INFORMATION CLEARANCE FORM

A. Information Category ☐ Abstract ☐ Journal Article ☐ Summary ☐ Internet ☐ Visual Aid ☐ Software ☐ Full Paper ☐ Report ☒ Other <u>Review Plan</u>	B. Document Number DOE/RL-99-54 C. Title River Protection Project Integrated Safety Management System Phase II Verification Review Plan (7/29/99) D. Internet Address
--	--

E. Required Information 1. Is document potentially Classified? ☒ No ☐ Yes (MANDATORY) <u>See below for Signature</u> <i>cuw</i> 9-10-99 Manager's Signature Required If Yes _____ ☒ No ☐ Yes Classified ADC Signature Required 2. Internal Review Required? ☒ No ☐ Yes If Yes, Document Signatures Below Counsel _____ Program _____ 3. References in the Information are Applied Technology ☒ No ☐ Yes Export Controlled Information ☒ No ☐ Yes	4. Does Information Contain the Following: (MANDATORY) a. New or Novel (Patentable) Subject Matter? ☒ No ☐ Yes If "Yes", Disclosure No.: _____ b. Information Received in Confidence, Such as Proprietary and/or Inventions? ☒ No ☐ Yes If "Yes", Affix Appropriate Legends/Notices. c. Copyrights? ☒ No ☐ Yes If "Yes", Attach Permission. d. Trademarks? ☒ No ☐ Yes If "Yes", Identify in Document. 5. Is Information requiring submission to OSTI? ☒ No ☐ Yes If Yes UC- _____ and B&R- _____ 6. Release Level? ☒ Public ☐ Limited 7. Charge Code <u>09000</u>
---	---

F. Complete for a Journal Article
1. Title of Journal _____

G. Complete for a Presentation	
1. Title for Conference or Meeting _____ 2. Group Sponsoring _____ 3. Date of Conference _____	4. City/State _____ 5. Will Information be Published in Proceedings? ☐ No ☐ Yes 6. Will Material be Handed Out? ☐ No ☐ Yes

H. Author/Requestor <u>Carrie Swafford-Chube</u> <i>Carrie Swafford-Chube</i> (Print and Sign)	Responsible Manager <u>Doug S. Shoop</u> <i>Doug S. Shoop</i> (Print and Sign)
---	---

I. Reviewers	Yes	Print	Signature	Public Y/N (If N, complete J)
General Counsel	☐	<u>N/A</u>	_____	Y / N
Office of External Affairs	☐	_____	_____	Y / N
DOE-RL	☒	<u>D. S. Shoop</u>	<u>See above for Signature</u> <i>cuw</i> 9-10-99	☒ Y / ☐ N
Other	☐	_____	_____	Y / N
Other	☐	_____	_____	Y / N

J. If Information Includes Sensitive Information and is not to be released to the Public indicate category below. ☐ Applied Technology ☐ Protected CRADA ☐ Personal/Private ☐ Export Controlled ☐ Proprietary ☐ Procurement-Sensitive ☐ Business-Sensitive ☐ Patentable ☐ Predecisional ☐ Other (Specify) _____ ☐ UCNI	Information Clearance Approval
--	--

K. If Additional Comments, Please Attach Separate Sheet
--

DOE/RL-99-54
U.S. DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE
River Protection Project

**Integrated Safety Management System
Phase II Verification**

Review Plan

Richland, Washington
August 9–August 20, 1999

1st/ Charles A. Hansen 7/29/99
Charles A. Hansen
Integrated Safety Management System Verification
Team Leader

RELEASE AUTHORIZATION

**Document
Number:**

DOE/RL-99-54, Rev. 0

**Document
Title:**

River Protection Project Integrated Safety
Management System Phase II Verification Review Plan
(7/29/99)

This document, reviewed in accordance with DOE Order 241.1, "Scientific and Technical Information Management," and DOE G 241.1-1, "Guide to the Management of Scientific and Technical Information," does not contain classified or sensitive unclassified information and is:

APPROVED FOR PUBLIC RELEASE

C. Willingham

Lockheed Martin Services, Inc.
Document Control/Information Release

9/10/99

Date

Reviewed for Applied Technology, Business Sensitive, Classified, Copyrighted, Export Controlled, Patent, Personal/Private, Proprietary, Protected CRADA, Trademark, Unclassified Controlled Nuclear Information.

Trademark Disclaimer. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof. This report has been reproduced from the best available copy.

Printed in the United States of America.

Available to the U.S. Department of Energy and its contractors from the U.S. Department of Energy Office of Scientific and Technical Information, P.O. Box 62, Oak Ridge, TN 37831; Telephone: 423/576-8401.

Available to the public from the U.S. Department of Commerce National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161; Telephone: 703/487-4650.

**Integrated Safety Management System
Phase II Verification**

Review Plan

TABLE OF CONTENTS

<u>Section and Title</u>	<u>Page</u>
LIST OF ACRONYMS AND INITIALISMS.....	iv
1. INTRODUCTION/BACKGROUND.....	1
2. PURPOSE.....	2
3. SCOPE.....	2
4. PREREQUISITES.....	3
5. OVERALL APPROACH.....	4
6. PREPARATIONS.....	6
6.1 Phase II Team Preparations.....	6
6.2 LDH/LMHC and ORP Preparations.....	6
7. PROCESS FOR ISMS REVIEW.....	7
8. ADMINISTRATION.....	8
8.1 Meetings and Presentations.....	8
8.2 Documentation of the Phase II Review.....	9
8.3 Team Composition and Organization.....	9
9. FINAL REPORT FORMAT.....	10
10. SCHEDULE.....	11

APPENDIXES

A Team Leader Letter of Appointment.....	A-1
B Team Assignments and Team Member Biographies.....	B-1
C ISMS Phase II Criteria and Review Approach Documents.....	C-1

LIST OF ACRONYMS AND INITIALISMS

AA	Authorization Agreement
ALARA	as low as reasonably achievable
CRAD	Criteria and Review Approach Document
DEAR	Department of Energy Acquisition Regulations
DNFSB	Defense Nuclear Facilities Safety Board
DOE	Department of Energy
FDH	Fluor Daniel Hanford, Inc.
FEB	Facility Evaluation Board
FRA	Functions, Responsibilities, and Authorities
FRAM	Functions, Responsibilities, and Authorities Manual
FSAR	Final Safety Analysis Report
HAB	Hanford Advisory Board
HASP	Health and Safety Plan
HAZ	Hazard Identification and Standard Selection (subteam)
HGET	Hanford General Employee Training
HLW	high-level waste
ISM	Integrated Safety Management
ISMS	Integrated Safety Management System
ISMSV	Integrated Safety Management Systems Verification
JHA	Job Hazard Analysis
LLW	low-level waste
LMHC	Lockheed Martin Hanford Company
MGO	Management Oversight (subteam)
OPN	Operations (subteam)
ORP	Office of River Protection
PA	Performance Agreement
PHA	Process Hazards Analysis
PHMC	Project Hanford Management Contract

LIST OF ACRONYMS AND INITIALISMS (Continued)

PHR	Preliminary Hazards Review
POD	Plan of the Day
QA	quality assurance
RL	Richland Operations Office
SAR	Safety Analysis Report
SME	subject matter expert
SST	single-shell tank
RPP	River Protection Project
RWP	Radiological Work Permit
TSR	Technical Safety Requirement
TWRS	Tank Waste Remediation System
UCNI	Unclassified Controlled Nuclear Information
USQ	Unreviewed Safety Question
USQD	Unreviewed Safety Question Determination
WCP	Work Control Permit

1. INTRODUCTION/BACKGROUND

The Department of Energy policy (DOE P 450.4) is that safety is integrated into all aspects of the management and operations of its facilities. In simple and straightforward terms, the Department will "Do work safely." The purpose of this River Protection Project* (RPP) Integrated Safety Management System (ISMS) Phase II Verification Review Plan is to determine whether ISMS programs and processes are implemented within RPP to accomplish the goal of "Do work safely." The goal of an implemented ISMS is to have a single integrated system that includes Environment, Safety, and Health requirements in the work planning and execution processes to ensure the protection of the worker, public, environment, and federal property over the RPP life cycle. The ISMS is comprised of the (1) described functions, components, processes, and interfaces (system map or blueprint), and (2) personnel who are executing those assigned roles and responsibilities to manage and control the ISMS. Therefore, this review will evaluate both the "paper" and "people" aspects of the ISMS to ensure that the system is implemented and will be effective within RPP.

The RPP mission is to store, retrieve, treat, immobilize, and dispose of the high-level tank waste in a safe, environmentally sound, and cost-effective manner. Waste will be separated into high-level waste (HLW) and low-level waste (LLW) fractions. The LLW will be immobilized and disposed of onsite. The HLW will be immobilized for disposal in an offsite federal repository. The RPP operates the Department's largest tank farm, which includes 55 million gallons of HLW in 177 underground storage tanks. This equates to about 200 million curies of radioactivity. Sixty-eight of the single-shell tanks (SSTs) are suspected to have leaked into the soil. The removal of the remaining wastes is hindered by the persistence of flammable gas, organic solvents, hazardous chemicals, and in-tank quantities of fissile material sufficient for criticality. To meet Richland Operations Office (RL) Radioactive Tank Waste Goal of the Department's 10-Year Plan, all tank safety issues must be resolved by 2001. By 2006, waste removal will be initiated on 10 SSTs and all tanks will have to be characterized to allow 6-13% of tank waste to be treated by a private contractor in 2006. The implementation of the RPP facility ISMS for the storage and retrieval mission is a crucial step in achieving these milestones at Hanford.

The RPP facilities represent one of two Defense Nuclear Facilities Safety Board (DNFSB) 95-2 priority facilities at Hanford. Both facilities are under the scope of the Project Hanford Management Contract (PHMC) managed by Fluor Daniel Hanford, Inc. The Project Hanford Management Contract Integrated Environment, Safety, and Health Management System Plan (HNF-MP-003) represents the safety management system documentation required by DOE Acquisition Regulations (DEAR) clause 970.5204-2 for the PHMC and was approved by RL based on a review against the existing contractual requirements (derived from an earlier draft of the 970.5204-2 DEAR clause) for that document. These contractual requirements, including FY-1999 Performance Agreement (PA) 5.1.2, represented the Contracting Officer's guidance as required by 970.5204-2. The PHMC was recently modified to incorporate the 970.5204-2 DEAR

* Formerly the Tank Waste Remediation System (TWRS).

clause and HNF-MP-003 is being revised accordingly. Additionally, an Integrated Safety Management System Description (ISM System Description) document was required to address documentation and implementation of the FDH ISMS plan at the facility level. The TWRS/RPP facility level system description document augments the HNF-MP-003 with facility specific policies, procedures, etc.

The RL conducted an ISMS Phase I Verification of the TWRS from September 28-October 9, 1998. The resulting verification report recommended that TWRS-RL and the contractor proceed with Phase II of ISMS verification given that the concerns identified from the Phase I verification review are incorporated into the Phase II implementation plan.

2. PURPOSE

The purpose of this review is to verify the implementation status of the ISMS for the RPP facilities managed by FDH and operated by Lockheed Martin Hanford Company (LMHC). This review will also ascertain whether within RPP facilities and operations the work planning and execution processes are in place and functioning to effectively protect the health and safety of the workers, public, environment, and federal property over the RPP life cycle. The RPP ISMS should support the Hanford Strategic Plan (DOE/RL-96-92) to safely clean up and manage the site's legacy waste and deploy science and technology while incorporating the ISMS central theme to "Do work safely" and protect human health and the environment.

The guidance and direction provided in this review plan have been adapted from DOE P 450.4, DOE G 450.4, and the Integrated Safety Management Systems Verification (ISMSV) DOE Team Leader's Handbook.

3. SCOPE

The scope of this review is associated with the RPP and operations conducted by LMHC (and its lower tiered subcontractors) and managed by FDH. This review does not address the RPP privatization contractor (e.g., British Nuclear Fuel Limited, Inc.) activities but covers the interfaces between that contractor and the RPP. In response to the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999 (PL-105-261), the DOE Office of River Protection (ORP), which is responsible for the RPP workscope, is currently transitioning many of the DOE business processes that were reviewed in the Phase I Verification. Despite this transition the ORP Assistant Manager for Storage and Retrieval (AMSR) and Management System Office organizations will participate in the Phase II Verification in support of the contractor's implementation of ISMS.

