes the level of training or qualifications needed by assessment personnel performing independent assessments. It describes how the Assessor and Lead Assessor Training and Qualification Program is defined, structured, administered, and implemented.

- MCP-8, "Performing Management Assessments and Management Reviews," provides instructions for performing management assessments to determine the adequacy and effectiveness of an organization's management programs. It also provides instructions for performing management reviews to identify systemic issues, potential risks, and areas for improvement.

- MCP-552, "Performing Independent Assessments," provides instructions for performing independent assessments to verify that performance criteria have been met and to determine the adequacy and effectiveness of programs and management systems. It addresses planning, performing, reporting, documenting, and closing independent assessments.

- MCP-1221, "Performing Inspections and Surveillances," provides the instructions for performing inspections, which are usually detailed walkdowns of designated areas to determine compliance with regulatory and procedural requirements, and surveillances, which are typically focused on a single operation, activity, or process. Surveillances involve observation of real-time activities augmented by discussions/interviews with personnel, review of documentation to verify conformance with specified requirements and evaluation of adequacy and effectiveness.

- CTR-69, "Facility Evaluation Board," describes the FEB process. The FEB conducts a comprehensive, multi-disciplined assessment of each site area on a periodic basis. The FEB is composed of senior members from operating organizations and functional area subject matter experts. The FEB is used to achieve operational excellence and maintain full implementation of ISMS. The results of the FEB assessments are used to grade each area. The grades are used to determine the frequency of FEB assessments for each site area. The FEB is chartered through CTR-69.

Performance Assurance performs independent oversight assessments of ESH&QA programs and processes. Assessment schedules are based on requirements, risk, complexity, and past performance of programs, activities, or processes. Performance Assurance conducts unscheduled oversight assessments when directed by management or when areas of questionable performance are identified.

Internal Audit periodically examines the company's financial and operational functions to ensure that they are systematically controlled, operating effectively, and meeting corporate/company objectives. The results of these audits are communicated in formal reports.

Facility Excellence Program. The Facility Excellence Program is a structured means of inspecting facilities and activities for health, safety, and environmental compliance; Conduct of Operations and Maintenance; and housekeeping. The program is described in PDD-1011, "Facility Excellence Program."

5.9.3 Issues Management Program

The Issues Management Program is described in PDD-1007. Active implementation of the program is the responsibility of the Directors of laboratories, projects, programs and functional areas. This is accomplished by providing adequate resources to implement the program and periodically assessing implementation effectiveness. Directors ensure that the program is implemented by promoting an open

environment and culture to support the identification and resolution of issues. Directors are also responsible for ensuring applicable lessons learned information is shared as appropriate, follow-up assessments are performed, and trend analysis is conducted to identify emergent issues or recurrence of previously open and/or closed issues. Program assessments and performance metrics are used to monitor the adequacy and effectiveness of the Issues Management Program.

Issue Identification and Reporting. The Integrated Assessment Program (5.9.2) and Employee Feedback Mechanisms (5.9.1) are the primary methods used to identify issues. Issues are also identified through informal mechanisms. All employees are encouraged to report issues. Some issues require external reporting. These issues and the reporting processes include the following:

- Occurrence Reporting informs DOE and BBWI management, on a timely basis, of events that could adversely affect national security; the health and safety of workers; the intended purpose of DOE facilities; or the credibility of the DOE and the site. MCP-190, "Event Investigation and Occurrence Reporting," provides a system for reporting abnormal events to the appropriate management levels and to DOE, investigating those events, identifying root causes, and implementing appropriate corrective actions.

- Nonconformance reporting is performed in accordance with MCP-538, "Control of Nonconforming Items." MCP-538 contains the implementing requirements necessary to ensure that items, e.g., hardware, material, or data, that do not conform to specified requirements are identified, evaluated, dispositioned, and controlled to prevent inadvertent installation or use.

- The Noncompliance Tracking System was established by the DOE Office of Price Anderson Enforcement (OE) to enable contractor reporting of significant non-compliances associated with Price-Anderson Amendments Act (PAAA)-related nuclear safety regulations. In addition, the OE has indicated that the contractor is expected to identify, evaluate, and track PAAA non-compliances that do not exceed established significance thresholds using an internal tracking system such as ICARE. The number of self-identified PAAA non-compliances and their significance should be considered in determining the company's performance in implementing DOE nuclear safety regulations. MCP-2547, "Identification, Reporting and Resolution of Price-Anderson Noncompliance," implements the Office of Enforcement guidance

for identifying, evaluating, reporting, and correcting noncompliances.

Corrective Action System. The cornerstone of the Issues Management Program is the Corrective Action System, as described in MCP-598, "Corrective Action System." The Corrective Action System consists of the following basic elements: documentation, pre-screening, categorization, classification (if applicable), causal analysis and corrective action planning, implementation, verification, and follow-up. Documentation of potential issues is the first step to ensuring that the issues are appropriately resolved. A single process is used to document failures, malfunctions, deficiencies, defective items, non-conformances, and conditions or actions that have a reasonable potential to cause adverse operational, environmental, safety and health, or quality assurance consequences. All employees are encouraged to identify and report a broad range of problems without fear of reprisal.

Appropriate pre-screening, categorization, and when applicable, classification criteria are used to determine issue validity and type of issue category to ensure the necessary level of rigor is applied. The Corrective Action System uses a graded-approach for the evaluation and resolution of all types of issues. The graded approach is defined, in part, by the category of issues as either deficiencies (including reportable occurrences and PAAA reportable noncompliances) nonconforming items, safety concerns, or other. Issues categorized as deficiencies, are further classified as either Adverse or Significant. Deficiencies classified as significant could have a serious effect on safety, the ability to isolate waste, the capability to prevent or mitigate the consequences of accidents which could result in potential offsite release or exposures, or seriously jeopardize the ability of an activity or organization to meet its mission objective. As a result, they require more rigor to resolve than those deficiencies classified as adverse.

After issues have been appropriately categorized and classified, an investigation and cause analysis are conducted to determine the appropriate corrective and/or preventive action. For significant deficiencies and most reportable events, a formal root cause analysis is conducted to arrive at actions that will prevent recurrence. For deficiencies classified as adverse and all other issues, an apparent cause analysis is sufficient.

On the basis of significance, cause analysis, and extent of conditions evaluations, formal plans are developed to address compensatory, corrective, and preventive actions which eliminate the identified causes. In developing and implementing corrective action plans, care is given to ensuring that proposed corrective actions are compatible with

requirements and other commitments and are reviewed for effect on facility or company performance. Corrective action plans are reviewed and approved before implementation and, for significant deficiencies, are verified by an independent and knowledgeable person upon completion. The effectiveness of corrective and preventive action for significant deficiencies and reportable occurrences is validated through follow-up assessments.

Trend analysis is used to identify adverse trends in issues and causes. The identification of an adverse trend results in the development of a new issue for resolution.

Lessons Learned. The objectives of the Lessons Learned System are two-fold: (1) to provide a method of sharing good work practices, which, if implemented, can improve work processes, facility equipment design or operation, quality, safety, compliance, and cost effectiveness, and (2) to reduce the overall risk to the company and contribute to achieving operational excellence by sharing information and implementing actions that can avoid or prevent recurrence of issues. MCP-192, "Lessons Learned System," delineates the system.

Lessons learned information is received, reviewed, and if applicable, placed on the lessons learned database. Selected lessons learned are transmitted to the appropriate subject matter expert(s) for evaluation. If corrective actions are required, the company level subject matter expert recommends actions for generic or site wide issues while the functional area or project subject matter experts are responsible for those issues determined to be specific to their site area/project. In addition, each site area/project has a lessons learned coordinator who functions as a local point of contact for lessons learned activities. Lessons learned information is disseminated to these coordinators.

The development, communication, and use of lessons learned information is encouraged to be a part of each employee's job. A web-based system, the Lessons Learned System (LLS), is maintained and available to any employee who has access to the company Intranet. Searches of existing lessons learned information or submittal of new information can be performed via the LLS.

5.9.4 ESH&QA Performance Measurement, Analysis, and Reporting Program

The ESH&QA Performance Measurement, Analysis, and Reporting Program is described in PDD-126, "ESH&QA Performance Measurement, Analysis, and Reporting". Long-term ESH&QA objectives are established and documented in Institutional Plans and

Strategic Plans. Performance indicators and measures are then selected to determine achievement of the established performance objectives. Each year, goals and evaluation criteria are established for each approved performance indicator and measure. Organizational responsibility is assigned for collecting and analyzing data for each indicator and measure. The necessary number and type of performance reports is then determined and a formal list of these reports is established. Each performance report is reviewed to determine performance issues. Appropriate actions to address identified issues are initiated and tracked to completion.

Each fiscal year quarter, organizations perform analyses of their ESH&QA performance, and functional organizations perform cross-organizational analyses of performance in their functional areas. In addition, an overall analysis is performed and compared to roll-ups of the organizational and functional analyses. The analyses include assessment program implementation, identified issues, management of the issues, and performance indicators and measures contained in performance reports. The results of the analyses are reported and actions are initiated to address performance issues.

The status and effectiveness of the ISMS is evaluated annually. The evaluation focuses on functional support programs, key processes and documents, ESH&QA performance, and potential impacts on the ISMS. The annual evaluation identifies strengths, areas needing improvement, areas needing focused training, and changes needed to the ISMS description. It also provides conclusions about the status and effectiveness of the ISMS. Performance commitments are developed to address the areas needing improvement. These commitments are combined with selected commitments contained in Performance Measurement Evaluation Plan and Program Execution Guides. The results of the evaluation are documented in a report which contains the safety performance commitments and the current set of safety performance objectives and measures. The report is submitted to NE-ID for review and approval. Responsibilities for addressing the issues and commitments identified in the report are assigned. The resulting action plans are monitored and tracked to completion.

