IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY

INTEGRATED SAFETY MANAGEMENT SYSTEM PHASE II, PART III VERIFICATION

FINAL REPORT
Volume II

June 2000

U.S. Department of Energy
Washington, D.C.

Sub-Team: INTEC	**FUNCTIONAL AREA: MG.1** **DATE**: June 12, 2000

OBJECTIVE: MG.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. An integrated process has been established 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-1, CE II-5)

CRITERIA:

1. 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.

2. Procedures and/or mechanisms are in place and utilized by personnel to 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.

3. 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 these roles are competent to execute these responsibilities.

4. Procedures and/or mechanisms are in place that develops 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. Corrective actions include identifying the causes and working to prevent recurrence.

5. 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.

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

7. Procedures and/or mechanisms are in place, which include a process for oversight that ensures that regulatory compliance is maintained.

8. The contractor has mechanisms in place to direct, monitor, and verify the integrated implementation of ISMS as described in the ISMS Description. Implementation and integration expectations and mechanisms are evident throughout all institutional line and support organizational functions.

APPROACH:

Record Review: Review the facility or activity long-range planning documentation. This should include such items as summary schedules, plan of the week schedules, long-range schedules, modification schedules, etc.

Review the implementation of the mechanisms that line managers utilize to identify and prioritize mission-related tasks and processes, modifications, and work items. All direct funded work is controlled by procedures found in MCP-14, "Graded Approach to Defining Project Controls."

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. Standards and requirements are rolled down to the facility level for implementation utilizing the process described in MCP-2447, "Requirements Management." Review facility processes for ensuring standards and requirements promulgated by the MCP-2447 process are reflected in activities at the facility.

Review the implementation of INEEL Configuration Management Program described in PLN-485, "Project Plan for the Configuration Management Project," PRD-115, "Configuration Management" and STD-107, "Configuration Management Program." Review MCP-2811, "Design and Engineering Change Control," MCP-3630, "Computer System Change Control," MCP-3572, "System Design Descriptions," MCP-3573, "Validating, Controlling, Using, and Revising Vendor Data" and MCP-2377, "Development, Assessment and Maintenance of Drawings," to establish the facility/activity level configuration management processes at the INEEL. Review training records of personnel in the configuration management subject area to determine that they meet competency standards.

Review the performance monitoring documentation for the feedback and continuous improvement process. This should include such documents as occurrence reports, deficiency reports, results of post-job reviews, safety observer reports, Issue Communication and Resolution Environment (ICARE) reports and reports of self-assessments and independent assessments. Ensure occurrence reports and ICARE entries are being completed in accordance with the requirements specified in MCP-190, "Event Investigation and Occurrence Reporting" and MCP-2723, "Reporting and Resolving Employee Safety Concerns & Suggestions," respectively. Process deficiencies should be addressed by following the process described in MCP-598, "Deficiency Screening and Resolution."

Lessons learned are managed and processed in accordance with the requirements described in MCP-192, "Lessons Learned Program." Management self-assessments are conducted in accordance with MCP-8, "Self-Assessment Process for Continuous Improvement." The process of independent assessment of facilities and activities is described in MCP-552, "Conduct of Independent Oversight Assessments." The FY-00 schedule of independent oversight assessment activities can be found on the QA and Conduct of Operations internal homepage at URL: http://home.inel.gov/qa&coo/ipa.html. The Facility Excellence Program, described in PDD-1011, is a structured means of regularly assessing facilities for compliance in any of these areas.

Review procedures and documentation for work control to determine that adequate feedback and improvement mechanisms are in place at the individual maintenance or activity level. This should include documentation pertaining to the implementation of MCP-3003, “Performing Pre-Job Briefings and Post-Job Reviews,” as the activity-level requirements document.

Review actual reports, results, schedules, and available data from these processes, as well as corporate processes and procedures, to evaluate the effectiveness of the implementation of these mechanisms. Additionally review charters and output documentation from any corporate/site wide ISMS coordinating committees.

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

Interview personnel responsible for administering the feedback and continuous improvement process. This should include personnel such as those responsible for occurrence reporting, lessons learned preparation, ICARE entries, self-assessment, and oversight. Interview personnel responsible for capturing and utilizing feedback and improvement information during individual maintenance or other work activities. Interview line management to determine level of knowledge and involvement in the implementation of programs and activities such as the ICARE process.

Interview personnel and responsible managers in the configuration management subject area. Interview line managers to assess the establishment of clear roles and responsibilities and the understanding of the configuration management support provided to line managers. Interview chairman and key members of ISMS coordinating committees.