As directed in the Verification Team leader letter of appointment, the results of the Line Management Readiness Review, as well as a number of ORP AMSR Management Assessments that were recently conducted, will be considered to avoid unnecessary duplication by reducing the scope of the ISMS review.

The primary objectives of this Phase II verification will be to

- a. Assess whether ISMS is adequately "institutionalized" in contractor organizations at the facility and activity level.
- b. Assess ISMS implementation progress of the DOE ORP.
- c. Determine whether the contractor is meeting the requirements of DEAR clauses 970.5204-2, "Integration of environment, safety, and health into work planning and execution," and 970.5204-78, "Laws, regulations, and DOE directives," as established in the acceptance criteria for this ISMS Phase II verification.

The secondary objectives of the review are to

- a. Determine whether the schedule for completion of the remaining identified gaps given in the Contractor Corrective Action Plan is acceptable.
- b. Determine whether any of the remaining gaps require closure as a prerequisite to completing the implementation of ISMS in the RPP facilities. In making this determination, the team should consider which remaining gaps represent deficiencies and which represent improvements. The team should make any recommendations deemed appropriate with respect to follow-up review actions and confirm closure of deficiencies post the Phase II verification.
- c. Develop lessons learned from this verification effort to improve the effectiveness of future ISMS reviews at Hanford.
- d. As possible, use members of the FDH Facility Evaluation Board (FEB) to allow FDH to develop a capability to evaluate implementation of ISMS at other PHMC facilities. The FEB performs an independent assessment function for FDH.

This review is intended to be an evaluation of the adequacy of implementation of the ISM System Description at the facility and activity level and will include a general evaluation of the training and knowledge of management and staff with respect to the ISMS principles, functions, mechanisms, and responsibilities.

4. PREREQUISITES

The DOE's overall judgement of acceptability to proceed with the RPP Phase II Verification will be based on the following:

- a. Compliance with the requirements of the PHMC DEAR clause H.5.E (DEAR 970.5202-2) is substantially demonstrated.

- b. Corrective actions with known deficiencies will not require or result in changes to the ISM System Description and related policies, plans, procedures, and products to the extent that significant re-review of a sizeable portion of the ISM System Description would be required.

5. OVERALL APPROACH

The ISMS Phase II Verification Team will evaluate the implementation of the ISM System Description, supporting procedures and processes, corrective actions from the gap analysis, and implementation plans against the guiding principles and core functions defined in DOE P-450.4. Based on this assessment, the Verification Team will draw conclusions and make recommendations to the Approval Authority as to whether the implemented ISM System Description will achieve the overall objective of Integrated Safety Management (ISM), which is as follows:

The Department and contractors must systematically integrate safety into management and work practices at all levels so that missions are accomplished while protecting the public, the worker, and the environment. This is to be accomplished through effective integration of safety management into all facets of work planning and execution. In other words, the overall management of safety functions and activities becomes an integral part of mission accomplishment.

The Verification Team will review the areas of Management, Hazard Identification, and Standard Selection and Operations, and the subject areas of Radiological Controls, Fire Protection, and Maintenance and Work Control. The major focus of this review will be the integration of hazard work controls at the activity level. Within the subject area of Maintenance and Work Control the management of configuration management and chemical, electrical, and waste stream hazards will be assessed. Additionally, ORP will be assessed to determine the extent to which DOE meets its ISMS responsibilities.

As allowed by the Verification Team Leader letter of appointment provided in Appendix A, the subject area of training relative to personnel competence will not be assessed as part of this review due to the minimum number of issues identified within the results of the ORP Line Management Readiness Review. However, training relative to the ISMS will be reviewed as part of management review and competence will be reviewed within each focus area.

The RPP review will be conducted using subteams as defined in Section 7. The Verification Team membership and team member biographies are provided in Appendix B. The Verification Team will conduct the review using the Criteria and Review Approach Documents (CRADs) provided in Appendix C.

Sequence of Activities

The first step in the ISMS Phase II verification process is to provide training and interaction among the Verification Team members to ensure an adequate understanding of the DOE ISMS Policy expectations, the ISM System Description as presented by FDH/LMHC, and the plan and strategy for the review. The Verification Team will be trained on the DEAR clause 970.5204-2, Integration of environment, safety, and health into work planning and execution, and 970.5204-78, Laws, regulations, and DOE directives. In addition the Verification Team will complete preparation of the CRADs, which will guide the review. The indoctrination period of approximately 4 days, including Verification Team orientation and training, site-specific training, and CRAD finalization will be conducted at Hanford 2 weeks prior to the start of the Phase II review. At this time, the Verification Team will also receive ISMS presentations and briefings by DOE-ORP and FDH/LMHC.

The actual Phase II review will be concluded during a 2-week period following the orientation and training week. The first week of the actual review will consist of observations of activities, interviews, and document reviews. Any additional actions that may be necessary to support review and assessment of the supporting program and process documents, gap analysis, and the ISMS implementation plans will be identified as the review progresses. During the second week of the verification review, the Verification Team will complete their evaluation of the criteria in the individual CRADs that will support conclusions as to whether the individual objectives have been met. Each CRAD is intended to guide the evaluation of the adequacy of the implementation of the ISM System Description.

The evaluation of the criteria will result from the FDH, LMHC, and DOE presentations coupled with the results of the verification activities (e.g., document reviews, interviews, and observations) conducted during the previous week. An important input to the assessment will be the presentations and persuasive discussions by the individual managers who present and defend their ISMS at their individual levels of responsibility. The record of the evaluation will be the Assessment Form (i.e., Form 1). Detailed instructions for completing the Assessment Form will be provided to the Verification Team prior to and during the review. An Assessment Form will be prepared for each Objective in the CRADs and will document the basis for the conclusions reached concerning the objective and criteria. Each Assessment Form will conclude with a set of numbered issues or observations that will be rolled up to the Opportunities for Improvement section in the Executive Summary of the final report. Issues identified during the review of the individual CRAD that warrant the attention of the DOE-RL and/or the DOE-ORP Manager or senior FDH and/or LMHC management, will be clearly identified within the Assessment Form. In addition, good practices and strengths of the ISMS will be identified as Noteworthy Practices.

A final report to be issued at the end of the second week will describe the results of the verification review. The report will provide a status of implementation of the ISM System Description to the RL and ORP Managers and will delineate areas, if any, in which the ISMS does not conform to the previous guidance as well as identify noteworthy practices that were observed. The report will also provide the conclusions reached by the Verification Team as to

the objectives identified in Section 3 of this review plan. The format and contents of the report are described in Section 9.

6. PREPARATIONS

Preparations for the Phase II review will focus on two areas. The first is intended to prepare the Verification Team to conduct the review and finalize the Review Plan that will guide the conduct of the review. The second effort is to assist FDH, LMHC, and ORP in gaining an understanding of the review process to most effectively present their ISM System Description implementation to the Verification Team.

6.1 Phase II Team Preparations

Efforts to prepare the Verification Team to conduct the Phase II review will include training led by the Team Leader on the relevant DEAR clauses as discussed in Section 5.2. There will also be a discussion on the strategy and methodology for the review. This portion will include a discussion of the strategy and logic by which the initial CRADs and subject areas were developed. Also, the discussion will include thoughts on tailoring methods for the review to increase confidence that the review results will reflect the implementation of ISMS across the RPP. Verification Team members will be provided with relevant documents (e.g., Phase I Verification Report, ISM System Description, Line Management Readiness Review, etc.) to be read before the review is conducted. Finally, the Verification Team will receive presentations and briefings to ensure an understanding of the FDH/LMHC ISM System Description and the mechanisms used in the execution of that system. In addition, the Verification Team will receive presentations and briefings from ORP relative to the DOE directives and guidance and the safety management Functions, Responsibilities, and Authorities Manual (FRAM). The review will verify that the responsibilities, activities, and processes of the ORP staff are adequately described and the results are integrated into the contractor's ISMS.

6.2 FDH/LMHC and ORP Preparations

The responsible FDH/LMHC and ORP Managers will present their procedures and processes used in the execution of ISMS. It is important, therefore, that the individual managers have an understanding of the Verification Team and DOE-RL and DOE-ORP expectations for ISMS and the commitments and processes that are provided in the contractor's ISMS.

The briefings will consist of FDH/LMHC and ORP making presentations to the Verification Team to describe how the processes and mechanisms used to "Do work safely" fulfill the expectations of the ISMS. The briefings should include real examples of work or operations that were or are about to be conducted so that the Verification Team can fully understand those processes and mechanisms. These presentations should also describe the integration of safety management between the contractor and DOE. At the conclusion of the presentations, the Phase II Verification Team will provide a list of documents required for review, selected personnel to be interviewed, and a list of activities to be observed as part of the review.

FDH/LMHC and ORP should use these lists to schedule activities and interviews during the first week of the review.

7. PROCESS FOR ISMS REVIEW

As described in Section 5, the review will be conducted using the CRADs. The CRADs for the review are included as Appendix C of this review plan. The CRADs are identified by functional area. The four functional areas correspond to the four Verification Team subteams:

- a. DOE-ORP (DOE)
- b. Hazards Identification and Standard Selection (HAZ)
- c. Management Oversight (MGO)
- d. Operations (OPN)

Radiological Controls (SME RC)

Fire Protection (SME FP)

Maintenance and Work Control (SME WP)

The DOE-ORP functional area subteam is tasked to review the DOE management of mission programs and certain key ISMS functions. The specific areas to be evaluated by the DOE subteam include operations authorization and oversight.

The Hazards Identification and Standard Selection functional area subteam will address the ORP and FDH/LMHC processes for ISMS relating to hazard analysis and the processes related to the identification of safety standards and requirements and the tailoring of controls to the work being performed. This subteam, in cooperation with the Operations Team, will review the processes and procedures for operations and maintenance work. In addition, this subteam will review line management responsibilities and feedback as they relate to hazard identification and standard selection.

The Hazards Identification and Standard Selection functional area subteam will also evaluate the Maintenance and Work Control subject area CRAD with a focus on configuration management, and electrical, chemical, and waste stream hazards.

The Management Oversight functional area subteam will address the definition and prioritization of work and that the contractor roles and responsibilities (specifically, line management responsibilities) are documented and are included within the five core functions. In addition, the Management Oversight functional area will review the feedback and improvement functions including the contractor's quality assurance program.

The Operations functional area subteam will verify that the core functions of ISM are met for work control in a manner that is consistent with the ISM guiding principles including lockout/tagout. The Operations functional area subteam will also evaluate the Radiological Controls and Fire Protection subject areas. The specific disciplines of Radiological Controls and Fire Protection will be evaluated using the subject matter expert (SME) CRADs. The Operations Team in conjunction with the Hazards Team will review the processes and procedures for operation and maintenance work.

An important part of the evaluation of the implementation of the ISMS against the individual CRAD will be the presentations by the contractor and DOE managers responsible for implementation of the ISMS. From these presentations, the Verification Team members will gain information that will assist them in making the determination that the ISMS meets the criteria as specified in the CRADs.

8. ADMINISTRATION

8.1 Meetings and Presentations

The first phase of the review will include presentations by FDH/LMHC and DOE to the Verification Team. The purpose of the presentations will be to provide an opportunity for the Verification Team to become familiar with the ISMS including the supporting programs and processes. The presentations will provide an opportunity for FDH/LMHC and DOE to describe the mechanisms and procedures in which the elements of ISM described in the various programs are integrated vertically and horizontally. These presentations should demonstrate an ISMS that fulfills the expectations for DOE P 450.4, 450.5, 450.6, and the DEAR requirements. The Verification Team will use the information provided during the presentations as a part of the verification that the criteria and the objectives in the individual CRADs are met. Additional interviews, record reviews, observations, and other activities will clarify and validate the information in the briefings.