To support the collection, analysis, and reporting of performance indicators and measures, various databases and automated reporting systems are developed and maintained. These databases and systems are also used to maintain data of historical performance. Guidance is provided for analyzing performance and automated systems are provided to search and sort databases and provide lists and graphs to support the identification of recurring issues and adverse trends. Appropriate training

is provided to management and support personnel. Periodic reviews of the program are performed to determine adequacy and effectiveness. Actions are taken as necessary to address program deficiencies or needed improvements.

The following company-level documents are those primarily used to implement the ESH&QA Performance Measurement, Analysis, and Reporting Program:

- MCP-1269, "Establishing, Monitoring, and Reporting ESH&QA Performance Objectives, goals and Measures," describes the process for establishing long term ESH&QA performance objectives and annual performance goals; selecting performance indicators, measures, and criteria for those objectives and goals; collecting and analyzing performance data; reporting performance; and responding to performance issues. It also addresses providing oversight and administration of the performance measurement program.

- MCP-1175, "Analyzing ESH&QA Performance," describes the process for analyzing ESH&QA performance including planning and scheduling the analyses, collecting performance information, analyzing the information, identifying performance issues, determining action for identified issues, and reporting results.

- MCP-1270, "Performing Annual Evaluations of the Integrated Safety Management System," describes the processes for planning and scheduling evaluations, evaluating key processes and documents, functional support areas, ESH&QA performance, and potential system impacts; determining conclusions; developing safety performance objectives, measures, and commitments; reporting evaluation results; and responding to the results.

- LST-150, "ESH&QA Performance Reports," contains the approved list of ESH&QA performance reports. It identifies each report owner, the report contents, the organizations responsible for collecting and analyzing the data for each measure or indicator in the report, the frequency for issuing the report, and the report distribution.

6. MAINTAINING AN APPROVED ISMS

Chapter IV of DOE G 450.4-1 B, "Integrated Safety Management System Guide," provides guidance for maintaining the integrity of an approved ISMS. The DEAR, 48 CFR 970.5223-1, requires DOE and contractor actions to continuously maintain the integrity of ISMS and to generate revisions as scheduled by the contracting officer.

BBWI and NE-ID are responsible for ensuring that the approved ISMS Description (PDD-1004) is controlled by an effective feedback and improvement process so that it remains current and reflects changes to the mission, program objectives, and budget direction from DOE.

6.1 Purpose

The intent of maintaining the ISMS is to ensure work continues to be conducted efficiently and in a manner that protects the health and safety of the worker, the public and the environment. To meet this intent, compliance with current requirements (directives, laws, regulations, etc.), and maintenance of the safety authorization basis and worker protection programs must remain current and effective. The mechanisms in Subsection 6.3 are used to ensure these aspects of the system receive appropriate review and analysis through effective feedback and assessment processes to ensure system maintenance, thus providing the opportunity for continuous improvement.

The authority and responsibility for maintaining ISMS resides with the Integrated Executive Council, through CTR-15. Management responsibilities for implementation are rolled down through various levels of management and are described in individual R2A2s and in roles and responsibilities procedures.

6.2 ISMS Maintenance Process

BBWI will apply key processes inherent to the ISMS Infrastructure (Figure 3) to measure, maintain and improve the effectiveness of the ISMS throughout the year. This approach is depicted in Figure 9, Maintenance of the ISMS Infrastructure.

Requirements management, CCR, and authorization bases upgrades are ongoing processes (from Figure 3) that maintain the ISMS and are carried out continuously throughout the year. The lessons learned process offers a mechanism to provide feedback for improving the system. Trending and reporting safety performance objectives, performance measures and commitments are the tools for measuring system effectiveness.

These processes are coupled with a vigorous assessment program performed as described in Integrated Assessment Program (see Subsections 3.19 and 5.9) and applied at each level of the organization from the worker and individual activities through the facilities and the site. When the results of assessments are funneled and blended in total with the other inputs, they provide comprehensive input to the annual ISMS evaluation.

Using assessment results and other data from the processes identified above, an annual evaluation is conducted to determine the status of implementation, integration and effectiveness of the ISMS. As part of the evaluation, Company-level subject matter experts for each functional support area (program)

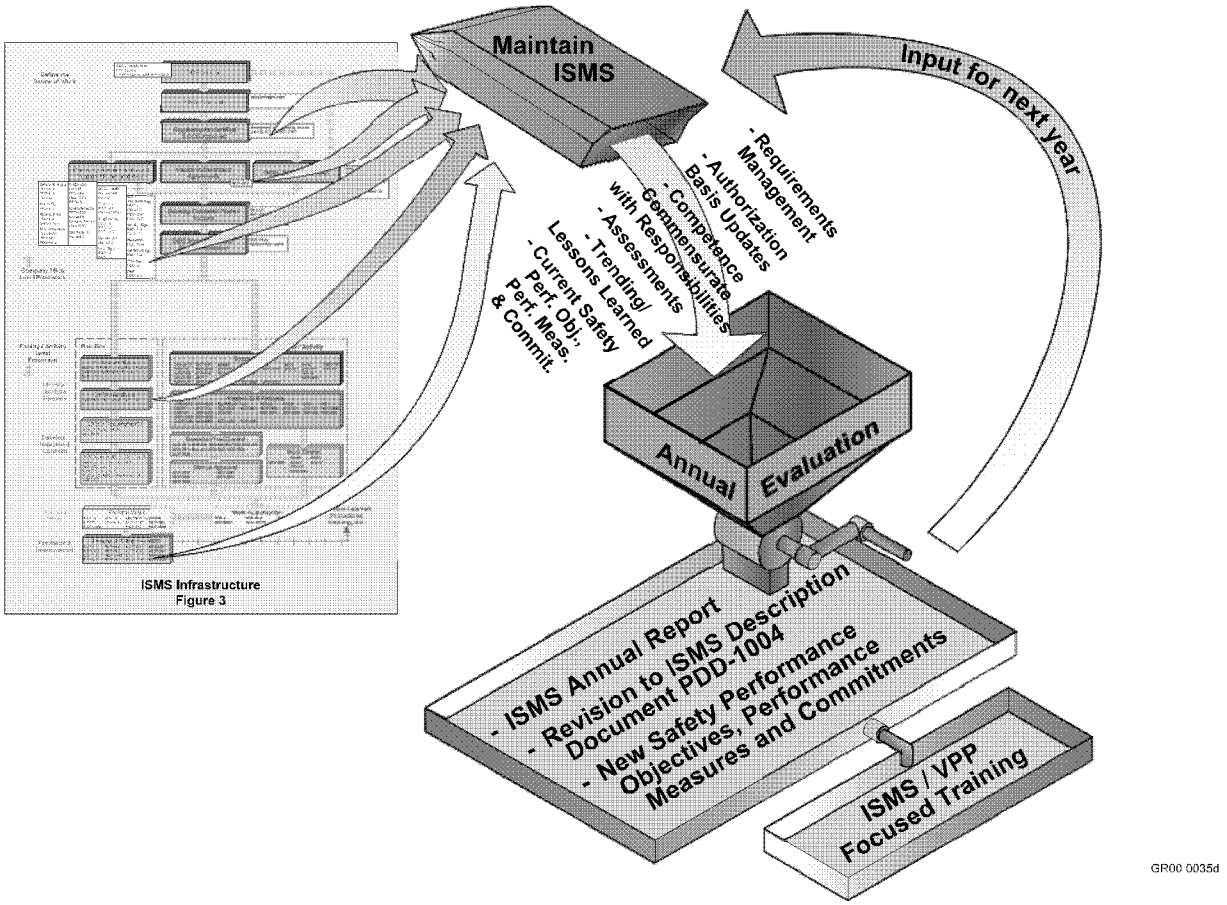


Figure 9. Maintenance of the ISMS infrastructure.

complete a documented evaluation of institutional level implementation, maintenance, and improvement. The SORB reviews this documentation, as well as the resolution of previously identified ISMS issues, to determine the status of functional areas at the company level and ensure issues received adequate management attention. Independent Oversight then reviews selected issues to ensure appropriate closure. IO also conducts assessments of selected key processes that are fundamental to the ISMS to ensure continuing improvement.

The results and products of these assessment processes (CCE-9 evaluations; see Subsection 6.4) are summarized in the ISMS Annual Report (Subsection 6.5). The Annual Report is the final product of the annual maintenance and update process, summarizing the actions taken to evaluate system effectiveness, safety performance, and changes (if needed) to the ISMS Description. The Annual Report provides workers and managers with an evaluation of progress, strengths and areas for improvement, and selected topics for continuing the safety management education (ISMS/VPP focused training). This training is developed and conducted to maintain and improve safety management knowledge and to provide evidence as to the status of implementation, integration and effectiveness of the ISMS.

The Annual Report is briefed to the SORB for evaluation of the overall health of ISM; the following year's agenda for ISMS/VPP focused training; safety performance objectives, performance measures, and commitments; and to finalize recommended corrective actions to improve the ISMS. The IEC approves the direction and focus for the following year, as recommended by the SORB.

The ISMS maintenance process is completed annually. The sequence for completion of the mechanisms to support the process is depicted in Figure 10, Sequence of ISMS Maintenance Activities. With attention focused on improving the system, inputs for measurement criteria become progressively more demanding for the following year.