Observations: Observe work definition and planning activities to ensure that requirements specified by documents such as the Requirements Management process (MCP-2447) are considered and implemented at the activity level.

As possible, observe an Operational Safety Board (OSB) meeting. If possible, observe a program or project Change Control Board meeting. Observe a Pre-Job Briefing and a

Post-Job Review. Observe any critiques, which may arise throughout the course of the observation process.

Observe events such as the development of an Engineering Change Form (ECF), Computer System Change Form (CSCF), or Document Action Request (DAR) for a technical document.

Observe any site-level ISMS committee meetings.

Record Review:

- INTEC Spent Fuel Operations Operational Safety Board, Agenda, June 6, 2000
- INEEL Analytical Laboratories Department Spectrochemistry Group Pre-Job Checklist
- INEEL Tenant Use Agreement, Facility CPP-637, 6/1/2000
- INTEC Configuration Management-Design Control SME Checklist
- INTEC, CPP-687 Temporary Boiler Installation Project Readiness Review Checklist
- Quarterly Sample Inspection Report, 5/24/00
- Projects Sign On Sheet, Log # 0005172, 5/17/00
- LST-136, INTEC Quality List, Rev. 0, 2/1/00
- ICARE Safety Concern #12838
- IAG-55, Interface Agreement Between Power Management & INTEC, Rev. 0, 5/18/00
- IAG-72, Interface Agreement Between INTEC Site Area Director and Project/Construction Management
- ACLP 0.21, Work Control for Analysis of Non-Routine Samples, 11/16/98
- ACLP-0.22, Status of CPP-602/CPP-630 HVAC Equipment and Other Support Systems, Rev. 0, 6/1/2000
- PDD-1005, Site Operations Manual, Rev. 2, 3/17/00
- PRD-199, LMITCO Fire Protection Program, Rev. 0, 3/15/99
- MCP-8, Self-Assessment Process for Continuous Improvement, Rev. 3, 8/31/99
- MCP-14, Graded Approach to Defining Project Controls, Rev. 5, 7/30/99
- MCP-190, Event Investigation and Occurrence Reporting, Rev. 8, 9/13/99
- MCP-563, Reporting and Resolving Ethics/Employee Concerns, Rev. 1, 12/01/97
- MCP-2005, Analytical Laboratories Department Quality Control Program, Rev. 0, Dec. 18, 1997
- MCP-2006, Analytical Laboratories Department Training And Qualification Program, Rev. 1, Oct. 27, 1997
- MCP-2447, Requirements Management, Rev. 2, 4/30/99
- MCP-2723, Reporting and Resolving Employee Safety Concerns & Suggestions, Rev. 3, 12/01/99
- MCP-2869, Project Turnover and Acceptance, 11/03/99
- MCP-3003, Performing Pre-job Briefings and Post-Job Reviews, Rev. 5, 8/9/99
- MCP-3449, Safety and Health Inspections, Rev. 0, 3/31/98

- MCP-3544, Planning Projects with Grade III Cost and Schedule Controls, Rev. 1, 7/30/99
- MCP-3545, Authorizing, Monitoring, Reporting and Change Control for Grade III Projects, Rev. 1, 7/30/99
- MCP-3567, Authorization Agreement with Authorization Basis List, Rev. 1, 8/30/99
- MCP-3776, INTEC Roles and Responsibilities, Rev. 2, 5/31/00
- Memorandum of Understanding for CPP-651 Ingress/Egress During Construction of the CPP-651 Door Modifications Project MDE-01-00, March 27, 2000
- Project Execution Plan for the INTEC 606 Boiler Replacement Project, Rev. 2, May 2000
- Occurrence Report Number, ID-BBWI-LANDLORD-2000-0004, Failure to Follow Work Instructions and Perform Lockout/Tagout, 2/3/2000
- Occurrence Report Number, ID-BBWI-LANDLORD-2000-0005, Mobile Cranes Operated Without Monthly PM, 2/3/2000
- Occurrence Report Number, ID-BBWI-LANDLORD-2000-0008, Failure to Install an Audible Alarm on a Fire Protection System, 2/29/2000
- Occurrence Report Number, ID-BBWI-LANDLORD-2000-0015, Near Miss, Work on Incorrect Equipment, 5/6/2000
- Occurrence Report Number, ID-BBWI-LANDLORD-2000-0017, Electrical Conduit Cut During Demolition Work, 5/24/2000
- Corrective Action for Identifier Ribbon Use on Building 606 Related Jobs
- Training Handout for Aerial Lifting Devices
- Training Handouts for Site Operations Training for Developing Work Orders
- Safety Concern Report, SCR# 12838
- Idaho Nuclear technology & Engineering Center Organization Chart
- Run Plan for Performing Material Degradation Tests – LLT-05-99, November 23, 1999
- Occupancy Safety Review for the INTEC-687 Temporary Diesel Fired Boiler
- Final Acceptance of Readiness Review Checklist for the INTEC CPP-687 Temporary Boiler
- Deficiency Report, Action Item Number 10728, Studies and reviews of repetitive failures of equipment have not been entered into Machinery History