The RPP Phase II Verification will be an open process with the goal of maximizing the opportunity to achieve a full understanding of the implementation of ISMS. To achieve the level of openness and coordination that is desired, the Verification Team will meet daily to discuss observations and issues. FDH, LMHC, and ORP personnel are invited, in limited numbers, to attend these team meetings as observers. The Team Leader and Advisor will meet as necessary with senior FDH, LMHC, and DOE management to ensure that they are fully informed of the progress and issues during the verification review.

Following the review portion of the ISMS Phase II Verification, the Team Leader will conduct a briefing with senior FDH, LMHC, and DOE Managers. The briefing will include the results of the review, the basis for the improvement recommendations that will be made to the Approval Authority, and those noteworthy practices that are observed during the review.

8.2 Documentation of the ISMS Phase II Verification

The ISMS Phase II Verification will be guided by the criteria in the CRADs. The documentation will be structured in a manner to show that the elements of the CRADs were evaluated and that the objectives were met or what aspects of the objectives were found to be deficient. The purpose of the documentation is to provide information concerning details of the review to individuals who did not witness the review.

To maintain the schedule for the verification and ensure that the report is complete prior to dissolution of the team, each Verification Team member must document his/her work as it is conducted. This means that daily inputs to the Assessment Forms (Form 1) will be required. Each subteam leader will be provided with a preliminary Assessment Form containing the objective and criteria for each CRAD. In the event that issues of noteworthy or questionable practices are identified, they will be documented within the Assessment Form. If the final report to the Approval Authority recommends actions for FDH, LMHC, or DOE, those actions should be supported by detailed information on the Assessment Forms. The Verification Team members are responsible for ensuring that the Assessment Forms do not contain classified or Unclassified Controlled Nuclear Information (UCNI).

The lessons learned from this ISMS verification are particularly important for future reviews at Hanford and across the complex. Verification Team members will draft lessons-learned inputs and provide those inputs to the Team Leader such that the lessons learned will be included in the final report.

8.3 Team Composition and Organization

The ISMS Phase II Verification Team will be organized into four subteams using an integrated set of CRADs. Subteam leaders are responsible for ensuring that all CRADs assigned to them are fully evaluated and that the appropriate documentation is prepared. The biographies for each Verification Team member is provided in Appendix B and will be retained with the records of the verification report.

The Verification Team will use FDH FEB personnel to support the RPP Phase II Verification. Specifically the FEB will provide a subteam leader, four team members, and administrative support. The FEB previously participated in other ISMS verifications as observers to gain ISMS verification experience such that they could support future Hanford verifications. The FEB will participate in the RPP Phase II verification as Verification Team Members in a capacity that does not conflict with their normal functions under the PHMC. The PHMC ISMS Guiding Principle 9 emphasizes the importance of effective internal and external communication on ES&H matters. Therefore, the DOE ORP invited the Hanford Advisory Board (HAB) to provide an observer for this Phase II ISMS Verification. Joe Richards is the HAB Health, Safety, and Waste Committee ISMS issues manager and is a staff member of the Confederated Tribes of the Umatilla Indian Reservation. Mr. Richards has been involved in ISMS processes in the DOE complex for more than a year and is a qualified environmental auditor. He will observe the entire ISMS Phase II review, including the Verification Team training.

9. FINAL REPORT FORMAT

At the completion of the review, the Verification Team will prepare a report. The report will include a status of implementation of the ISM System Description, any areas where implementation does not conform to DOE P 450.4, 450.5, and/or 450.6, the ISMS DEAR clauses, and the requirements of the Approval Authority as specified in the guidance to the contractor. The report will also address all of the objectives identified in Section 3 and include any recommended actions that the Verification Team considers necessary or desirable to ensure work is performed safely.

The report of the verification will consist of the following sections that fully describe the review, provide the necessary recommendations, and provide information necessary to support the recommendations. Verification Team members will not include any classified or UCNI in the report. The Team Leader will ensure that the final report is appropriately controlled and reviewed for classified information or UCNI prior to issuance.

a. VOLUME I

1. **Title Page** - States the site location and the dates of the review.
2. **Signature Page** - Contains the signatures designated by the Team Leader to promulgate the final version of the report.
3. **Table of Contents** - Identifies all sections of the report, illustrations, tables, charts, figures, and appendixes.
4. **Executive Summary** - Provides an overview of the results of the verification review including a summary of the recommendations that result from the review. The executive summary will identify opportunities for improvement (issues) as well as noteworthy practices (strengths) identified during the review.
5. **Introduction** - Includes the overall objectives of the evaluation, the review process and methodologies used in the review, and the team composition.
6. **Purpose** - Includes the purpose of the verification review.
7. **Background** - A general discussion of the facility and the state of maturity of the safety management programs.
8. **Scope** - Includes the scope of the verification review.
9. **Overall Approach** - Restates (with any necessary modifications) the approach followed during the verification review and delineated in the Review Plan.

10. **Assessment Of Implementation of RPP ISMS** - Provides a summary discussion of the overall results of the evaluation. The section will include a summary for each functional area and issues prepared by the functional area subteam. In addition, the section will provide details of the review, which are necessary to support the report on the status of implementation to the Approval Authority. This section will also provide support for any recommendations or observations associated with DOE. The report will also discuss the observations and conclusions of the team regarding the strengths and weaknesses of the ISMS and its implementation. Finally, any deviations from this review plan will be discussed in the report.
 11. **Conclusions and Recommendation** - Will address the status of implementation of RPP ISMS at Hanford. It will further provide information about the adequacy of supporting program and process documents and the planned ISMS improvement plans. Additionally, the conclusion will include the ORP role in the ISM process and the effectiveness of ORP input.
 12. **Lessons Learned** - Will discuss lessons learned associated with the ISMS Phase II Verification process as well as with the development and implementation of an ISMS.
- b. **VOLUME II** - Will contain the Assessment Forms (Form 1), Review Plan, and CRADs.

10. SCHEDULE

For planning purposes, the projected schedule for the RPP ISMS Phase II Verification is as follows:

a. Orientation

Date	Topic
July 26, 1999	Introduction/team logistics DOE-ORP Manager presentation Team orientation ISMS training/executive course ORP ISMS presentations Required reading
July 27, 1999	FDH/LMHC ISMS presentations Required reading

Date	Topic
July 28, 1999	Team members meet counterparts Discuss CRAD approaches Plan logistics Make final changes to CRAD approaches Finalize Review Plan Complete HGET training
July 29, 1999	Sign Review Plan Complete and sign qualification forms Provide FDH/LMHC final list of documents/records to be reviewed Prospective interview list Meetings to attend Operations/activities to observe Finalize verification logistics

b. Verification

Date	Topic
August 9, 1999	Office setup Verification Team meeting Documentation Review Observe operations
August 10-12, 1999	Documentation review Observe operations Team meeting
August 13, 1999	Complete documentation review Conduct interviews Observe operations Team meeting
August 14-15, 1999	Individual team member work as required
August 16-19, 1999	Report preparation
August 20, 1999	Managers ISMS Verification presentation

Appendix A

Team Leader Letter of Appointment

Team Leader
AT

DATE:
REPLY
TO
ATTN OF: TSD:DLC/99-TSD-067

SUBJECT: MEMORANDUM OF APPOINTMENT AS INTEGRATED SAFETY
MANAGEMENT SYSTEM PHASE II VERIFICATION (ISMSV-II) TEAM
LEADER FOR THE RIVER PROTECTION PROJECT (RPP) FACILITIES

TO: Charles A. Hansen, Assistant Manager
for Material and Facility Stabilization
Savannah River Operations Office

In accordance with requirement 9.2.2.6 (Approval of Safety Management System Documentation) of the U.S. Department of Energy (DOE) Functions, Responsibilities, and Authorities Manual, you are selected to be the Team Leader for the ISMSV-II for the RPP facilities as discussed herein.

- 1.0 Description of Facility/Activity: This review will verify the status of the ISMS for the RPP facilities managed by Fluor Daniel Hanford, Inc., and operated by Lockheed Martin Hanford Company at Hanford.
- 2.0 Background and History: The RPP facilities, previously referred to as the Tank Waste Remediation System (TWRS) facilities, represent one of two Defense Nuclear Facilities Safety Board 95-2 priority facilities at Hanford, both of which are under the scope of the Project Hanford Management Contract (PHMC) managed by FDH. The "Project Hanford Management Contract Integrated Environment, Safety and Health Management System Plan," HNF-MP-003, represents the safety management system documentation required by DOE Acquisition Regulations (DEAR) clause 970.5204-2 for the PHMC, and has been approved by DOE Richland Operations Office (RL) based upon a review against the existing contractual requirements (derived from an earlier draft of the 970.5204-2 DEAR clause) for that document. The PHMC has since been modified to incorporate the 970.5204-2 DEAR clause and HNF-MP-003 is being revised accordingly. Additionally, an ISMS Description document was required to address documentation and implementation of the FDH ISMS Plan at the facility level. The TWRS/RPP facility level system description document augments the HNF-MP-003 with facility specific policies, procedures, etc. These contractual requirements, including Fiscal Year (FY) 1999 Performance Agreement 5.1.2, represent the Contracting Officer's guidance, as required by 970.5204-2.

Charles A. Hansen
99-TSD-067

-2-

RL conducted an ISMS Phase I Verification of the TWRS facility from September 28 to October 9, 1998. The resulting verification report recommended that RL TWRS and the contractor proceed with Phase II of Integrated Safety Management (ISM) given that the concerns identified from the verification review are incorporated into the ISMSV-II Implementation Plan.

3.0 Scope and Special Considerations for the ISMSV-II: The purpose of this review is to verify that RPP facility-specific ISMS description and associated plans, manuals, and procedures verified in ISMS Phase I Verification are adequately implemented at the facility and activity level.

3.1 The primary objectives of this ISMSV-II will be to:

- Assess whether ISMS is adequately "institutionalized" in contractor organizations at the facility and activity level.
- Assess ISMS implementation progress of the DOE Office of River Protection (ORP).
- Determine whether the contractor is meeting the Acceptance Criteria established for the ISMSV-II (Section 5).

ORP is currently transitioning many of the business processes that were reviewed in the ISMS Phase I Verification in response to the Strom Thurmond National Defense Authorization Act for FY 1999 (PL-105-261). However, the ORP Assistant Manager for Tank Waste Storage and Retrieval (AMSR) and Management Systems Office organizations will participate in the ISMSV-II in support of the contractor's implementation of ISMS. ORP is committed to having ISMS fully implemented by the end of FY 2000.

3.2 Secondary objectives of the review are to:

- Determine whether the schedule for completion of the remaining identified gaps given in the Contractor Corrective Action Plan is acceptable.
- Determine whether any of the remaining gaps require closure as a prerequisite to completing the ISMSV-II for the RPP facilities. In making this determination, the team should consider which remaining gaps represent deficiencies and which represent improvements. The team should make any recommendations deemed appropriate with respect to follow-up review actions and confirm closure of deficiencies post the ISMSV-II.
- Develop lessons learned from this verification effort, to improve the effectiveness of future ISMS reviews at Hanford.

Charles A. Hansen
99-TSD-067

-3-

As possible, utilize members of the FDH Facility Evaluation Board (FEB) to allow FDH to develop a capability to evaluate implementation of ISMS at other PHMC facilities. The FEB performs an independent assessment function for FDH. The FEB participated in the ISMS Phase I Verification as observers in order to gain ISMS verification experience to support future PHMC verifications. The FEB will participate on the ISMSV-II as team members in a capacity that won't conflict with their normal functions under the PHMC. The FEB will provide a sub-team lead and team members.

This review is intended to be an evaluation of adequacy of implementation at the facility and activity level and should provide an evaluation of the training and knowledge of management and staff with respect to the principles and requirements of ISM.

- 4.0 Desired Deliverables from the Review: The ISMSV-II Team should document the review with a report written in accordance with the guidance given in the "Integrated Safety Management System Verification Team Leader's Handbook," dated March 1999. The report should address all of the objectives identified above, and include any recommended actions, which the ISMSV-II Team considers necessary or desirable to ensure work is done safely.

5.0 ORP Acceptance Criteria

While the ISMS verification process will undoubtedly identify some deficiencies or "opportunities for improvement," as well as some noteworthy practices, ORP's overall judgement of acceptability to proceed with the PHMC Phase II Verification will be based on the following:

DEAR Clause Compliance

- Compliance with the requirements of the PHMC DEAR clause H.5.E (DEAR 970.5202-2) has been substantially demonstrated.