An essential component of maintaining the integrity of an approved ISMS is to ensure significant changes to implementing processes and procedures are evaluated before any changes are made. When significant changes to key components of the ISMS infrastructure are being made, NE-ID will be notified prior to the change to provide the opportunity for mutual evaluation.

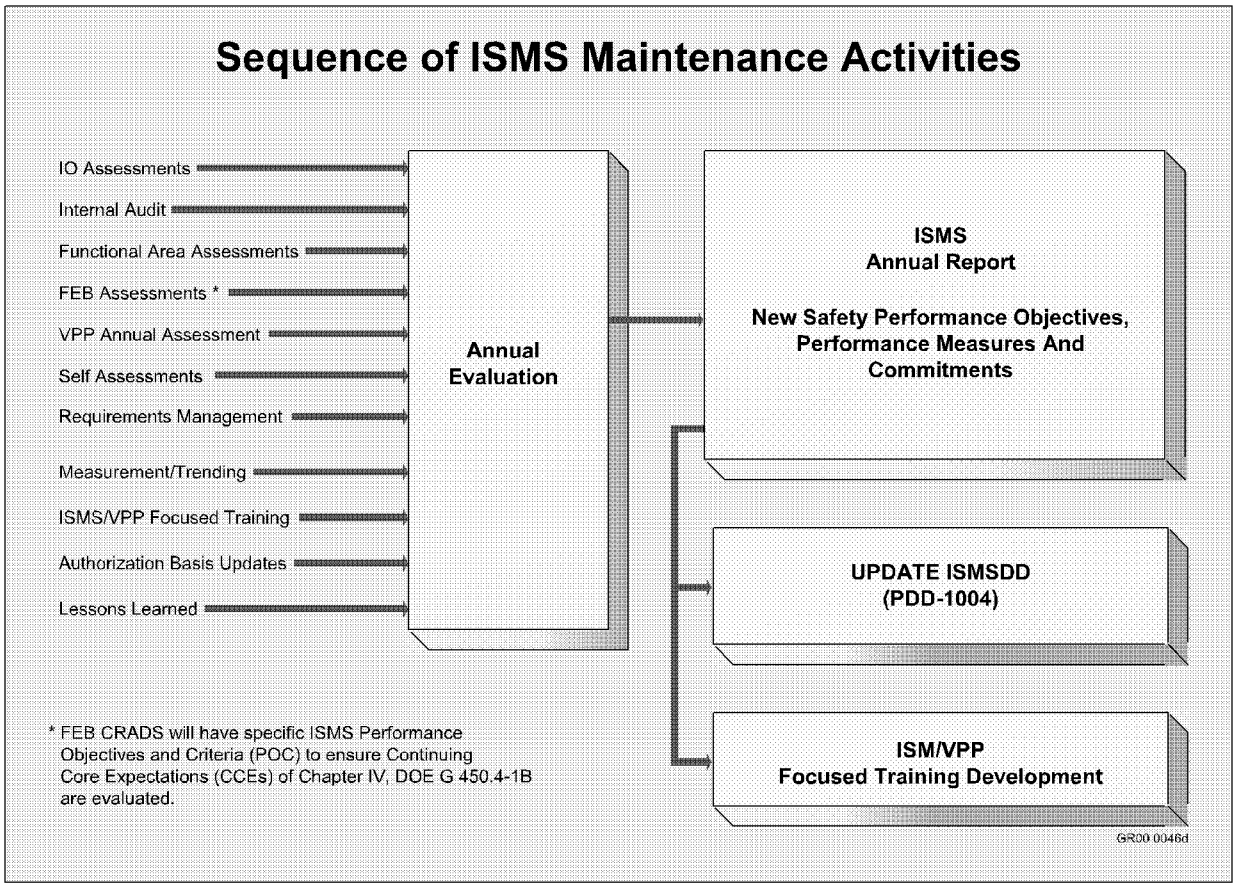


Figure 10. Sequence of ISMS maintenance activities.

6.3 Sustaining, Measuring, and Updating Mechanisms

This section describes the mechanisms by which BBWI meets the intent of the DEAR and the CCEs described in DOE G 450.4-1B Chapter IV to maintain an approved and effective ISMS.

BBWI will continually maintain the integrity of ISMS by compiling and assessing sufficient measures of program activities in order to make informed decisions on safety resources for these activities. Information and performance data on ISMS (performance measures, FEB reports, assessment results, worker suggestions and other relevant feedback) are essential factors in the ISMS feedback, improvement and change control processes. The following mechanisms are the actual processes by which BBWI will sustain, measure, and update the ISM system.

6.3.1 Requirements Management Process

The DEAR (48 CFR 970.5204-78) requires that DOE ES&H requirements be established and identified in the M&O Contract. These requirements are established and used to develop a tailored set of standards, practices, and controls, which are then incorporated into the contract and maintained valid and current as part of the contract. Any changes to contract requirements may require changes to both the ISMS Description and the ISMS implementation. Concurrent with the annual work scope and performance measure negotiations, the SBMS Department provides requirement information, upon request, to the function which considers actions or changes to the ISMS based on any impacts of changes to laws, regulations, and directives compiled throughout the year.

MCP-2447 provides both the mechanism by which changes to laws, regulations and directives will be reviewed and the process to sustain and update the set of standards, practices and controls that make up the ISMS.

MCP-2447 establishes and administers the Requirements Management process by which BBWI:

- Assesses requirements applicability,
- Tracks requirements applicability rolldown from company-level procedures to site areas (facility/activity levels), and
- Assures implementation of requirements.

This process ensures changes to standards and requirements remain current. Through this process, the affected management systems,

organizations, and functional areas are kept informed of the applicable requirements for implementation. Compliance with this program ensures applicable standards and requirements are implemented to assure protection of the health and safety of the worker, the public, and the environment.

6.3.2 Authorization Bases Update Process

10 CFR 830, Nuclear Safety Management, Subpart B, "Safety Basis Requirements," provides for revision of previous SARs and OSRs to new DSAs and TSRs at DOE nuclear facilities. Some nuclear facilities have safety analysis documentation that is in compliance with this rule and are maintained current by MCP-2449. Revised safety analysis documentation for all nuclear facilities has been submitted to NE-ID per the 10 CFR 830, Subpart B requirements. Until all revised documents are approved and implemented, some nuclear facilities are operating under an approved BIO. A DOE-approved plan (Plan [PLN]-489, "Nuclear Facility Safety Basis Work Plan") contains commitments for maintenance of the documents in compliance with the rule. Maintenance includes annual updates of the DSA/TSRs and authorization agreements, where applicable.

Each year budget planning is performed to fund maintenance of the required DSAs for nuclear facilities. PLN-489 focuses on BBWI's commitment to DOE to maintain DSAs and TSRs that comply with 10 CFR 830.

6.3.3 Competence Commensurate with Responsibility

The Competence Commensurate with Responsibility (CCR) process was previously described in Subsection 5.3. A number of the steps in the CCR process (Appendix E) ensure that CCR is maintained for all employees. In addition, a number of other processes help ensure that each employee maintains competence commensurate with her/his responsibilities. The steps and processes that maintain CCR include:

- Manual 12, "Training and Qualification," contains the company's procedures for analysis, design, development, implementation and evaluation of training. The manual defines the systematic approach to training framework, using a graded approach, for training and qualification programs for all employees.

- Annual Training Process, a systematic method for identifying, validating, costing, and scheduling existing and new training requirements. The process ensures that all regulatory training

requirements from the contract are efficiently and consistently incorporated in employee training plans, as required.

- PDD-13, "Conduct of Training," describes the processes used to ensure that the workforce is properly trained to work effectively and safely.

- MCP-27, "Preparation and Administration of Individual Training Plans," describes the roles and responsibilities for development and maintenance of employee training and qualification requirements.

- MCP-33, "Personnel Qualification and Certification," provides a generic process for development and implementation of personnel qualification/requalification requirements using a training program description document.

- MCP-9224, "Site-wide Training Analysis and Implementation," governs the analysis, implementation, and target audience identification for site-wide training.

- Feedback and continuous improvement efforts (See MCP-598, "Corrective Action System," and MCP-192, "Lessons Learned System"), document control activities (see MCP-135), and requirements management activities (see MCP-2447, "Requirements Management") are fed into the initial and continuing training and qualification programs.

ISM/VPP Focused Training

The ISMS Annual Report documents the ISMS status including how well the core functions, guiding principles, and implementing processes are reinforced. Based on the analysis provided by the report, training that may be required as part of a corrective action or area for improvement is identified. In addition, as part of the SME functional area reviews, SMEs identify necessary training to resolve issues in their functional areas or to implement other process improvements. The combined list of candidate training is then evaluated, developed, and executed in accordance with the Site Training Review and Implementation Board (STRIB) charter (CTR-16) and MCP-9224, "Site-Wide Training Analysis and Implementation."

ISMS/VPP focused training is typically partitioned into three target audiences - New Hires, Supervisors/Managers, and general employees. Supervisor/Manager training and general employee training will be

offered as needed, based on the recommendations in the ISMS Annual Report.

New employees are indoctrinated on the ISMS process. Every new employee attends ESH&QA Blue Card training. This training includes an overview of the ISMS core functions and guiding principles.

6.3.4 Assessment Program

DOE Policy 450.5, "Line Environment, Safety and Health Oversight," describes DOE line environment, safety, and health oversight. The cornerstone of this oversight is a robust, rigorous, and credible contractor self-assessment program linked to the DOE Safety Management System. This self-assessment program must include elements that address:

- Compliance with applicable requirements
- Line and independent evaluations
- Data collection, analysis, and corrective action
- Performance measures and performance indicators
- Continuous feedback and improvement.

The Integrated Assessment Program, described in PDD-1064, is designed to be a comprehensive, integrated, risk-based approach for managing assessments and contains the self-assessment elements of DOE Policy 450.5. The processes that encompass this functional area are discussed in Subsection 5.9.

The process for developing and maintaining the company-wide integrated assessment plan and schedule is described in MCP-9172. The assessment program is risk-based because it considers failure consequences, past performance, and emerging issues. Each year, an integrated plan and schedule is developed and maintained. The plan has a tiered structure with line assessments as the foundation. Assessments performed by functional areas, independent oversight, the FEB, internal audit, and senior management are added to ensure comprehensive coverage. Assessments by the FEB are specifically designed to evaluate implementation of ISMS and are performed at frequencies as determined by past performance.

The results of the assessment program are analyzed routinely to identify noncompliances and opportunities for improvement. Both line and independent evaluations of the results are performed. Corrective or

improvement actions are taken based on the evaluations. An overall analysis of the results of the assessment program is summarized in the ISMS Annual Report and provides feedback for areas targeted for focused improvement and assessment for the following year.

6.3.5 Issues Management

The Issues Management Program (PDD-1007) is designed to support the collection, analysis, and correction of problems identified at the site. The primary inputs are the results of the assessments described in Subsection 6.3.4. Other inputs include occurrences, near misses, external assessments, employee concerns, and lessons learned. Responsive action for each issue is required using a graded approach. Trending of issues and causes is required to identify recurring, generic issues or causes, and adverse trends.

Corrective/preventive actions are taken to address identified issues and their causes. Cognizant Directors, supported by Corrective Action Review Boards (CARBs) and/or Cognizant Director Alternates for non-site areas, are charged with the responsibility for ensuring the Issues Management Program is functioning effectively and efficiently by overseeing issue resolution and corrective action development and approval. The Issues Management Program is monitored using indicators that show performance relative to program expectations for documentation, classification, causal analysis, corrective actions, trending and timeliness.

Lessons learned (MCP-192) are generated internally by specific processes or obtained externally, as described in Subsection 5.9. Selected lessons learned are evaluated by company subject matters experts to determine responsive actions that vary from distribution of information to immediate/long-term corrective action. Lessons learned are maintained in a database accessible by all personnel for use in planning work activities.

6.3.6 Performance Measurement

The ESH&QA Performance Measurement, Analysis, and Reporting Program (PDD-126) is designed to ensure performance is routinely monitored. ESH&QA performance is measured using a broad set of indicators that show trends in performance or status relative to established goals. The indicators and goals are determined from BBWI and NE-ID performance expectations. The Issues Management Program is a primary source of data for the performance indicators. Other performance data is developed by site areas, functional areas, and programs.

The performance indicators are reported monthly and quarterly. Performance is also analyzed quarterly and reported to management. The reports are used by responsible managers to initiate corrective or improvement actions as necessary. Senior BBWI management evaluates the information in the reports to identify the most significant problems and initiate responsive actions if necessary. The information is summarized in the ISMS Annual Report and also used to modify assessment and oversight activities as appropriate.

6.3.7 Safety Performance Objectives, Performance Measures, and Commitments

The M&O contract contains clause, DEAR 970.5223-1 "Integration of Environment, Safety and Health into Work Planning and Execution." This clause requires BBWI to submit for DOE approval, on an annual basis, ES&H performance objectives, performance measures, and commitments. Additionally, the clause requires the contractor to measure ISMS effectiveness and annually identify and allocate resources to meet both the safety objectives and performance commitments, and maintain the integrity of the system. DOE Policy 450.5 and Order 414.1A require a rigorous and credible contractor self-assessment program linked to the ISMS, which includes elements that address performance measures and indicators.

On an annual basis, BBWI develops a set of performance analysis metrics for ES&H that includes those recommended by the ISMS Annual Report. Performance objectives and commitments are gathered from the Institutional Plan, the PEMP, and the PEGs.

Analyzed results from the annual ISMS evaluation, summarized in the ISMS Annual Report, also provide input for the next year's safety performance objectives, measures, and commitments. In response to the contract requirements and in conformance with DOE program and budget execution guidance and direction, BBWI submits ES&H performance objectives, performance measures and commitments for DOE approval, detailing the required information. This submittal affirms commitments made for the previous year and provides commitments for the following year. These identified safety performance objectives, measures, and commitments are consistent with the implementation and maintenance of an effective ISMS. Progress on achievement of the safety performance objectives, performance measures and commitments are reported quarterly in the ESH&QA Performance Report and Analysis and status of achievement is included in the ISMS Annual Report.

6.4 Continuing Core Expectations (CCEs)

The following CCEs (from DOE G 450.4-1B, Chapter IV) are addressed to determine the effectiveness of the ISMS and establish how the mechanisms described in Subsection 6.3 are used to meet the DEAR requirements and expectations of DOE ISMS Guide. They include sufficient detail to confirm that the implementing procedures maintain the ISMS effective and adequate. VPP elements are also addressed where appropriate to show the integration and complementary nature of those program elements with ISMS.

The evaluations performed by the FEB, as part of the Assessment Program described in Subsection 6.3.4, are the line management tool used to evaluate the effectiveness of the ISMS infrastructure and its implementation down to the facility/activity level. On a scheduled basis, the FEB will evaluate facility performance, including the status of ISMS implementation, at each site area using specific performance objectives and criteria (POCs) contained in Criteria Review and Approach Documents (CRADs) for each functional area reviewed. The FEB will develop and use POCs to implement the evaluations, and each site area will receive a grade based on the evaluation results. The FEB roles and responsibilities are described in CTR-69. Results of the FEB evaluations will be compiled and become part of the ISMS Annual Report.

CCE-1. The annual updates in response to budget execution process are completed. DOE direction is provided as part of the annual program and budget execution guidance including direction regarding major mission changes. The contractor updates the safety performance objectives, performance measures, and commitments so that they reflect and promote continual improvement and address major mission changes, as required. The ISMS Description is updated and submitted for approval as scheduled by the contracting officer.

The primary mechanism used to meet this expectation is the Safety Performance Objectives, Performance Measures and Commitments development process described in Subsection 6.3.6. Additionally, through the PEMP development process, DOE expectations are translated into performance expectations which define specific results.

The PEMP is structured to reflect the goals and objectives of the current DOE Strategic Plan and the Institutional Plan. The PEMP utilizes a balanced scorecard model as a performance evaluation method to translate the mission strategy into performance outcomes, objectives, and criteria. Through the use of this balanced scorecard model, it is NE-ID's goal to focus priorities, leverage diverse mission capabilities, align workforce to all performance objectives, and eliminate a narrow focus regarding performance outcomes.

The Performance Outcomes in the PEMP define success in terms of results that must be accomplished in the next five years. The five-year focus is then broken down into objectives that are multiple-year initiatives in which significant progress must occur to support the identified performance outcomes. This process not only focuses BBWI on short-term goals for the evaluation period, but also on the far-reaching objectives of the site for the entire term of the contract. This performance evaluation and reporting system ensures that performance expectations are institutionalized throughout all NE-ID and BBWI organizations. It also provides a method to attain performance status for NE-ID and BBWI in which performance issues can be identified, addressed and resolved in a timely manner.

MCP-3546 establishes the formal practices and procedures by which budget request proposals are prepared, documented, reviewed and submitted. This procedure provides guidelines for BBWI to develop and submit direct budget materials as directed in the DOE Field Budget Call in compliance with DOE Order 130.1, "Budget Formulation."

In addition to the performance requirements of the PEMP, NE-ID expects BBWI to effectively execute the PEGs, related work plans, and all contract requirements. Execution of the PEGs is considered an "expected" level of performance by BBWI with no performance or award fee associated with the effort. The annual updates in response to the budget execution process include implementation of NE-ID procedures to execute the PEG process (ID M 120.A-1, "Development, Transmittal and Change Control of Program Execution Guidance"). This effort is scheduled to coincide with BBWI's annual Detailed Work Plan (DWP) and Life Cycle Baseline (LCBL) as described in MCP-3794.

MCP-2668 covers the tasks involved in planning, budgeting, and monitoring indirect work accounts and sets forth specific charters and guidelines for controlling indirect activities/work.

MCP-9106 describes the process for developing and managing direct and indirect funded projects, including the development of the PEPs.

The ISMS Annual Report will conclude and recommend whether an update to the ISMS Description is needed. The ISMS Description update will be prepared as scheduled by the Contracting Officer and submitted to NE-ID for final approval. Minor changes that do not affect the intent of the ISM system do not require NE-ID approval.

CCE-2. System effectiveness, measured as described in the contractor's ISM Description, is satisfactory. Safety performance objectives, performance measures, and commitments are met or exceeded, and they are revised as appropriate for the next year.

The mechanism used to meet this expectation is the Integrated Assessment Program described Subsection 6.3.4. System effectiveness is measured by reviewing and analyzing assessment results, ISM performance metrics, their content and development, and their use. Results of these assessment programs are summarized in the ISMS Annual Report to illustrate ISM system effectiveness and to provide a status of the progress of the program to help identify areas for improvement. Using the Performance Report and Analysis and the ISMS Annual Report, the SORB evaluates the previous year's safety performance and recommends safety performance objectives, measures and commitments for the following year. The IEC approves these safety performance objectives, measures and commitments for submittal to NE-ID for final approval.

CCE-3. Work activities reflect effective implementation of the functions of ISMS. Work is defined. Hazards are identified. Controls are developed and implemented. Work is properly authorized. Work is accomplished within controls. Appropriate worker involvement is a priority.

The FEB ISMS CRADs contain POCs specific to work activities at the area level. These CRADs address defining the scope of work, identification and mitigation of hazards, and performing work within the established controls.