Impact of Deficiencies/Corrective Actions on the ISMS

- Corrective actions with known deficiencies will not require or result in changes to the ISMS System Description and related policies, plans, procedures, and products to the extent that significant re-review of a sizeable portion of the ISM System Description would be required.

Charles A. Hansen
99-TSD-067

-4-

- 2.0 Stakeholder Observation of the ISMSV-II: ORP has invited the HAB to observe in the ISMSV-II as observers to the verification review. Joe Richards of the Confederated Tribes of the Umatilla Indian Reservation will be representing the HAB. Mr. Richards is the ISMS Issues Manager for the Health, Safety, and Waste Management Committee of the HAB.
- 3.0 Reviews which Reduce the Scope of the ISMSV-II: A Line Management Readiness Review, as well as a member of ORP AMSR Management Assessments, were recently conducted by ORP and should be considered for the potential to reduce the scope of ISMS reviews, and avoid unnecessary duplication.
- 4.0 ISMSV-II Point-of-Contact (POC): The ORP POC for the ISMSV-II is Diane Clark. She can be reached on (509) 376-7557.
- 5.0 Information for the Cognizant Secretarial Officer (CSO): A copy of this Memorandum of Appointment is forwarded to the responsible CSO, James M. Owendoff, EM-1, DOE Headquarters for information. Please provide him copies of both the Review Plan and the final report for the ISMSV-II at RPP.

Thank you for your willingness to assist in the conduct of this review.

Keith A. Klein, Manager
Richland Operations Office

Richard T. French, Manager
Office of River Protection

cc: R. C. Crowe, DP-20
D. M. Michaels, EH-1
J. M. Owendoff, EM-1

Appendix B

**Team Membership and
Team Member Biographies**

10-14
10-15
10-16

TEAM ASSIGNMENTS

Team Leader	Charles A. Hansen
Senior Advisor	Wayne Rickman
Report Coordinator	Margaret Droddy
Technical Editor	Margo Barron
DOE-ORP	Michael Mikolanis Lina Pacheco
Hazards	Doug Shoop Michael Gaden Steve Pfaff
Management	Mark Steelman Bill Smoot Carrie Swafford-Chube
Operations	Phillip Giles, Jr. Steve Pfaff
SME Fire Protection	John Held
SME Maintenance and Work Control	Mike Silvia John Held
SME Radiological Controls	David Hyder

Team Member Biographies

Charles A. Hansen, Team Leader, is the Assistant Manager for Nuclear Materials and Facilities Stabilization, at the Savannah River Operations Office, with responsibility for managing a \$400 million per year program for stabilization and storage of nuclear materials including spent nuclear fuel from foreign countries. Previously Mr. Hansen was Assistant Manager for Waste Management reporting to the Manager, Richland Operations Office, with line responsibility for \$300 million per year in projects involving the safe storage, treatment, and disposal of large amounts of spent nuclear fuel, hazardous waste, mixed waste, and transuranic waste and for safe and effective operation of 15 active nuclear facilities.

Mr. Hansen has 32 years of experience in commercial nuclear service business, naval nuclear public and commercial shipyards, and DOE defense nuclear facilities. He has directed research and development, equipment and process design, software development, and major nuclear project construction. As a successful business product line manager and federal program and project manager, Mr. Hansen has direct experience in managing cost plus and fixed-price contracts in both roles. Mr. Hansen is a licensed Professional Engineer with a B.S. degree in Chemical Engineering. He has worked extensively with regulators, customers, and citizen advisory boards and has represented DOE frequently in professional and public meetings and with local and national news media.

At the Richland Operations Office, Mr. Hansen directed technology development, design, and construction of a \$1.5 billion project for the dry storage of 2100 metric tons of highly corroded metallic uranium spent nuclear fuel. He also managed a \$150 million per year waste management operation, including a high-level waste evaporator, startup of two low-level radioactive liquid waste facilities, high-level waste analytical services, low-level radioactive and cold chemical analysis services, storage of mixed and transuranic waste, and operation of low-level burial grounds.

From 1987 to 1995 Mr. Hansen served as Manager, Special Programs, for B&W Nuclear Technologies, responsible for two product lines involving chemical cleaning for commercial nuclear utility reactor plant components, and fiberoptic and ultrasonic inspection of Navy nuclear reactor plant components. He created a new service product line for chemistry and chemical engineering, including major chemical process and waste disposal systems, corrosion product samplers and chemistry analyzers, and on-line chemistry monitoring software and data acquisition hardware. He directed design, construction, and commissioning of a commercial radioactive repair facility in Lynchburg, Virginia.

From 1977 to 1987, as a Senior Naval Reactors Representative for the DOE, Mr. Hansen directed operations of DOE field offices reporting directly to Admiral H. G. Rickover and later to Admiral K. R. McKee, Director Naval Nuclear Propulsion Program. Responsibilities included directing and coordinating the efforts of Navy operations personnel, shipyard engineers and craft labor, reactor plant prime contractor personnel, and Navy contracts and quality assurance personnel.

For several years, Mr. Hansen completed multiple assignments with DOE Naval Reactors Headquarters. Trained as DOE field office head at Mare Island Naval Shipyard in Vallejo, California, Mr. Hansen approved test and refueling procedures and control documents for test and refueling operations. He completed a master's degree level training program in nuclear engineering at Westinghouse Bettis Atomic Power Laboratory. Other assignments included serving as headquarters project engineer for chemistry control programs, project engineer for three land-based prototype propulsion plants involved in training Navy operators. These assignments involved planning maintenance and training schedules, performing root-cause analysis for incidents, identifying trends, and following corrective actions to completion.

Margo Barron is the Technical Editor for the Technical Support Division in the Office of River Protection. Ms. Barron has over 25 years of experience in the nuclear industry as a technical editor and licensing analyst. She has provided project management and support for updated Final Safety Analysis Reports (FSARs) for commercial nuclear power plants. Ms. Barron was a principal participant on a project team that prepared original FSAR sections for the High Flux Isotope Reactor (HFIR) for Oak Ridge National Laboratory to comply with DOE Order 5480.23. For several years, Ms. Barron supported Sandia National Laboratories and the Office of Regulatory Development at DOE Headquarters on nuclear regulatory matters for the advanced light water reactor program. Ms. Barron provided technical editing in preparation of nuclear power plant submittals to the Nuclear Regulatory Commission (NRC) for license amendments, license renewal topical reports, and decommissioning plans.

Margaret Droddy is Associate with EnergX contracted as a Technical Editor and Specialist for the Fluor Daniel Hanford, Inc., Facility Evaluation Board. Ms. Droddy has 18 years administrative and executive expertise. Her experience includes technical editing, preparation and coordination of multi-million dollar grants, and providing technical assistance with facility-specific performance reports. Ms. Droddy supported the FDH Critical Self-Assessment Team providing technical editing, report preparation, and graphics support. Most recently, she provided technical support and report preparation and coordination of the Extent of Condition Review conducted by the Facility Evaluation Board.

Michael D. Gaden has 8 years experience in the DOE weapons complex in developing innovative solutions to deep-rooted problems. He has an additional 15 years experience in commercial nuclear power as a management consultant, licensing engineer, and nuclear engineer. Mr. Gaden began his career with 10 years in the U.S. Navy, first as an enlisted electronics technician, then as a nuclear-trained officer in the surface fleet. As a Senior Consultant at the DOE Hanford weapons facility, he is participating in the development of the Requirements Management program for Fluor-Daniel Hanford, Inc., at the DOE Hanford site. This includes developing the Requirements Management Process and interfaces with the ISMS, the existing Hanford procedures, and the DOE processes.

He served as an important team member in the development of the DOE-mandated ISMS for Rocky Flats. This included developing the requirements manual, developing training and materials, training personnel, and interacting with the DOE Verification Team during the verification process. The team accomplished ISMS Phase I verification in a little over 1 year.

He taught and facilitated the Activity Control Envelope (ACE) Development process for remediation of the source term in trench T-1 and for high-level plutonium solution transfer at Rocky Flats. The ACE is a team-based approach to developing a necessary and sufficient set of standards for an activity.

Mr. Gaden conducted the engineering portion of the Facilities Evaluation Board for the Tank Waste Remediation Systems at Hanford, a performance-based independent assessment of the facility. In addition, Mr. Gaden evaluated and developed infrastructure for ISM, maintenance programs, criticality safety programs, management systems, and various other infrastructure systems at Rocky Flats.

As a Professional Engineer, Nuclear Engineering since 1979 (Texas and Ohio), Mr. Gaden has engineering experience in nuclear licensing, nuclear/mechanical systems, nuclear safety analysis, radiological controls, and control systems.

He has performed diagnostics and implemented corrective actions for management systems at RFETS, Hanford, and in various troubled nuclear power plants.

Mr. Gaden reengineered systems and processes at TU Electric's Comanche Peak Nuclear Generating Station. He also served in a licensing engineer capacity at various commercial nuclear power plants.

Mr. Gaden has a B.S. in Nuclear Engineering from the University of Oklahoma and an M.B.A. in Management from the University of Houston. He is a qualified Myers-Briggs Type Indicator practitioner and is a member of the Association for Psychological Type (APT).

Phillip Giles, Jr., holds a B.S. degree in Nuclear Engineering from the Mississippi State University and an M.S. in Hazardous and Waste Material Management from Southern Methodist University. He has 20 years of experience in the nuclear industry. The first 10 years were spent in the commercial nuclear industry working with boiling water reactors at Browns Ferry and Grand Gulf Nuclear Stations. At Browns Ferry, he served both as reactor engineer and refueling engineer. At Grand Gulf, Mr. Giles served as startup engineer, plant performance engineer, and certified as Shift Technical Advisor. Also, he served as a member of the Independent Safety Engineering Group (ISEG) that performed NRC style safety system functional assessment. The remaining 10 years have been with the Department of Energy at the Savannah River Site (SR). Mr. Giles has worked as a Facility Representative (FR) and Senior Facility Representative in various facilities at SR. During the first 7 years at SR, Mr. Giles served as FR in the Separations Division for the following facilities: HB Line, RBOF, H-Canyon, F-Canyon, and 235F. For the last 4 years, Mr. Giles has served as Senior Facility Representative in the Spent Fuel

Management Division (SFMD). In SFMD, he has served the team lead for four FRs with oversight responsibility for K-Area Basin, L-Area Basin, Receiving Basin for Offsite Fuel (RBOF), Low Level Waste Vitrification Facility, Decontamination Facility, and decommissioning activities for the Fuel Fabrication Facility, R-Area Reactor, and P-Area Reactor.

As both a DOE and commercial nuclear industry employee, he has participated in team inspections and has direct responsibility in several different areas of nuclear plant operations. These areas included: Technical Specifications, safety evaluations, configuration management, safety analysis, project management and systems engineering, design engineering, conduct of operations, and conduct of maintenance. Additionally, Mr. Giles lead the EM-25 operation team for the DOE readiness assessment on Solid Waste Division and FB Line. The ISEG assessments represented a vertical review from design to operation of a particular safety system.

John Held is currently employed as an Independent Technical Assessor for the Fluor Daniel Hanford Inc., Facility Evaluation Board (FEB) in the functional areas of Occupational Safety and Health and Fire Protection. He holds a B.S. degree in Geology from Oregon State University and an M.S. degree in Management from Salve Regina University. Mr. Held has nearly 20 years of experience in the industrial hygiene, safety, and fire protection arenas ranging from direct field experience to managing programs at the facility and project level. He has extensive experience in the planning of work to effectively integrate analysis of hazards and the development and specification of necessary controls. In his current position, he has acted as the lead assessor for Occupational Safety and Health and Fire Protection for nine facility assessments and assisted on one other.