The focus of the POCs is on the proper utilization of ISMS core functions and guiding principles concentrating on hazard identification, analysis and control processes (MCP-3562 for operations; STD-101 for maintenance, construction, DD&D, and environmental remediation activities; MCP-3571 for research and laboratory activities. The POCs also evaluate the priority of worker involvement in those processes. Personnel are interviewed and work packages are reviewed to ensure compliance with the appropriate ISM implementing mechanisms.

Through a combination of independent assessments and management-owned self-assessments, an integrated assessment approach is used to promote a high level of awareness of those areas that require improvement and those areas where excellence has been achieved. By evaluating assessment results and applying corrective actions where appropriate, senior management and/or facility/organizational management ensures work is properly defined, hazards are identified and controlled, and work is authorized and performed within controls.

The Company Employee Safety Team is empowered through their charter (CTR-26) to solicit and encourage worker involvement in the Safety and Health programs. Part of their responsibilities include developing and submitting solutions for company-level safety concerns and issues to Senior Management,

and utilizing safety and health trending data to establish safety goals and objectives. VPP Unit Employee Safety Teams recommend and establish, track, trend and review facility-level safety goals, VPP-related assessments, and ICARE safety concerns. They also participate in monthly workplace inspections and provide support during the investigation of injuries/illnesses at their VPP Unit.

Through the WASP, workers perform behavioral observations of other workers, guided by checklists, focused on targeted safety-related behaviors. The observers provide feedback to the workers, noting both safe and potentially at-risk behaviors. The observation checklists are collected and analyzed to identify areas for follow-up action and improvement.

CCE-4. Contractor and DOE implementing mechanisms continue to support the principles of ISMS. Promulgated roles and responsibilities are clear. Line management is responsible for safety. Required competence is commensurate with responsibilities and the technical and safety system knowledge of managers and staff continues to improve.

The mechanisms used to meet this expectation are CCR and the Integrated Assessment Program described in Subsection 6.3.3 and 6.3.4, respectively.

A clear understanding of R2A2 in relation to the strategic objectives of the organization creates the foundation for managing business effectively. BBWI defines R2A2s (see Subsection 5.2) in order to communicate expectations, align work with mission and strategy, and facilitate the establishment of the appropriate accountabilities and authorities with the NE-ID. Site areas have roles and responsibilities lined out in their own procedures. Mission realization is accomplished through rigorous self-assessment programs, organizational alignment with R2A2s, understanding customer expectations (critical objectives) and the mission/vision strategy plan.

PDD-1005 and ICP-PDD-005 address the line management structure that delineates responsibilities and authorities for INEEL and ICP. These program description documents describe the organizational interfaces and relationships with site facilities, projects, companywide programs, program management, and NE-ID. Line management's responsibility for safety is inherent in the mission success of the site. An OSB will function to oversee implementation of a line manager's responsibility for safety. To implement this function, OSBs (PRD-5043) are chartered to perform specific reviews of activities, processes, and procedures to ensure operation of a facility is safe and compliant with the authorization basis. Additionally, OSBs will provide the mechanism to review and oversee the results of programs and processes that identify and provide feedback to enhance the facility's work activities and safety envelope.

LST-1 lists those individuals (Management System Owners) responsible for identifying standards and requirements that will ensure the protection of the

worker, the public, and the environment. This list will be reviewed and updated annually, as needed.

The FEB assesses this area at the site area level to ensure the implementation of the roles and responsibilities documents and mechanisms and functions that support this CCE are evaluated for effectiveness. CRADs contain specific POCs to evaluate the priority of worker involvement and competence commensurate with responsibility.

Management and independent assessments are used to evaluate individual training plans, qualification programs and employee position descriptions to ensure the competence commensurate with responsibility process is implemented and focused on improvement for all employees. Technical and safety system training for line management is implemented through the Nuclear Facility Manager/Facility Manager qualification programs (STD-1109 and STD-1116). Implementation of Conduct of Operations, Conduct of Maintenance, and Conduct of Engineering is assessed to ensure that line management is responsible for safety, and employees understand their roles and responsibilities and are performing work in accordance with the principles of ISMS.

CCE-5. Contractor and DOE budget processes continue to ensure that priorities are balanced. Budget development and change control processes ensure that safety is balanced with production. Facility procedures ensure that production is balanced with safety.

The Integrated Assessment Program described in Subsection 6.3.4 is the mechanism used to meet this expectation. The FEB assessments of the budget processes will provide evidence of proper implementation of risk balancing.

MCP-3794, "Baseline Development," and MCP-2668 describe how priorities are balanced within the business, budgets and contracts processes. The Integrated Executive Council (CTR-15) provides decisions on prioritization of work at the company level.

Change control will be assessed (per MCP-3416 and MCP 2668) for appropriate implementation of MCP-3794 and MCP-2668.

The work control procedures (STD-101, MCP-3562 and MCP-3571) have balanced priorities built in.

CCE-6. An effective feedback and improvement process, using progressively more demanding criteria, is functioning at each level of the organization from the worker and individual activities through the facilities and the site, including the ISMS feedback and improvement process used by and within DOE. The expectations of DOE P 450.5 are in place. Issues management effectively ensures that issues are identified, evaluated and closed. Issues

identified in ISMS verifications and previous ISMS annual update reviews are effectively addressed.

The Integrated Assessment Program and Issues Management/Performance Measurement Programs described in Subsection 6.3.4 and 6.3.5, respectively, are the mechanisms used to meet this expectation.

The Integrated Assessment Program (PDD-1064) addresses the elements of DOE P 450.5. Assessment results will be briefed to the affected Associate Laboratory/ Project Director and the SORB for disposition of corrective actions where warranted. The Issues Management program provides a mechanism for ensuring that adequate corrective actions are implemented to prevent recurrence of undesirable events or conditions.

Additionally, FEB evaluations will be performed to ensure effective feedback and improvement processes are functioning at each level of the organization. The focus of these evaluations will be to evaluate performance relative to requirements and expectations, feedback on the adequacy of controls, and the continuous improvement and institutionalization of the ISM culture, emphasizing effective work control processes.

Annually, BBWI performs a VPP evaluation that assesses the effectiveness of each element and sub-element described in Section II.E of the U.S. Department of Energy Voluntary Protection Program, Part I: Program Elements [DOE/EH-0433]. The results of this evaluation along with a sampling of the corrective actions are provided each February to the DOE-VPP Headquarters office via the VPP Annual Report and Statistics. This February report also includes the annual rates of injury incidence and lost workday cases, the employment headcount, hours worked by employees and subcontractors. Also, a third party surveillance audit is conducted every six months that addresses the scope of the EMS and conformance with the environmental policy. A report is issued to BBWI that details conformances and nonconformances of the BBWI EMS.

The ISMS Annual Report will provide the necessary analysis of ISMS implementation, including issues identified in ISMS verifications and previous ISMS updates, to determine system strengths and weaknesses. The conclusions drawn from the report will determine specific areas to focus on for the following year to ensure continuous improvement. Recommendations for corrective actions will be developed for approval by the IEC.

CCE-7. List A/List B is reviewed and updated, as necessary, at least annually and concurrent with the budget cycle. The process for effecting changes to the standards and requirements identified in the Contract per DEAR List A and List B is being utilized and is effective. Authorization Agreements and Authorization Basis documentation is maintained current. Changes in agreed

upon standards and requirements are included to reflect mission changes. An effective, dynamic process to keep standards and requirements current is apparent.

The Requirements Management Process and Authorization Basis Upgrade Process described in Subsection 6.3.1 and 6.3.2, respectively, are the mechanisms used to meet this expectation.

An evaluation of MCP-2447 processes will provide BBWI with the assurance that requirements identified in the contract as List A and List B are updated and current. Verification of Lists A and B are implemented on an ongoing basis through MCP-2447.

The annual update of Authorization Agreements is implemented by MCP-3567. Implementation of PLN-489 and MCP-1176, "INEEL Safety Analysis Process," along with a validation of the MCP-2449 and MCP-2451 processes, ensures current and updated Safety Bases are planned and/or implemented for those site areas and facilities that are required by 10 CFR 830, Subpart B.

CCE-8. POC guidance for contractor and DOE assessments focus the reviews on the adequate implementation of the core functions and the principles of Integrated Safety Management in a manner consistent with the approved ISMS Description. ISMS assessments utilize the POCs.

The Integrated Assessment Program described in Subsection 6.3.4 is the mechanism used to meet this expectation. The FEB will conduct a facility evaluation program to assess and evaluate the status of the ISMS and monitor continuous improvement. The evaluations will be conducted using POCs and each area evaluated will be graded. The ISMS Annual Report will summarize these results.

CCE-9. Relevant records reflect an improving ISMS. Records include routine DOE and contractor self-assessment reports, independent and focused assessment reports, incident investigations, occurrence reports, PAAA enforcement action reports, and other relevant documentation that provide evidence as to the status of implementation, integration, and effectiveness of the Integrated Safety Management System. Feedback, improvement and change control of the contractor ISMS Description is in place and effective.

The Integrated Assessment Program, Issues Management Program, and Performance Measurement Program described in Subsection 6.3.4, 6.3.5, and 6.3.6 respectively, provide the data to conduct the analysis necessary to demonstrate this expectation. Improvements to ISM processes related to CCEs 1-8 will be summarized in the ISMS Annual Report and incorporated into the annual ISMS Description update. These improvements will be extracted from a

number of feedback processes, including the Performance Report and Analysis, and provide BBWI with appropriate measures of ISMS improvement. The ISMS Description will be updated if warranted by the conclusions drawn from the ISMS Annual Report. MCP-190 provides a system for reporting abnormal events to the appropriate management levels, investigating those events, identifying causes, and providing for appropriate corrective actions. MCP-2547 provides instructions to line management regarding the process for evaluating process deficiencies, occurrences, and assessment findings to determine if they are potential noncompliances under the Price-Anderson Amendments Act.