Mr. Held began his career at Hanford in 1992 where he was responsible for setting up the first safety support group for Tank Waste Remediation Systems (TWRS). This included development of procedures for project and work package review in the disciplines of industrial safety, hygiene, and fire protection. Additionally, he was extensively involved with the planning and initial installation of a mixer pump to mitigate hydrogen build-up in tank 101-SY; responsible for the development and implementation of the first Health and Safety Plan for TWRS; oversaw the successful program to relax and remove supplied air requirements in the tank farms; and piloted development and implementation of a behavior-based safety training program. While at Hanford, Mr. Held has been the manager for: TWRS Safety Support; TWRS Safety Leadership; Westinghouse Hanford Company Safety Awareness and Performance; Transition Projects Safety Integration; Transition Projects Safety; and the Plutonium Finishing Plant Safety.

Prior to Hanford, Mr. Held spent 22 years in the U.S. Navy. Safety related assignments included four tours as a safety officer, the last being Safety Officer for a nuclear powered aircraft carrier, USS NIMITZ. Efforts were rewarded with the Secretary of the Navy Environmental Quality Award for environmental protection and the Chief of Naval Operations Safety Award for mishap prevention. Experiences also involved being a flight and standardization instructor, teaching at the Naval War College, and one tour performing command inspections for the Commander Fleet Air Western Pacific (COMFAIRWESTPAC).

David Hyder is a Radiological Control Assessor for the Fluor Daniel Hanford, Facility Evaluation Board (FEB). Mr. Hyder has over 17 years of experience in Radiological Safety at Department of Energy, commercial, and U.S. Navy nuclear facilities. He received a B. S. degree in Nuclear Technology from the University of the State of New York. He has participated as a Team Member in four Facility Evaluation Board assessments for Fluor Daniel Hanford and participated in one Assist/Mentor visit to Hanford's Plutonium Finishing Plant.

Previously, Mr. Hyder was a Team Member in the initial 10 CFR 835 Verification Audit at Rocky Flats. He has been a Team Member for two Price-Anderson Amendments Act, root cause investigations at the Rocky Flats Environmental Technology Site. As a Manager in Radiological Engineering at Rocky Flats, he was responsible for the Radiological Control Management Assessment and Lessons Learned Programs. Additionally, he supervised the complete rewrite of all radiological control procedures at Rocky Flats to ensure compliance with 10 CFR 835 and the DOE Radiological Control Manual.

Mr. Hyder has also worked as a Health Physics consultant at several environmental restoration sites. He obtained NRC agreement state licenses for two radiochemistry laboratories and served as the Radiation Safety Officer and as a radiochemist at one of them. Mr. Hyder was in the U.S. Naval Nuclear Power Program and served on submarines and as a staff instructor at a Navy prototype facility. His Navy qualifications included Engineering Watch Supervisor, Engineering Duty Petty Officer, Leading Engineering Laboratory Technician, Master Training Specialist, and Quality Assurance Inspector.

Michael Mikolanis is a Headquarters Issue Lead in the Office of the Departmental Representative to the DNFSB (S-3.1). Mr. Mikolanis holds a B.S. degree in nuclear engineering from Purdue University and has completed the coursework necessary for an M.S. in Environmental Engineering at Georgia Tech. Mr. Mikolanis has worked in the nuclear industry for 14 years and is a registered professional engineer in the state of Maryland. He spent his first 7 years as a nuclear trained naval officer. In that capacity he qualified as the senior supervisory watchstander at reactor plants. As a naval department head he supervised the safe operation and maintenance of a prototype reactor and managed all aspects of a 3-year overhaul of the facility. He spent the next 3 years as a senior licensing engineer at Bechtel Power Corporation. In that capacity, Mr. Mikolanis performed safety evaluations of modifications made to commercial nuclear reactor facilities and prepared the safety analysis reports required to license the emergency power distributions system at the Calvert Cliffs Nuclear Power Plant. He spent the last 4 years working in the DOE managing safety issues of interest to the DNFSB. Hanford's safety issues include RPP characterization, systems engineering, technical competence, and implementation of integrated safety management. Mr. Mikolanis is certified as an ISM Verification Team Leader.

Lina Pacheco is an Operations Project Manager in the DOE Office for River Protection managing interim stabilization and isolation of single-shell tanks, \$177M in total project cost, for the 149 single-shell tank farm facility on the Hanford Reservation. Her responsibilities include (1) Technical Team Lead for path forward negotiations with the State of Washington in an effort to avoid a pending lawsuit for noncompliance with an established set of regulatory milestones, (2) manage and oversee contractor efforts to projectize a normal operating activity through the establishment of a bounding life-cycle technical scope, cost, and schedule project baseline; (3) establish a set of life cycle milestones and contractor performance measures; and (4) ensure sufficient management controls are in place to effectively manage, progress, and execute the project baseline.

Prior to her present assignment Ms. Pacheco was Construction Project Manager for Richland Operations responsible for managing a major ventilation upgrade, \$47.9 million in total project cost, for numerous high-level radioactive liquid waste tanks on the Hanford Reservation. She served as Project Manager through the design, construction, and startup of the associated structures, systems, and components. Responsibilities included management and contractor oversight of the project cost, schedule, and technical baseline execution, resource and requirements integration with other ongoing tank farm subprojects and key focal point for State and external regulatory interface.

Previously Ms. Pacheco was Lead Project Engineer for all general plant projects within the Tank Waste Remediation System. This included near-term projects that were conceptualized and completed within a short time frame.

As an intern to the Richland Operations Office, Ms. Pacheco's first assignment included rotation through a number of positions with the onsite architect engineer (Kaiser Engineers Hanford) and the maintenance and operations contractor (Westinghouse Hanford Company). These positions included the design, estimating, scheduling, and field engineering areas.

Ms. Pacheco has a B.S. degree in Electrical Engineering from New Mexico State University. She is currently pursuing an M.S. in Electrical Engineering specializing in power distribution and distributive control systems at Washington State University

Steve Pfaff is a Senior Facility Representative for the Tank Farm Oversight Division in the Office of River Protection. Mr. Pfaff has 16 years of experience in the nuclear industry including 9 years as a nuclear trained naval officer and 7 years as a DOE Facility Representative. Mr. Pfaff holds a B.S. degree in Business Administration and Naval Science from Oregon State University with a minor in Science. During his tenure in the Navy, he qualified on and operated the D2G and A4W nuclear propulsion plants. He further qualified as a prospective chief engineer on the D2G plant. Mr. Pfaff spent his final 2 years of active duty instructing new naval officers in combat systems and shiphandling, while serving as the project manager for computerized ship simulators. In 1993, Mr. Pfaff qualified as a DOE Facility Representative at the Rocky Flats Site Plutonium Analytical Laboratory, Building 559, and later served as the senior facility

representative in the Plutonium Recovery Facility, Building 771. Mr. Pfaff transferred to the Hanford Site in 1994, requalified as a facility representative, qualified as a NQA-1 Lead Auditor, and has performed many routine and special assessments of tank farm operations.

Wayne Rickman is presently employed as a Principal Analyst and Senior Vice President of Nuclear Operations for Sonalysts Inc. He has more than 30 years of operational experience in the Naval Nuclear Propulsion (submarine) Program, achieving the rank of Rear Admiral (RADM).

In his current assignment Mr. Rickman, supports the DOE in the verification of the Integrated Safety Management System in the complex. He participated in the reviews at Savannah River Site (SRS), including FB Line, and DWPF facilities at Rocky Flats twice, Waste Isolation Pilot Plant (WIPP), Oak Ridge Y-12, Tank Farms at Hanford, and a Site review at INEEL, Idaho. Mr. Rickman served as a senior nuclear advisor for the Operational Readiness Reviews (ORRs) for Building 707 and Tank Draining in Building 771 at Rocky Flats. Additionally he served as a senior nuclear advisor for eight ORRs at Savannah River Site including F-Canyon (2), FB Line, H Canyon, HB Line, Replacement Tritium Facility, In-Tank Processing Facility, and the Defense Waste Processing Facility. During the ORR for Building 559 at Rocky Flats, Mr. Rickman participated as the training and management systems group leader. He was involved in the internal briefings within DOE and to the DNFSB and participated in the any public hearings concerning ORRs for those facilities.

Mr. Rickman served as a mentor for Los Alamos National Laboratory for more than 2 years. In particular, he helped the head of facilities in the implementation of a facility management system. He also served as a member of the Operations Improvement Panel at Pacific Northwest National Laboratory. This operations panel monitored and made recommendations for improvements in environment, safety, and health (ES&H) and conduct of operations areas of the laboratory.

Mr. Rickman provided management and training support to the Consolidated Incinerator Facility at SRS as a senior industrial consultant. He helped in the preparation of the operators' qualification standard. He also prepared a readiness verification procedure and helped in the execution of that procedure to ensure facility operational readiness. This procedure allowed the contractor and DOE ORR to be conducted in parallel. Mr. Rickman was the technical director for the DOE operator's certification program for K reactor operators as part of the K reactor restart program at SRS.

While in the Navy, RADM Rickman was involved in the training and qualification of personnel in the Naval Nuclear Propulsion and the Naval Nuclear Weapons Programs. He served as commanding officer of two submarines, including a Trident submarine with the Navy's largest and newest submerged power reactor and the Trident C-4 weapons' system. In addition, Mr. Rickman served as a Deputy Commander for training for a submarine squadron where he directed, monitored, and evaluated the training and qualification of submarine crews in operations of nuclear reactors and nuclear weapons. He also served as special assistant to the

Director, Naval Nuclear Propulsion Program, where he was responsible for the selection, qualification, training, and assignment of personnel who supervise, operate, and maintain naval nuclear propulsion plants. Mr. Rickman's last assignment as a Rear Admiral was the Flag Officer responsible for training in the Atlantic fleet. He was responsible for 14 diverse training organizations with 2000 instructors in more than 650 courses and a throughput of 175,000 students per year.

Doug Shoop is employed by the DOE Richland Operations Office (DOE-RL) as a Senior Technical Advisor for Integrated Safety Management and Occupational Safety and Health. Mr. Shoop holds a B.S. degree in Medical Microbiology and an M.S. degree in Industrial Hygiene. He is a Certified Industrial Hygienist and has worked in the nuclear industry for over 10 years. Prior to his employment with DOE, Mr. Shoop was employed by Fluor Daniel Hanford, Inc., and Westinghouse Hanford Company as an Occupational Health manager. In addition to his normal responsibilities as the Occupational Health Manager, Mr. Shoop also served as a team lead for the development of the Project Hanford Management Contract (PHMC) Integrated Environment, Safety and Health Management System Plan, initiated and lead the Hanford Enhanced Work Planning effort, managed the development of the Automated Job Hazard Analysis and served as the Interpretative Authority for all PHMC Occupational Safety and Health Standards/Requirements Identification Documents (S/RIDs). Mr. Shoop also led the development and implementation of the Hanford Occupational Health Process for FDH, coordinated the Hanford Chemical Safety Vulnerability Study, in collaboration with personnel from DOE-RL led the investigation of the Emergency Response to the May 14, 1997 explosion at the Plutonium Reclamation Facility (PRF) and served as the PRF Incident Response Occupational Health/Medicine Team Leader. Prior to his employment at Hanford, Mr. Shoop was employed at the Idaho National Environmental Engineering Laboratory (INEEL) where he provided technical management of the Industrial Hygiene staff and programs associated with the characterization and remediation of hazardous waste sites, facility decontamination and decommissioning, and RCRA TSD operations. Prior to his employment at the INEEL, Mr. Shoop spent approximately 8 years conducting clinical research in collaboration with various universities and hospitals throughout the United States. He has authored 21 professional publications in internationally recognized scientific journals and had numerous abstracts accepted for presentation at national scientific meetings.

Mike Silvia is employed by Duke Engineering and Services, Richland, WA office and is assigned to the Department of Energy Hanford Site Fluor Daniel Hanford, Facility Evaluation Board. Mr. Silvia is a Facility Evaluation Board Team Lead and Environmental Program Assessor. Mr. Silvia has been with the Facility Evaluation Board for the last 2 years and recently qualified as a Team Lead for the Waste Encapsulation and Storage Facility assessment. Mr. Silvia holds a Masters of Management, Information Systems degree from West Coast University, California, and a B.S. Environmental Technology of Engineering degree from Norwich University, Vermont. Mr. Silvia has over 12 years of professional experience with

environmental assessments, air quality management, regulatory permitting and analysis, policy and procedure development, information systems, and data evaluation.