PDD-1064 identifies and describes the assessment programs that are in place to provide evidence as to the status of implementation, integration and effectiveness of the ISMS. Through the effective use and analysis of results from these feedback and improvement processes, as summarized in the ISMS Annual Report, BBWI will improve the ISMS and maintain the ISMS Description.

The following CCEs are applicable to DOE only and are not addressed in this document.

CCE-10. DOE ISMS procedures and mechanisms are in place to ensure that work is formally and appropriately authorized and performed safely. DOE line managers are involved in the review of safety issues and concerns and have an active role in authorizing and approving work and operations.

CCE-11. DOE ISMS procedures and mechanisms are in place to ensure that hazards are analyzed, controls are developed, and that feedback and improvement programs are in place and effective. DOE line managers are using these processes effectively, consistent with the DOE Field Office FRA and DOE FRAM requirements.

6.5 ISMS Annual Report

To measure system effectiveness, BBWI will compile an ISMS Annual Report. Determinations will be made as to the success of the past year's ISMS performance measures and commitments when devising input for the report. Results from assessments, FEB evaluations, lessons learned, updates to contract requirements (requirements rolldown), updates to authorization bases, and progress on safety performance commitments will be analyzed to provide input for generating the safety performance objectives, measures, and commitments and training topics for the next year. The ISMS Description will be updated if warranted by the conclusions drawn in the ISMS Annual Report.

Appendix F provides an outline of the structure of the ISMS Annual Report, emphasizing the inputs to the analysis and summary process that provides the basis for developing new safety performance objectives, measures and commitments and the focus for ISMS/VPP training topics for the next year.

6.6 Updating ISMS Description Document Requirements

BBWI and DOE are responsible for ensuring that the approved ISMS Description is controlled by an effective feedback and improvement process so that the Description remains current and reflects changes to the mission, program objectives, and budget direction from DOE. The mechanisms described in Subsection 6.3 enable BBWI to accomplish this through the identification of changes to mission, program objectives, and budget direction from DOE. The ISMS Annual Report will be the tool for analysis of all the mechanisms and will indicate whether a revision to the ISMS Description is needed.

Appendix A

Acronyms

AB	Authorization Basis
ALARA	As-Low-As-Reasonably-Achievable
ASA	Auditable Safety Analysis
BBWI	Bechtel BWXT Idaho, LLC
BIO	Basis for Interim Operation
CARB	Corrective Action Review Board
CCR	Competence Commensurate with Responsibility
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEST	Company Employee Safety Team
CFR	Code of Federal Regulations
CRAD	Criteria Review and Approach Document
CTR	Charter
DD&D	Deactivation, Decontamination and Dismantlement
DEAR	Department of Energy Acquisition Regulations
DNFSB	Defense Nuclear Facilities Safety Board
DOD	Department of Defense
DOE	Department of Energy
DWP	Detailed Work Plan
EM	Environmental Management
EMS	Environmental Management System
EPD	Employee Position Description
ES&H	Environmental, Safety, and Health

ESH&QA	Environmental, Safety, Health and Quality Assurance
EST	Employee Safety Team
FEB	Facility Evaluation Board
FORIB	Facility Operation Review and Implementation Board
FSM	Functional Support Manager
FY	Fiscal Year
GDE	Guide
HASP	Health and Safety Plan
HEG	Hazard Evaluation Group
HPSC	Hazards Profile Screening Checklist
ICARE	Issue Communication and Resolution Environment
ICMS	INEEL Chemical Management Services
ICP	Idaho Completion Project
IEC	Integrated Executive Council
IHR	Independent Hazard Review
INEEL	Idaho National Engineering and Environmental Laboratory
ISFSI	Independent Spent Fuel Storage Installation
ISM	Integrated Safety Management
ISMS	Integrated Safety Management System
ISO	International Standards Organization
INTEC	Idaho Nuclear Technologies and Engineering Center
IRMP	Integrated Requirements Management Program
IWCP	Integrated Work Control Process
JSA	Job Safety Analysis

LCBL	Life Cycle Baseline
M&O	Management and Operating
MCP	Management Control Procedure
NE-ID	Department of Energy, Idaho Field Office
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NRC	Nuclear Regulatory Commission
OEI	Office of Enforcement and Investigation
OSB	Operational Safety Board
OSR	Operational Safety Requirement
PA	Protective Actions
PAAA	Price-Anderson Amendments Act
PDD	Program Description Document
PEG	Program Execution Guidance
PEMP	Performance Evaluation and Measurement Plan
PEP	Project Execution Plan
PLN	Plan
POC	Performance Objectives and Criteria
POD	Plan-of-the-Day
PPE	Personal Protective Equipment
PRD	Program Requirements Document
PTC	Paths to Closure
R2A2	Roles, Responsibilities, Authorities and Accountabilities
R&D	Research and Development

RCRA	Resource Conservation and Recovery Act
RQ	Reportable Quantity
RRB	Risk Review Board
RWMC	Radioactive Waste Management Complex
SAR	Safety Analysis Report
SAT	Systematic Approach to Training
SME	Subject Matter Expert
SMMC	Senior Maintenance Management Council
SORB	Site Operations Review Board
SSC	Structure, System, and Component
STD	Standard
STRIB	Site Training Review and Implementation Board
TAN	Test Area North
TBA	Task Baseline Agreement
TPR	Technical Procedure
TRA	Test Reactor Area
TSR	Technical Safety Requirement
TS/S	Technical Standards/Specifications
USQ	Unreviewed Safety Question
VPP	Voluntary Protection Program
WAF	Work Authorization Form
WASP	Worker Applied Safety Program
WGS	Waste Generator Services
WROC	Waste Reduction Operations Complex

Appendix B

ISMS Core Function Procedure Matrix

CORE FUNCTION	DOCUMENT
DEFINE SCOPE	DOE Strategic Plan
	DOE Orders
	DEAR ES&H 48 CFR 970.5223-1
	BBWI Contract DE-AC07-99ID13727
	List A and List B
	DOE WAFs
	Institutional Plan
	EM Paths to Closure
	Environmental Permits
	Performance Evaluation and Measurement Plan
	Performance-Based Fee Incentives
	Program Execution Guidance
	Manual 5 Project Cost and Schedule Controls
	Manual 6 Maintenance
	Manual 8 Environmental Management
	Manuals 14A and B Safety and Health
	Manual 15 Manuals A, B, and C - Radiation Protection and Radiological Control
	Manual 16A Emergency Plan/RCRA Contingency Plan
	GDE-51 Guide for Construction Project Management
	PDD-12 Engineering Design
	PDD-13 Conduct of Training
	PDD-16 Overview of the Safety and Health Program
	PDD-18 Document Management Control System
	PDD-19 Integrated Requirements Management Program
	MCP-1176 INEEL Safety Analysis Process
	PDD-61 Occupational Health Program

CORE FUNCTION	DOCUMENT	
DEFINE SCOPE (Continued)	PDD-1003	Waste Generator Services Program
	PDD-1005	Site Operations
	PDD-1007	Issues Management Program
	PDD-1009	INEEL Fire Protection Program
	PDD-1011	Facility Excellence Program
	PDD-1012	Environmental Management System
	PDD-1013	Chemical Management Program
	PDD-1015	Research and Development Operations
	PRD-4	INEEL Project Management Systems Requirements
	PRD-6	Environmental Restoration Program Management
	PRD-25	Activity Level Hazard Identification, Analysis, and Control
	PRD-112	Criticality Safety Program Requirements Manual
	PRD-113	Unreviewed Safety Questions
	PRD-115	Configuration Management
	PRD-155	Emergency Management System
	PRD-164	Safety Analysis for Other Than Nuclear Facilities
	PRD-165	Safeguards and Security Program
	PRD-181	Systems Engineering
	PRD-183	INEEL Radiological Control Manual
	PRD-185	Conduct of Operations
	PRD-186	Occupational Safety Program
	PRD-199	INEEL Fire Protection Program
	PRD-266	Identification and Characterization of Environmentally-Regulated Waste
	PRD-267	Temporary Accumulation and Storage of RCRA and TSCA Regulated Waste

CORE FUNCTION	DOCUMENT	
DEFINE SCOPE (Continued)	PRD-268	Treatment, Storage, and Disposal of Environmentally-Regulated Waste
	PRD-271	Small Quantity Generators and Conditionally Exempt Small Quantity Generators
	PRD-1007	Work Coordination and Hazard Control
	PRD-5030	Environmental Requirements for Facilities, Processes, Materials and Equipment
	PRD-5035	Temporary Storage of CERCLA-Generated Waste at the INEEL
	PRD-5041	Packaging and Transportation
	STD-101	Integrated Work Control Process
	STD-107	Configuration Management Program
	MCP-7	Radiological Work Permit
	MCP-12	Company Work Breakdown Structure
	MCP-13	Funds Authorization
	MCP-22	Work Authorization
	MCP-24	Funding Determinations
	MCP-27	Preparation and Administration of Individual Training Plans
	MCP-33	Personnel Qualification and Certification
	MCP-35	Training Needs Analysis
	MCP-36	Job Analysis
	MCP-135	Creating, Modifying, and Canceling Procedures and Other DMCS Controlled Documents
	MCP-153	Industrial Hygiene Exposure Assessment
	MCP-328	Test Plans
	MCP-540	Documenting the Safety Category of Structures, Systems, and Components
	MCP-1185	Acquisition of Goods and Services
	MCP-2446	Controlling Lists of Nuclear Facilities and Nuclear Facility Managers
	MCP-2447	Requirements Management

CORE FUNCTION	DOCUMENT	
DEFINE SCOPE (Continued)	MCP-2668	Financial Planning, Administration and Control of Indirect Activities/Work
	MCP-2811	Design Control
	MCP-2872	Work for Others (WFO)
	MCP-3416	Baseline Change Control
	MCP-3479	RCRA 90-Day Storage Areas
	MCP-3480	Environmental Instructions for Facilities, Processes, Materials and Equipment
	MCP-3546	Management of Budget Formulation Process
	MCP-3567	Authorization Agreement with Authorization Basis List
	MCP-3571	Independent Hazard Review
	MCP-3630	Computer System Change Control
	MCP-3680	Environmental Aspects Evaluation and Maintenance
	MCP-6206	Maintenance and Use of Facility Hazards List
	MCP-9109	Certification and Transmittal of Environmental Permit Applications and Routine Reports
	MCP-9141	Developing Tenant Use Agreements

CORE FUNCTION	DOCUMENT	
IDENTIFY AND ANALYZE HAZARDS	Hazard Assessments Documents	
	PRD-5042	Facility Hazard Identification
	PRD-5043	Operational Safety Boards
	PRD-5043	Integrated Work Control Process
	MCP-7	Radiological Work Permit
	MCP-91	ALARA Program and Implementation
	MCP-153	Industrial Hygiene Exposure Assessment
	MCP-255	Hazardous Waste Operations and Emergency Response Activity Health and Safety Plans
	MCP-579	Performing Fire Hazard Analysis
	MCP-2398	Developing and Maintaining Emergency Preparedness Hazards Assessments
	MCP-2446	Controlling Lists of Nuclear Facilities and Nuclear Facility Managers
	MCP-2449	Nuclear Safety Analysis
	MCP-2450	Technical Safety Requirements (TSRs)
	MCP-2451	Safety Analysis for Other Than Nuclear Facilities
	MCP-2669	Hazardous Material Shipping
	MCP-2811	Design Control
	MCP-2863	Construction Work Coordination and Hazard Control
	MCP-3003	Performing Pre-Job Briefings and Post-Job Reviews
	MCP-3447	Developing and Using Safe Work Permits
	MCP-3450	Developing and Using Job Safety Analyses
	MCP-3480	Environmental Instructions for Facilities, Processes, Materials and Equipment
	MCP-3562	Hazard Identification, Analysis and Control of Operational Activities
	MCP-3571	Independent Hazard Review
	MCP-3591	Maintenance and Use of Facility Hazards List
	MCP-6206	Computer System Change Control
	MCP-3680	Environmental Aspects Evaluation and Maintenance

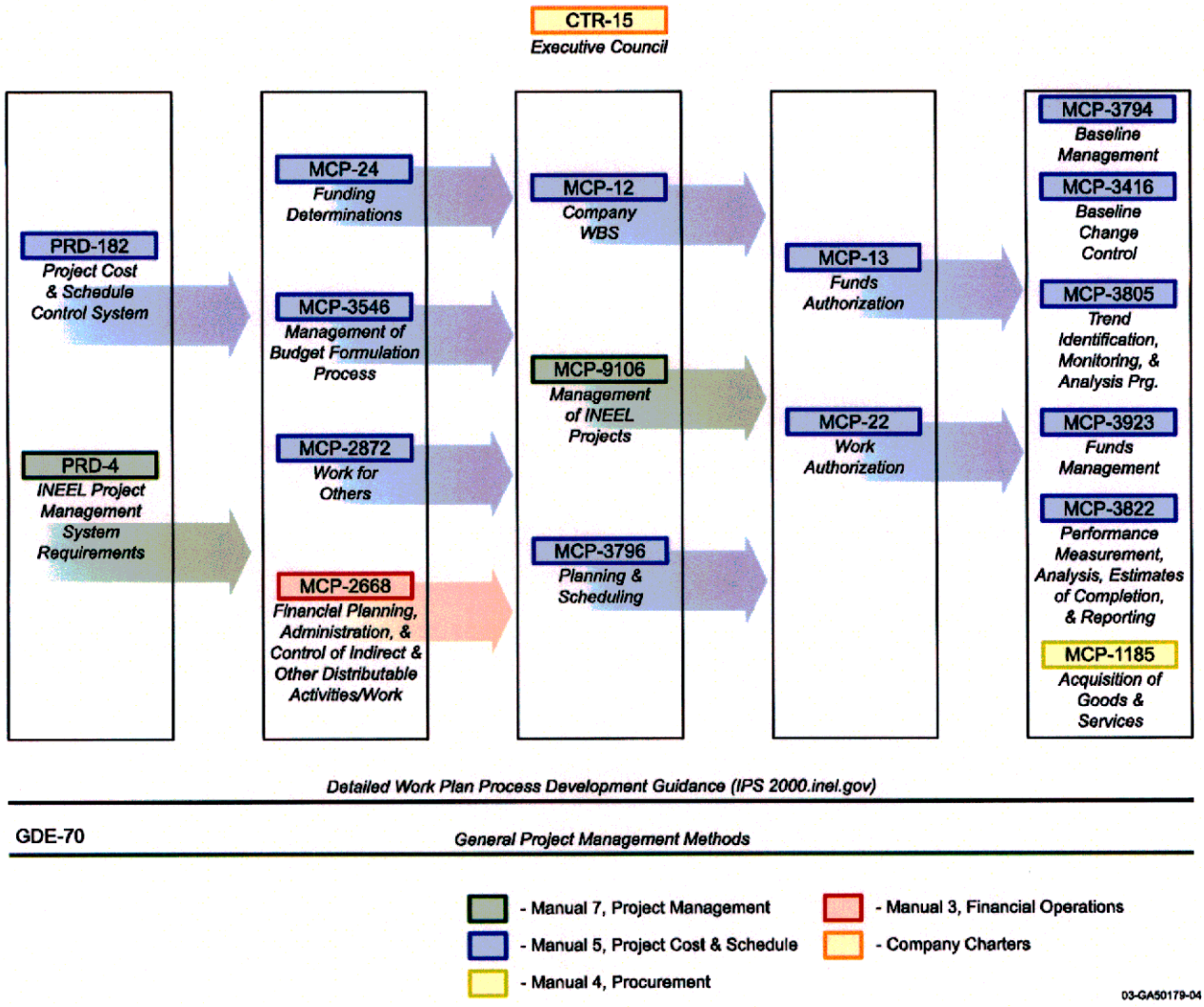
CORE FUNCTION	DOCUMENT	
DEVELOP AND IMPLEMENT CONTROLS DOCUMENT	BIOs, SARs, OSRs, TSRs, DSA, HAD, SER	
	Surveillance test procedures	
	Manual 9	Operations
	GDE-51	Guide for Construction Project Management
	STD-101	Integrated Work Control Process
	MCP-123	Unreviewed Safety Questions
	MCP-135	Creating, Modifying, and Canceling Procedures and Other DMCS Controlled Documents
	MCP-328	Test Plans
	MCP-540	Documenting the Safety Category of Structures, Systems, and Components
	MCP-553	Stop Work Authority
	MCP-2669	Hazardous Material Shipping
	MCP-2783	Startup and Restart of Nuclear Facilities
	MCP-2811	Design Control
	MCP-2863	Construction Work Coordination and Hazard Control
	MCP-2869	Construction Project Turnover and Acceptance
	MCP-3056	Test Control
	MCP-3447	Developing and Using Safe Work Permits
	MCP-3571	Independent Hazard Review
	MCP-3572	System Design Descriptions
	MCP-3630	Computer System Change Control
	MCP-9141	Developing Tenant Use Agreements

CORE FUNCTION	DOCUMENT	
PERFORM WORK	Operating Procedures	
	Manual 9	Operations
	STD-101	Integrated Work Control Process
	MCP-7	Radiological Work Permit
	MCP-33	Personnel Qualification and Certification
	MCP-540	Documenting the Safety Category of Structures, Systems, and Components
	MCP-553	Stop Work Authority
	MCP-2669	Hazardous Material Shipping
	MCP-3447	Developing and Using Safe Work Permits
	MCP-3480	Environmental Instructions for Facilities, Processes, Materials and Equipment
	MCP-3567	Authorization Agreement With Authorization Basis List

CORE FUNCTION	DOCUMENT	
FEEDBACK AND IMPROVEMENT DOCUMENT	PDD-1011	Facility Excellence Program
	PDD-1064	Integrated Assessment Program
	PRD-5119,	Program Requirements Document for the Voluntary Protection Program Star Process at the INEEL
	STD-101	Integrated Work Control Process
	CTR-69	Facility Evaluation Board
	LST-202	Consolidated Assessments Requirements Table
	MCP-8	Performing Management Assessments and Management Reviews
	MCP-49	Accident Reporting and Follow up
	MCP-130	Corporate Internal Audit Process
	MCP-190	Event Investigation and Occurrence Reporting
	MCP-192	Lessons Learned System
	MCP-538	Control of Nonconforming Items
	MCP-552	Conduct of Independent Oversight Assessments
	MCP-553	Stop Work Authority
	MCP-583	Performing Fire Safety Assessments
	MCP-598	Corrective Action System
	MCP-1175	Analyzing ESH&QA Performance
	MCP-1221	Performing Inspections and Surveillances
	MCP-1269	Establishing, Monitoring, and Reporting ESH&QA Performance Objectives, Goals, and Measures
	MCP-1270	Performing Annual Evaluations of the Integrated Safety Management System
	MCP-2547	Identification, Reporting, and Resolution of Price Anderson Noncompliances
	MCP-3003	Performing Pre-Job Briefings and Post-Job Reviews
	MCP-3449	Safety and Health Inspections
	MCP-3521	Trending Center
	MCP-3541	WGS Self-Assessment Program
	MCP-9172	Developing, Integrating, and Implementing Assessment Plans and Schedules