Mr. Silvia was the Regulatory/Administrative Support Manager for International Technology (IT) Corporation's offices in Richland and Tacoma, Washington. Mr. Silvia was part of an IT team responsible for developing the Environmental Sites Database Procedures for the Hanford Environmental Restoration Contract. Mr. Silvia served as lead on the initial Department of Energy (DOE) Hanford Site Title V permitting effort and was integral in the development of the air emission inventory and database management system for the entire Hanford Site air emission program. Mr. Silvia served in the U.S. Air Force (USAF) and was responsible for managing over 100 air operating permits, overseeing air quality source testing plans including field sampling and analysis, and test. Mr. Silvia supervised the staff responsible for regulatory inspections, and negotiating operating permits, source test plans and notice of construction permits.

Bill Smoot is the Senior Technical Advisor for Operations Startup reporting to the Assistant Manager for Waste Management, Richland Operations Office. He has over 30 years of experience in the maintenance, operation, supervision, and oversight of nuclear power plants and nuclear support facilities. He was a member of the DOE-NR field office, PHNS, for 10 years providing oversight of the radiological controls program, defueling program, repair and inactivation programs, and hazardous material shipping program. Mr. Smoot was the Manager of WHC Safety Compliance Assurance program for 3 years, providing oversight of the radiological control and occupational safety programs, providing oversight of both facilities and construction activities. He instituted the contractor unannounced OSHA compliance program at Hanford. He has participated on two DOE-HQ site radiological control evaluations, one of which included decommissioning and decontamination activities, two ISMS implementation evaluations, and two facility operational readiness reviews. He is a qualified Lead Auditor for both 10 CFR 820 and OCRWM programs and is a certified DOE Accident Investigator.

Mark Steelman is presently the Acting Director for the Fluor Daniel Hanford, Inc., Facility Evaluation Board. Mr. Steelman holds a B.S. degree in aeronautical engineering, a B.A. degree in economics from the University of Washington, and has completed the coursework necessary for an MBA from LaSalle University.

Mr. Steelman has commercial nuclear plant experience in Engineering/Configuration Management, Operations and Maintenance Advisor, Reactor Operator Training/Training Advisor, Root Cause Analysis, Licensing/Nuclear Safety, and Consultant to Nuclear Regulatory Commission. His DOE experience consists of Regulatory Integration Manager, consultant in areas of Authorization Basis, Engineering, and Integrated Safety Management.

His assessment/operational readiness review/inspection qualifications include the participation in several safety system functional inspections (SSFIs) and operational readiness reviews (ORRs) at commercial nuclear facilities and participation in the Integrated Safety Management System

review at Rocky Flats. He was a member of the SRT for the restart and ORR of Buildings 559 and 707 at Rocky Flats and participated in the management self-assessment of Building 779 Glove Box Removal. Mr. Steelman served as a consultant and led the PNNL self-assessment of Building 325 Processing Laboratory Unreviewed Safety Question Process. He participated in the Plutonium Finishing Plant and Spent Nuclear Fuel Project Engineering/Nuclear Safety Facility evaluation. Mr. Steelman participated in the contractor ORR for the Light Duty Utility Arm and contractor ORR for the Project W-320 Tank 241-C106 Sluicing for FDH.

Carrie Swafford-Chube is employed by the DOE Richland Operations Office as an Independent Oversight Specialist for the Performance Assessment Division. She oversees Contractor Independent and Self Assessment Programs. Ms. Swafford-Chube received a B.S. in Civil Engineering from Southern University Baton Rouge, Louisiana, in 1992 and is currently taking graduate courses at Washington State University Tri-Cities. She began her career at Hanford in 1994 as a Project Engineer in the Tank Waste Remediation Systems. Prior to Hanford Ms. Swafford-Chube was employed by the Illinois Department of Transportation as a Civil Engineer where she worked in both design and construction.

Ms. Swafford-Chube is a member of the DOE's Richland Operations Office ISM Development Team. She participated in the ISMSV at the Princeton Plasma Physics Lab as the Team Lead's Assistant. Ms. Swafford-Chube also participated in three audits and numerous assessments. She completed the Office of Civilian Radioactive Waste Management (OCRWM) Quality Assurance Requirements and Description Lead Auditor Training, DOE/RW-0333P, Revision 7, and the Carlsbad Area Office (CAO) Auditor and Lead Auditor Training.

Observer Biographies

Joseph Henry Richards is in his eleventh year with the Confederated Tribes of the Umatilla Indian Reservation's (CTUIR) Department of Natural Resources. Mr. Richards' responsibilities are to assist the CTUIR in the protection of natural resources impacted by Federal Facilities located within the tribe's ceded area (Hanford Nuclear Site, Umatilla Army Chemical Weapons Depot, Boardman Bombing Range). Currently, his primary activities are performed at the Hanford site. Mr. Richards focuses on environmental compliance activities and the Integrated Safety Management System (ISMS).

Mr. Richards' academic preparation includes an M.S. in Business Information Systems from Utah State University and specialized auditing, auditing research, and accounting information systems courses via the Master of Accountancy Program at Washington State University. Mr. Richards also received a Distinguished Associate Diploma in Environment, Safety & Health from the Government Institutes. Mr. Richards' prior professional experience includes senior level accounting positions in private industry and the instruction of accounting (cost accounting, accounting information systems, fund accounting), auditing, and economic courses at the 4-year collegiate level.

Mr. Richards is a Certified Professional Environmental Auditor, a Certified Environmental Inspector, and a Certified Environmental Specialist. Mr. Richards has also completed training as a Lead Auditor for ISO 14001.

Mr. Richards participates as a member of DOE HQ's Environmental Management System (EMS) Topical Committee (Technical Standards Program). As the ISMS Issues Manager for the Health, Safety & Waste Management Committee, Hanford Advisory Board, Mr. Richards participates in a variety of DOE R/L and contractor ISMS activities, including participation as a member of DOE R/L's ISMS Development Team. Mr. Richards also participates, by invitation of the National Co-Chair, in the National Steering Committee of the Enhanced Work Planning (EWP) organization, and is an active participant in DOE's ISM Lessons Learned Workshops..

Mr. Richards is currently active in several professional organizations including the Environmental Auditing Roundtable, the Institute of Internal Auditors, the Environmental Assessment Association, the Air & Waste Management Association, Sigma Xi (Scientific Research Society), and the Board of Environmental Auditor Certifications.

Mr. Richards is also the owner/operator of "Mother Earth Consulting."

ISMS Phase II Criteria and Review Approach Documents

Appendix C**ISMS Phase II Criteria and Review Approach Documents****TABLE OF CONTENTS**

<u>Section and Title</u>	<u>Page</u>
Department of Energy ISMS Implementation (DOE)	C-1
DOE.1	C-1
DOE.2	C-3
DOE.3	C-5
DOE.4	C-6
Hazards Identification and Standard Selection (HAZ)	C-7
HAZ.1	C-7
HAZ.2	C-8
HAZ.3	C-10
Management Oversight (MGO)	C-11
MGO.1	C-11
MGO.2	C-13
MGO.3	C-15
MGO.4	C-17
Operations	C-18
OPN.1	C-18
Subject Matter Experts	C-20
SME FP.1	C-20
SME RC.1	C-22
SME WP.1	C-24

DOE ISMS IMPLEMENTATION (DOE)**OBJECTIVE**

DOE.1 DOE ISMS procedures and mechanisms are utilized and should ensure that work is formally and appropriately authorized and performed safely. DOE line managers should be involved in the review of safety issues and concerns and should have an active role in authorizing and approving work and operations. (CE II-7)

Criteria

DOE procedures and/or mechanisms are in place and utilized that establish a process for confirming readiness and authorizing operations. (FRAM 9.5.1 and 9.5.2)

DOE procedures and/or mechanisms are utilized to ensure that the safety management system is properly implemented and line management oversight of the contractor's worker, public, environment, and facility protection programs is performed. (FRAM 9.5.2)

DOE procedures and/or mechanisms are utilized to require day-to-day operational oversight of contractor activities through Facility Representatives. (FRAM 9.5.2)

DOE procedures and/or mechanisms are utilized to ensure the implementation of quality assurance (QA) programs and ensure that contractors implement QA programs. (FRAM 9.5.3)

ORP interfaces with contractors and RL representatives are clearly identified, integrated, and utilized when defining work scope and performing work.

Approach

Record Review: Review the FRAM/FRA and DOE implementing guidance to determine that the process for the authorization and oversight of work is adequate. Verify that those DOE personnel assigned to perform these functions have clear roles and responsibilities. Determine if the oversight policy is balanced with risk and priority of mission. Review the QA program established by DOE and the interactions of that program with the contractors QA program. Verify DOE programs hold line management responsible for safety and contain clear roles and responsibilities.

Interviews: Discuss work authorization and performance activities with DOE and contractor personnel to determine if there are adequate mechanisms to ensure that work is properly authorized at all levels. Determine if worker safety is perceived as an integral part of the work authorization process and that workers are involved in issue resolution if appropriate. Discuss the oversight programs with DOE and contractor personnel. Discuss the Facility Representative (FR) programs with facility representatives and contractor personnel to determine if the FR program is effective. Discuss oversight programs with DOE staff who perform ES&H management and supervision assignments. During interviews, verify

understanding of line management responsibility for safety and understanding of clear roles and responsibilities.

Observations: Observe selected facility representative and DOE staff oversight activities.

OBJECTIVE

DOE.2 DOE ISMS procedures and mechanisms ensure that hazards are analyzed, controls are developed. DOE line managers are using these processes effectively, consistent with FRAM and FRA requirements. DOE personnel shall possess the experience, knowledge, skills and abilities that are necessary to discharge their responsibilities. (CE II-8)

Criteria

DOE processes and/or mechanisms are in place and utilized to ensure that the contractor's hazard analysis covers the hazards associated with the work and are sufficient for selecting standards. (FRAM 9.3.1)

DOE procedures and/or mechanisms are in place and utilized in which DOE directs the contractor to propose facility or activity-specific standards tailored to the work and the hazards. DOE procedures are in place and utilized that require that appropriate safety requirements in necessary functional areas are included in contracts. (FRAM 9.4.1)

DOE procedures and/or mechanisms are in place and utilized that direct DOE line manager oversight to ensure that implementation of hazards mitigation programs and controls are established. (FRAM 9.4.2)

DOE procedures and/or mechanisms are in place and utilized that direct the preparation of the authorization basis documentation and oversee the implementation by the contractor. Procedures for development, review, approval, maintenance, and utilization of Authorization Agreements are implemented. (FRAM 9.4.3)

DOE personnel who analyze hazards and identify adequate controls demonstrate and maintain competence that is commensurate with their responsibility.

ORP interfaces with contractors and RL representatives are clearly identified, integrated, and utilized when analyzing hazards and developing controls.

Approach

Record Review: Review the FRAM/FRA and DOE implementing guidance to determine that a process for ensuring that effective interfaces with the contractor's ISMS has been established. Review DOE procedures for ensuring that adequate provisions are included for verification that hazards are properly identified, analyzed, and categorized. Review the approved and in-process hazards analysis documentation to verify that contractor procedures and mechanisms have been properly reviewed and approved. Review DOE procedures that specify the process to be followed for the review and approval of standards and hazard controls. Ascertain that DOE has approved the process used by the contractor to tailor the selection of standards and requirements.

Review the process used for the review, approval, and implementation of authorization basis documentation including authorization protocols and agreements.

Interviews: Interview selected DOE personnel responsible for the review and approval of the results of the contractor's identification, analysis, and categorization of hazards to assess their understanding of the procedures and the underlying principles and requirements. Interview DOE personnel responsible for the review and approval of the standard selection process including the approval of the authorization protocols and agreements

Observations: Observe the programs, processes, and mechanisms identified in practice.

DOE.3 DOE processes have been established and utilized that ensure that mechanisms are in place to ensure continuous improvements are implemented through an assessment and feedback process. DOE procedures and mechanisms ensure that feedback and improvement programs are in place and effective. DOE line managers are using these processes effectively, consistent with FRAM and FRA requirements. (CE II-8)

Criteria

DOE procedures and/or mechanisms require that contractors develop and utilize a lessons-learned program and monitor its implementation. A process is established and utilized for reviewing occurrence reports and approving proposed corrective action reports. A DOE process is established and effectively implemented to continuously improve efficiency and quality of operations. Corrective actions are developed, implemented, and tracked to profit from prior experience and the lessons learned.

DOE provides effective line oversight of the contractor's self-assessment programs. (FRAM 9.6.2)

DOE ensures that applicable opportunities for improvement and lessons learned are appropriately communicated to the work force.

DOE ensures that competence at the facility level and activity level is commensurate with the responsibilities to provide oversight, feedback, and continuous improvement.

DOE processes for priorities are balanced to ensure issues are managed for continuous improvement.

ORP interfaces with contractors and RL representatives are clearly identified, integrated, and utilized when analyzing hazards and developing controls.

Approach

Records Review: Review the DOE process established to provide line oversight of the contractor's self-assessment programs. Review DOE guidance to the contractor concerning the establishment of a lessons-learned program. Determine if the lessons learned between federal safety offices and offices of similar functions are appropriately integrated and shared. Evaluate the DOE issues management and tracking system to ensure that there is an adequate system in place.

Interviews: Interview DOE personnel responsible for administering the issues management program and those DOE line managers who provide oversight of the contractor's self-assessment programs.

Observations: Observe the programs, processes, and mechanisms identified in practice.

OBJECTIVE

DOE.4 DOE implements the ISMS Description/FRAM equivalent, DOE Policy 450.4, and the DEAR. The RL implementing mechanisms ensure that the ISM System Description is updated, maintained, and implemented and are sufficient to result in integrated safety management. (CE I-7, CE II-8)

Criteria

DOE practices and processes are consistent with procedures and policies.

DOE practices are consistent with the ISM System Description, DOE Policy, and the DEAR Requirements for Integrated Safety Management.

DOE evaluates and improves the effectiveness of the ISMS and the ISM System Description.

DOE demonstrates the ISMS is in place to direct, monitor, and verify the integrated implementation of ISMS in accordance with the ISM System Description. Implementation and integration expectations and mechanisms are evident throughout all organizational levels and across all organizations from the facility to the individual activities.

DOE ensures that the ORP ISM System Description/FRAM is maintained current.

Approach

Records Review: Review procedures and mechanisms for updating and maintenance of the ISM System Description. Review the procedures and mechanisms for the evaluation of system effectiveness.

Interviews: Interview personnel for updating the ISM System Description and those personnel that determine ISMS effectiveness. Determine the understanding and compliance to those processes and mechanisms.

Observations: None

HAZARDS IDENTIFICATION AND STANDARD SELECTION (HAZ)

OBJECTIVE

HAZ.1 The full spectrum of hazards associated with the Scope of Work is identified, analyzed, and categorized including subcontract work. Hazards that are considered include nuclear, chemical, process, industrial, or others applicable to the work being considered. Those individuals responsible for the analysis of the environment, health, and safety hazards work closely with those personnel assigned to analyze the processes. (CE II-2)

Criteria

Procedures and/or mechanisms are in place and utilized by personnel to ensure hazards associated with the work, including subcontract work, throughout the facility have been identified and analyzed. The resulting documentation is defined, complete, and meets DOE expectations. The execution of these mechanisms ensure personnel responsible for the analysis of environment, health, and safety concerns work closely with those assigned to analyze the hazards for the facility or activity. These mechanisms ensure direction and approval from line management and integration of the requirements.

Procedures and/or mechanisms are in place and utilized by personnel that describe the roles and responsibilities of those personnel who identify and analyze the hazards of the scope of work. Personnel assigned to accomplish those roles are competent to execute those responsibilities. Workers are involved in the identification and determination of hazards.

Approach

Record Review: Review the documents that govern the conduct, review, and approval of facility or activity hazard analysis, including subcontract work, and documentation such as Process Hazards Analysis (PHA), Preliminary Hazards Review (PHR), Final Safety Analysis Report (FSAR), USQ Determinations, job hazards analysis (JHA), and Work Control Permits (WCP). Verify that these records conform to the hazard analysis requirements. Coordinate the review of work related documents such as Job Hazard Analysis (JHAs), and WCPs with the Operations and SME functional area reviewers. Determine worker involvement in job related hazard identification.

Interviews: Interview personnel responsible for the identification and analysis of work hazards. In nuclear facilities, for example, this should include personnel responsible for USQ determination, lock and tag preparation, procedure technical reviews, etc. Include personnel responsible for hazard analysis of subcontract work.

Observations: If possible, observe the actual preparation and field implementation of the analysis of hazards. In nuclear facilities, this should include an Unreviewed Safety Question Determination (USQD), preparation of a JHA, SAR/TSR, or Criticality Safety Evaluation, etc.

OBJECTIVE

HAZ.2 An integrated process has been established and is utilized to develop controls that mitigate the identified hazards present within a facility or activity. The set of controls ensures adequate protection of the public, worker, and the environment and is established as agreed upon by DOE. These mechanisms demonstrate integration, which merge together at the workplace. (CE II-3)

Criteria

Procedures and/or mechanisms are in place and utilized to develop, review, approve and maintain current all elements of the facility authorization basis documentation.

Procedures and/or mechanisms that require line managers to identify and implement appropriate controls for mitigation of the hazards present within the facility or activity are in place and utilized by personnel. These procedures/mechanisms reflect the set of safety requirements agreed to by DOE. These procedures or similar procedures exist and are utilized for subcontractor work.

Standards and requirements are appropriately tailored to the hazards.

Procedures and/or mechanisms are in place and implemented to develop, maintain, and utilize Authorization Agreements.

Procedures and/or mechanisms are in place to effectively and accurately implement all aspects of the authorization basis.

Approach

Record Review: Review a sample of hazard control documents, *including subcontractor work*, to verify safety controls are provided for the hazards identified and that the control strategy encompasses a hierarchy of (1) hazard elimination, (2) engineering controls, (3) administrative controls, and (4) personnel protective equipment. Typical documents include Authorization Agreements (AAs), Safety Analysis Reports (SARs), Technical Safety Requirements (TSRs), Health and Safety Plans (HASPs), Radiological Work Permits (RWPs), operating procedures, etc. Review procedures and mechanisms to ensure accurate and effective implementation of authorization basis documentation. Sample actual implementing documentation. Coordinate the review of work-related documents such as RWPs and operating procedures with the Operations and SME functional area reviewers.

Interviews: Interview personnel responsible for developing and implementing hazard controls and/or authorization basis documentation at the facility level. This should include personnel such as those responsible for SAR/TSR preparations and implementation, as low as reasonably achievable (ALARA) review requirements, PHA activities, etc.

Observations: Observe the actual processes development, review, approval, and implementation of SAR/TSR, AA, and other authorization basis documents as available.

OBJECTIVE

HAZ.3 Applicable standards and requirements are identified, approved, and implemented. Contractor implementing mechanisms ensure that before operations are commenced or work is performed, safety standards and requirements are identified, approved and implemented such that there is adequate assurance the public, workers, and the environment are protected from adverse impacts from the hazards. (CE II-2, CE II-3)

Criteria

Procedures and/or mechanisms are in place and utilized to identify adequate hazard control standards to protect the public, worker, and environment.

The contractor ensures that the identified controls, standards, and requirements are agreed upon and approved prior to the commencement of the operations or work being authorized.

The contractor utilizes accepted and structured methods and processes to identify, select, and gain approval for safety standards and requirements.

Approach

Records Review: Review contractor procedures for identification and designation of standards that are to be incorporated into facility authorization basis documentation and assess their adequacy. Review mechanisms that implement those standards into the operations or work being performed.

Interviews: Interview contractor personnel for selection and approval of standards. Interview personnel responsible for the implementation of standards into the processes for doing work. Determine the understanding and compliance with procedures for identification submittal and approval of standards.

Observations: None

MANAGEMENT OVERSIGHT (MGO)

OBJECTIVE

MGO.1 An integrated process has been established and is utilized to identify and prioritize specific mission discrete tasks, mission process operations, modifications, and work items.
(CE II-1)

Criteria

Procedures and/or mechanisms that require line management to identify and prioritize mission-related tasks and processes, modifications, and work items are in place and utilized by personnel.

Procedures and/or mechanisms are in place and utilized by personnel that define the roles and responsibilities for the identification and prioritization of mission-related tasks and processes, facility or process modification, and other related work items. Personnel assigned to the roles are competent to execute these responsibilities.

Procedures and/or mechanisms are in place and utilized by personnel that ensure identified work (i.e., mission-related tasks and process, processes or facility modification, maintenance work, etc.) can be accomplished within the standards and requirements identified for the facility.

Approach

Record Review: Review the facility or activity long-range planning documentation. This should include such items as summary schedules, plan of the week, long-range maintenance schedules, modification schedule, etc. Review the procedures and mechanisms that line managers utilize to identify and prioritize mission-related tasks and processes, modifications, and work items.

Review organizational documentation to determine the personnel positions with responsibility associated with this objective. Review the position description for those positions. Review the personnel records that identify the individual qualifications that meet the elements of the position descriptions.

Review any training or qualification material including in training and qualification manuals that support gaining or verifying competence to fill the positions.

Review the procedures and/or mechanisms that are utilized by the facility or activity to ensure that identified work is accomplished in accordance with established standards and requirements.

Interviews: Interview management personnel responsible for the identification and prioritization of work. This should include personnel such as those responsible for long-range planning documentation, schedule preparation, etc.

Observations: Observe work definition and planning activities such as plan of the week meetings, long-range scheduling meetings, etc.

OBJECTIVE

MGO.2 An integrated process has been established and utilized that ensures that mechanisms are in place to ensure continuous improvements are implemented through an assessment and feedback process, which functions at each level of work and at every stage in the work process. (CE II-5)

Criteria

Procedures and/or mechanisms are in place and utilized by personnel to collect feedback information such as self assessment, monitoring against performance objectives, occurrence reporting, and routine observation. Personnel assigned those roles are competent to execute those responsibilities.

Procedures are in place that develop feedback and improvement information opportunities at the site and facility levels as well as the individual maintenance or activity level. The information that is developed at the individual maintenance or activity level is utilized to provide feedback and improvement during future similar or related activities.

Procedures and/or mechanisms are in place and utilized by managers to identify improvement opportunities. Evaluation and analysis mechanisms should include processes for translating operational information into improvement processes and appropriate lessons learned.

Procedures and/or mechanisms are in place and utilized by managers to consider and resolve recommendations for improvement, including worker suggestions.

Procedures and/or mechanisms (including QA) are in place and utilized, which include a process for oversight that ensures that regulatory compliance is maintained.

Approach

Record Review: Review the performance monitoring documentation for the feedback and continuous improvement process. This should include such documents as occurrence reports, shift orders, deficiency reports, post-job reviews, safety observer reports, employee concerns programs, and reports of self assessments. Review procedures for work to determine that adequate feedback and improvement mechanisms are in place at the individual maintenance or activity level. Review actual data from these processes to evaluate the effectiveness of the implementation of these mechanisms. Review QA processes and records including issues/deficiencies and corrective action management.

Interviews: Interview personnel responsible for administering the feedback and continuous improvement progress. This should include personnel such as those responsible for occurrence reporting, lessons-learned preparation, shift orders preparation, worker concerns program, self-assessment, and oversight. Interview personnel responsible for capturing and utilizing feedback and improvement information during individual maintenance or other

work activities. Interview personnel to determine their understanding and compliance with QA processes.

Observations: Observe development and utilization of feedback and continuous improvement activities. This should include such things as conducting post-job critiques, monitored evolutions, post ALARA reviews, conducting a self-assessment or independent assessments, etc. If available, observe proper closure of a QA/management issue.

OBJECTIVE

MGO.3 Clear and unambiguous roles and responsibilities are defined and maintained at all levels within the facility or activity. Managers at all levels demonstrate a commitment to ISMS through policies, procedures, and their participation in the process. Facility or activity line managers are responsible and accountable for safety. Facility or activity personnel are competent commensurate with their responsibility for safety. (CE II-6)

Criteria

Procedures and/or mechanisms are in place and utilized that define clear roles and responsibilities within the facility or activity to ensure that safety is maintained at all levels.

Facility or activity procedures specify that line management is responsible for safety and are utilized.