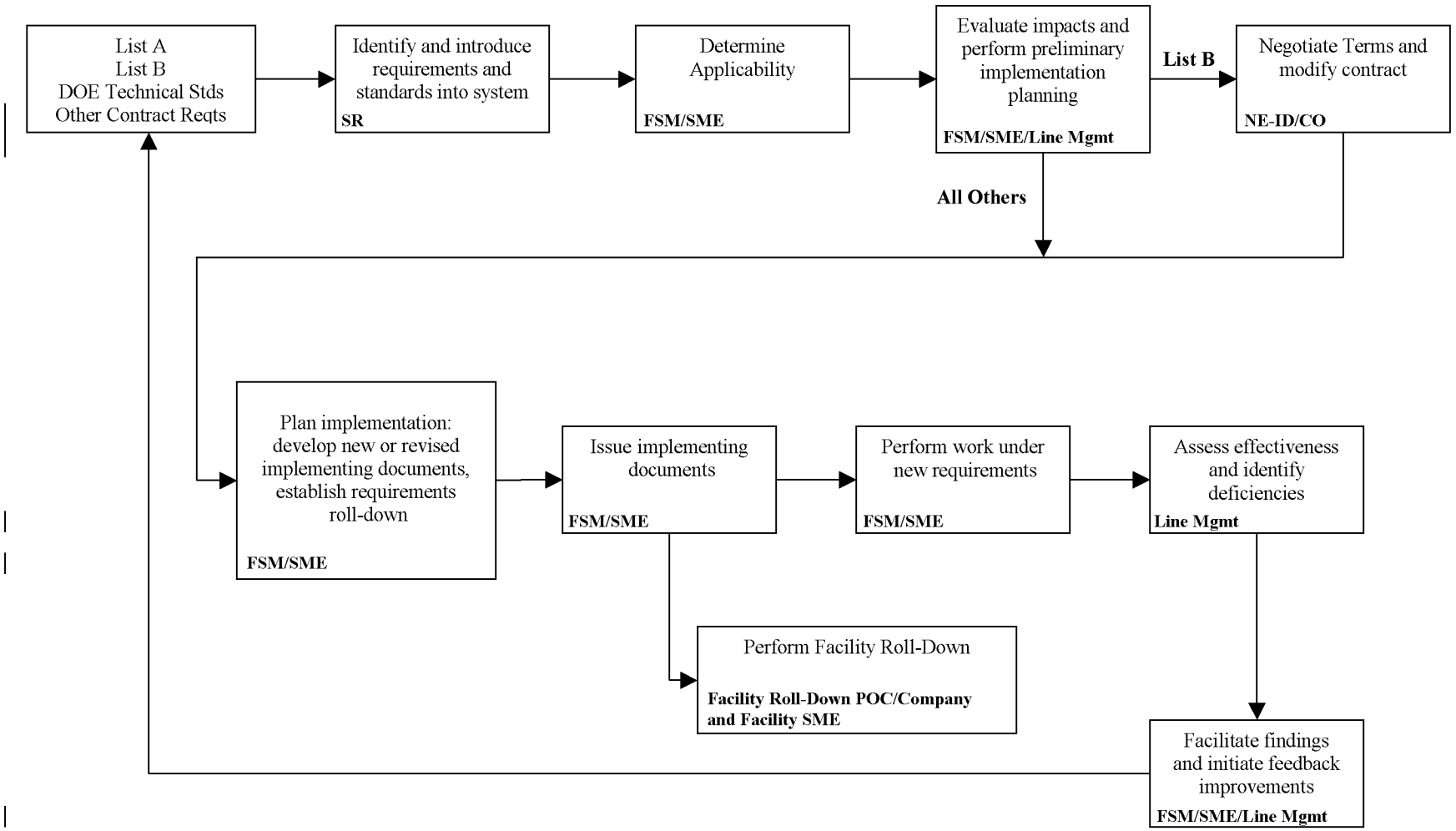
Appendix C

Business, Budgets, and Contracts Process



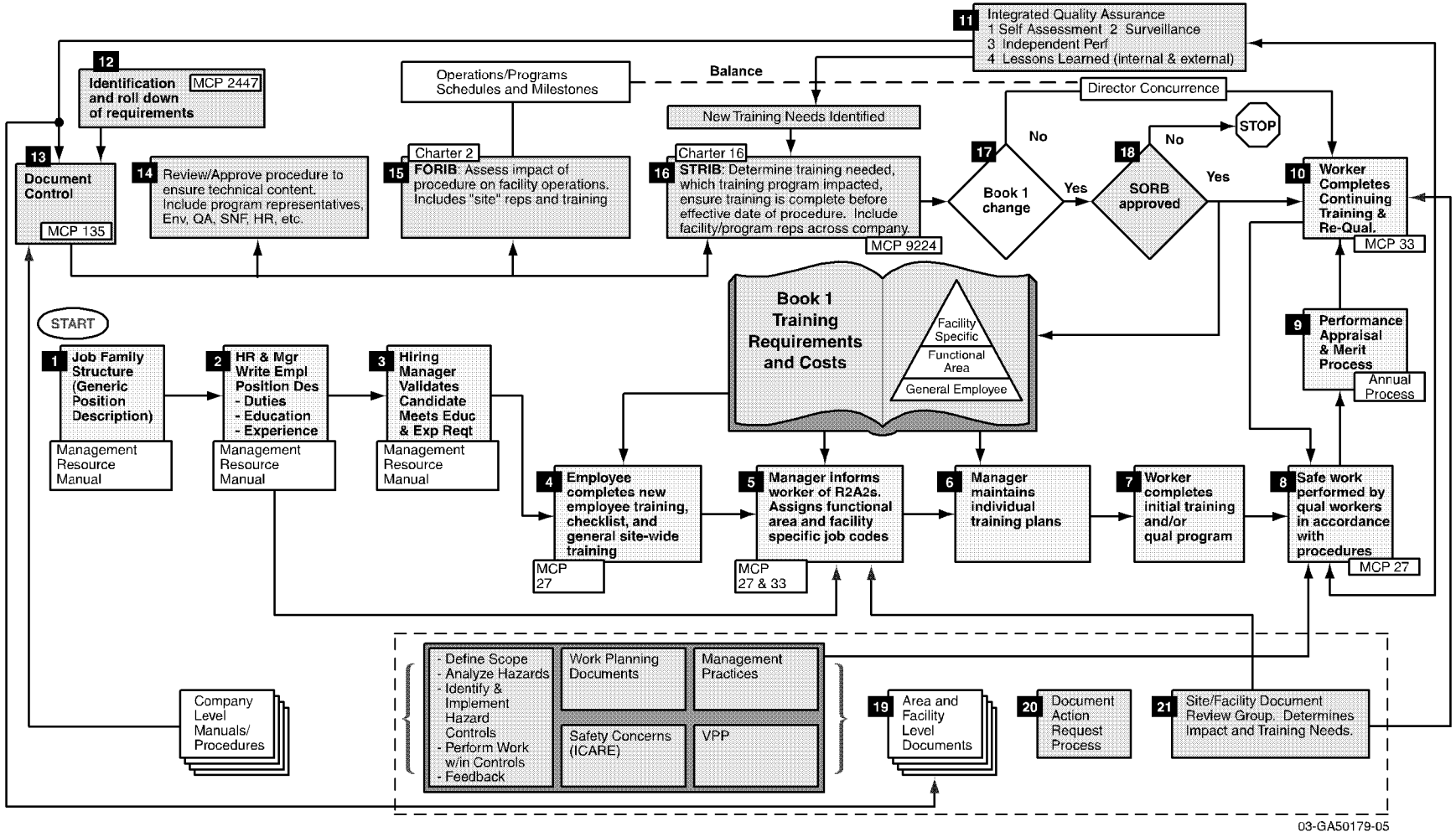
Appendix D

Source Requirements Company Level Flow Process



Appendix E

Competence Commensurate with Responsibility Process



Appendix F

ISMS Annual Report Outline

SUMMARY

ACRONYMS

1. INTRODUCTION
2. EVALUATION PROCESS
3. SYSTEM EVALUATION RESULTS
   - 3.1 Key Processes and Documents
   - 3.2 Functional Support Programs
4. PERFORMANCE EVALUATION RESULTS
   - 4.1 Progress on FY-2002 Performance Objectives and Commitments
   - 4.2 Performance Measures and Indicators
   - 4.3 Resolution of Previous ISMS Issues
   - 4.4 Assessment Findings
   - 4.5 Events
   - 4.6 Regulatory Compliance
   - 4.7 Employee Safety Concerns
5. SYSTEM IMPACTS EVALUATION
6. EVALUATION CONCLUSIONS
   - 6.1 Strengths
   - 6.2 Areas for Improvement
   - 6.3 System Description Changes
   - 6.4 Focused Training
   - 6.5 System Status and Effectiveness

7. SAFETY PERFORMANCE OBJECTIVES, MEASURES, AND COMMITMENTS

7.1 Performance Objectives

7.2 Performance Measures

7.3 Performance Commitments

Appendix G

Maintenance Process for Book 1, Site Wide Training Requirements and Cost