Procedures and/or mechanisms are in place and utilized that ensure that personnel who supervise work have competence commensurate with their responsibilities.

Procedures and/or mechanisms are in place and utilized that ensure that personnel performing work are competent to safely perform their work assignments.

Procedures and/or mechanisms are in place and utilized to incorporate the best practices of the various safety initiatives (e.g., Environmental Management System, Voluntary Protection Program, Enhanced Work Planning, etc.).

Approach

Record Review: Review facility or activity manuals of practice that define roles and responsibilities of personnel responsible for safety. Review position descriptions and other documentation that describe roles and responsibilities related to ensuring safety is maintained. The review should consider personnel in line management and staff positions and should evaluate whether line managers are responsible for safety. Review the procedures established to ensure those managers and the work force is competent to safely perform work. Review the records of qualification and certification as applicable.

Interviews: Interview selected personnel at all levels of facility or activity management who are identified by the record review above. Verify their understanding and commitment to ensuring that safety is maintained for all work at the facility or activity. Interview a selected number of supervisors and workers (see definition) to determine their understanding of competency requirements and their commitment to performing work safely.

Observations: Observe scheduled activities that demonstrate that clear roles and responsibilities are established and understood, that line managers are actively involved with decisions affecting safety, and that managers and workers are competent to perform their

duties. Activities such as weekly planning meetings, plans of the day, event critiques, safety training, and safety meetings are typical events that may provide good examples of the safety training and decision making process.

OBJECTIVE

MGO.4 The Contractor implements the ISM System Description consistent with the DOE Policy 450.4, 450.5, and 450.6, the DEAR clauses 970.5204-2 and 970-5204-78, and the direction to the contractor from the Approval Authority. The Contractor implementing mechanisms ensure that the ISM System Description is updated, maintained, and implemented, and is sufficient to result in integrated safety management. (CE II-1, CE II-2, CE II-3, CE II-4, CE II-5, CE II-6)

Criteria

Contractor procedures and/or mechanisms are in place and utilized to develop, review, approve, maintain, and update the ISM System Description consistent with DOE Policy 450.4, 450.5, and 450.6, the DEAR clauses, and direction to the contractor from the Approval Authority.

Contractor procedures and practices implement flowdown of DEAR clauses 970.5204-2 and 970-5204-78 requirements into subcontracts involving complex or hazardous work.

The contractor practices are consistent with the ISM System Description, DOE Policy 450.4, 450.5, and 450.6, the DEAR clauses 970.5204-2 and 970-5204-78, and direction to the contractor from the Approval Authority.

The contractor evaluates and improves the effectiveness of the ISM System and the ISM System Description.

The contractor demonstrates that mechanisms are in place to direct, monitor, and verify the integrated implementation of ISMS in accordance with the ISM System Description. Implementation and integration expectations and mechanisms are evident throughout all organizational levels and across all organizations from the facility to the individual activities.

Approach

Records Review: Review procedures and mechanisms for updating and maintenance of the ISMS and ISM System Description. Review the procedures and mechanisms for the evaluation of ISMS effectiveness.

Interviews: Interview personnel responsible for updating the ISM System Description and those personnel that determine ISMS effectiveness. Determine the understanding and compliance to those processes and mechanisms. Receive input from all Verification Team members regarding implementation and integration of ISMS at all LMHC facilities/operations.

Observations: None

OPERATIONS

OBJECTIVE

OPN.1 An integrated process has been established and is utilized to effectively plan, authorize, and execute the identified work, including subcontractor work, for the facility or activity.
(CE II-4)

Criteria

Procedures and/or mechanisms are in place and utilized to ensure that work planning integrated at the individual maintenance or activity level fully analyzes hazards and develops appropriate controls.

Procedures and/or mechanisms are in place and utilized which ensure that there is a process used to confirm that the facility or activity and the operational work force are in an adequate state of readiness prior to authorizing the performance of the work.

Procedures and/or mechanisms are in place and utilized which ensure that there is a process used to gain authorization to conduct operations.

Procedures and/or mechanisms are in place and utilized which ensure that safety requirements are integrated into work performance.

Procedures and/or mechanisms are in place and utilized which ensure that adequate performance measures and indicators, including safety performance measures, are established for the work.

Workers actively participate in the work planning process.

Procedures and/or mechanisms demonstrate effective integration of safety management.

Approach

Record Review: Review documents and/or mechanisms that govern the process for planning, authorizing, and conducting work, including subcontractor work, with emphasis on the individual maintenance or activity level. Evaluate the adequacy of the division of responsibilities, worker involvement, and work authorization process. Review the performance measures and performance indicators established to determine that these tools provide information that is truly a direct indicator of how safely the work is being performed. Review the mechanisms used to prepare Authorization Agreements and protocols. Review these documents to determine if they are adequate, that they demonstrate effective integration, and that proper procedures were followed to prepare, review, and approve them.

Interviews: Interview personnel responsible for authorizing, performing, and measuring the performance of the work. This should include personnel such as those responsible for preparing and maintaining documents such as the Plan of the Day (POD), equipment status files, pre-job briefings, and the conduct of facility or activity operations. Interview personnel responsible for development of maintenance or individual activity procedures and controls. Verify adequate worker involvement at the appropriate steps of the process. Verify that adequate controls are in place for subcontractor work.

Observations: Observe the actual authorization and performance of work activities. This should include such items as pre-job briefings, authorization by the managers to proceed, command and control of the work, review of safety requirements, etc. Observe work hazard identification activities. This should include such items as validation of procedures, procedure tracking, compensatory measures determination, etc.

SUBJECT MATTER EXPERTS

OBJECTIVE

SME FP.1 Within the Fire Protection area the planning of work includes an integrated analysis of hazards and development and specification of necessary controls. There is an adequate process for the authorization and control of work and a process for identifying opportunities for feedback and continuous improvement. Within Fire Protection, line managers are responsible for safety; clear roles and responsibilities have been established; and there is a satisfactory level of competence. (CE II-2, CE II-3, CE II-4, CE II-5, CE II-6)

Criteria

Procedures and/or mechanisms for Fire Protection require adequate planning of individual work items to ensure that hazards are analyzed and controls are identified.

Procedures and/or mechanisms for Fire Protection contain clear roles and responsibilities. Fire Protection is effectively integrated with line support managers to ensure that line managers are responsible for safety.

Procedures and/or mechanisms for Fire Protection require controls to be implemented, that these controls are effectively integrated, and readiness is confirmed prior to performing work.

Procedures and/or mechanisms for Fire Protection require that personnel who are assigned to Fire Protection have a satisfactory level of competence.

Procedures and/or mechanisms for Fire Protection require that feedback and continuous improvement results.

Approach

Record Review: Review the manuals of practice and selected records that define the procedures and interactions required for Fire Protection at the facility or activity. Assess the adequacy of the documents to meet the criteria above and determine that Fire Protection is effectively integrated into the facility or activity procedures. Evaluate the sufficiency of the oversight and interface with the Hanford Fire Department for support of fire systems testing and maintenance. Review records of Fire Protection surveillance and facility walkthroughs. Determine line management involvement in these processes. Review selected lessons learned to assess that lessons learned have been effectively used for Fire Protection. Review training records of personnel in Fire Protection to determine that they meet competency standards.

Interviews: Interview personnel and responsible managers assigned to the Fire Protection area. Interview line managers to assess the establishment of clear roles and responsibilities

and the understanding of the support provided to line managers. Interview personnel assigned to Fire Protection to assess the level of competence.

Observations: Observe events such as the execution of a surveillance procedure, JHA, or the approval process for an individual work item, which includes interactions with personnel in the Fire Protection area. Observe facility housekeeping and determine the impact on fire safety and physical access to combat emergency situations effectively. Observe the oversight for and interface and coordination with the Hanford fire Department involving fire systems testing, maintenance, and impairments.

OBJECTIVE

SME RC.1 Within the Radiological Controls area the planning of work includes analysis of hazards and development and specification of necessary controls. There is an adequate process for the authorization and control of work and a process for identifying opportunities for feedback and continuous improvement. Within Radiological Controls, line managers are responsible for safety; clear roles and responsibilities have been established; and there is a satisfactory level of competence. (CE II-2, CE II-3, CE II-4, CE II-5, CE II-6)

Criteria

Procedures and/or mechanisms for Radiological Controls are utilized and require adequate planning of individual work items to ensure that hazards are analyzed and controls are identified.

Procedures and/or mechanisms for Radiological Controls are utilized and contain clear roles and responsibilities. The Radiological Controls are effectively integrated with line support managers to ensure that line managers are responsible for safety.

Procedures and/or mechanisms for Radiological Controls are utilized and require controls to be implemented, that these controls are effectively integrated, and readiness is confirmed prior to performing work.

Procedures and/or mechanisms for Radiological Controls are utilized and require that personnel who are assigned to Radiological Controls area have a satisfactory level of competence.

Procedures and/or mechanisms for Radiological Controls are utilized and require that feedback and continuous improvement results.

Approach

Record Review: Review the manuals of practice and selected records that define the procedures and interactions required for Radiological Controls at the facility or activity. Assess the adequacy of the documents to meet the criteria above and determine that the Radiological Controls are effectively integrated into the facility or activity procedures. Review selected lessons learned to assess that lessons learned have been effectively used within the Radiological Controls area. Review training records of personnel in Radiological Controls to determine that they meet competency standards.

Interviews: Interview personnel and responsible managers assigned to Radiological Controls. Interview line managers to assess the establishment of clear roles and responsibilities and the understanding of the support provided to line managers. Interview personnel assigned to the Radiological Controls area to assess the level of competence.

Observations: Observe events such as the development of a procedure, development of a hazards analysis such as a Radiological Work Permit (RWP) or JHA, or the approval process for an individual work item, which includes interactions with personnel in Radiological controls.

OBJECTIVE

SME WP.1 Within Maintenance and Work Control, the planning of work includes an integrated analysis of hazards and development and specification of necessary controls. There is an adequate process for the authorization and control of work and a process for identifying opportunities for feedback and continuous improvement. Within Maintenance and Work Control, line managers are responsible for safety; clear roles and responsibilities have been established; and there is a satisfactory level of competence. (CE II-2, CE II-3, CE II-4, CE II-5, CE II-6)

Criteria

Procedures and/or mechanisms for Maintenance and Work Control require adequate planning of individual work items to ensure that hazards (including chemical, electrical, and waste stream) are analyzed and controls are identified.

Procedures and/or mechanisms for Maintenance and Work Control contain clear roles and responsibilities. Maintenance and Work Control are effectively integrated with line support managers to ensure that line managers are responsible for safety.

Procedures and/or mechanisms for Maintenance and Work Control require controls to be implemented (including configuration management controls), that these controls are effectively integrated, and readiness is confirmed prior to performing work. Workers are involved in the planning of the safety controls.

Procedures and/or mechanisms for Maintenance and Work Control require that personnel who are assigned to the maintenance and work control subject area have a satisfactory level of competence.

Procedures and/or mechanisms for the maintenance and work control subject area require that continuous improvement results.

Approach

Record Review: Review the manuals of practice and selected records that define the procedures and interactions required for Maintenance and Work Control at the facility or activity. Assess the adequacy of the documents to meet the criteria above and determine that Maintenance and Work Control is effectively integrated into the facility or activity procedures. In particular, note the integration of the hazard identification development of hazard controls for chemical safety, electrical safety, and waste stream hazards. Also note the methods of maintaining configuration management of the facilities and the documentation during the execution of the facility work. Be alert to worker involvement in the processes reviewed. Review selected lessons learned to assess that lessons learned have been effectively used within Maintenance and Work Control. Review training records of

personnel in Maintenance and Work Control to determine that they meet competency standards.

Interviews: Interview personnel and responsible managers assigned to Maintenance and Work Control. Interview line managers to assess the establishment of clear roles and responsibilities and the understanding of the support provided to line managers. Interview personnel assigned to Maintenance and Work Control to assess the level of competence.

Observations: Observe events such as the development of a procedure, development of a hazards analysis such as an RWP or JHA, or the approval process for an individual work item, which includes interactions with personnel. Observe field conditions and work performed to validate that work as planned is executable and meets established requirements.