Interviews Conducted:

- INTEC Analytical Laboratory Department Manager
- INTEC Inorganic Chemistry Supervisor
- INTEC RAL Tech Lead
- INTEC Organic Tech Lead
- INTEC Spent Nuclear Fuel Shift Supervisor
- INTEC Spent Nuclear Fuel Department Manager
- INTEC Technical Support to ESH, Principle Engineer
- INTEC Technical and Support Landlord Supervisor
- INTEC Power Management Department Manager

- INTEC Utilities Engineer Supervisor
- INTEC Utilities Plant Engineer (2)
- INTEC Utilities Operator
- INTEC Maintenance Electrician
- INTEC Utilities Foreman
- INTEC Tenant & Support ICARE Coordinator
- INTEC Utilities Work Window Specialist
- INTEC Power Management Supervisor
- INEEL Construction Director
- INEEL Construction Coordinator
- INTEC Utilities Upgrade Project Manager
- INEEL Construction Safety Engineer
- INEEL Boiler Replacement Field Engineer
- INEEL Boiler Replacement STR
- INTEC Deputy Director
- INTEC Project Manager Supervisor
- Atlas Vice President, Project Manager of 606 Boiler Replacement
- Atlas Superintendent
- Atlas Mechanical Foreman
- INTEC Applied Technology Engineer
- INTEC Configuration Management Coordinator
- INTEC Engineering Department Manager
- INEEL Planning and Controls Nuclear Operations Support Mgr.
- INTEC Utilities Supervisor
- INTEC Self-Assessment Coordinator

Observations:

- Radiological Control Technician Retraining Session
- Employee Suggestions/Concerns Process Walk through
- Job Analysis Training for Technical Support Staff
- Hazards Profile Screening Checklist Walk through
- Construction Walkthrough of CPP-606 Boiler Replacement Project
- Spectrochemistry Group Pre-Job/Post-Job Briefing
- Aerial Lifting Devices Training
- ICARE Database Demonstration
- Hazards Profile Screening Checklist Walkthrough
- Maintenance Training, Developing Work Orders, 00TRN482
- Walk Through Demonstration of Turnover Documentation from Construction to Operations
- Site Access Training
- General Employee Radiological Training
- Environmental, Safety, Health, & Quality Assurance Awareness Training

Discussion of Results:

Line management at INTEC identifies and prioritizes mission-related tasks, modifications, and work items. The facility and activity long-range planning documentation was reviewed. This included summary schedules, plan of the week schedules, long-range schedules, and modification schedules. These are then translated into detailed and integrated project management plans and work schedules, which personnel utilize. INTEC processes for prioritizing day-to-day work are coordinated through these work planning efforts and integrated with mission priorities, and executed through plan-of-the-day meetings and continual assessments of project progress. Processes and mechanisms that require line management to identify and prioritize mission related tasks have been developed and are in place at INTEC which flow down from corporate programs and procedures, operate at all levels of facility operations, and include all work processes and workers.

The Project Execution Plan for the INTEC 606 Boiler Replacement Project was reviewed to determine if work can be accomplished within the standards and requirements identified for INTEC. The project is required to follow the BBWI Project Control System description requirements and the Management Control Procedures MCP-14, "Graded Approach to Defining Project Controls", MCP-3544 "Planning Projects with Grade II Cost and Schedule Controls", and MCP-3545, "Authorizing, Monitoring, Reporting and Change Control for Grade III Projects" as described in the Project/Construction Management Guide GDE-51.1.E. The team found that the processes for ensuring standards and requirements are reflected in project activities at INTEC.

The implementation of a INTEC Configuration Management (CM) Program was reviewed and the INTEC CM Coordinator was interviewed. Configuration management deficiencies have been identified from a number of resources, events and assessments that caused the development of a Configuration Management initiative. This initiative produced a schedule and the core CM documents for the Integrated Safety Management System (ISMS) Phase I milestone. However, these initial efforts were limited to CM of facility structures, systems, and components (SSCs). The site-wide CM program has been developed and extends down to the facilities to ensure effective and proper control of all programs, processes, and activities that should apply CM principles and conventions. The implementation of the CM project plan at the facility level will take a concerted effort on the part of line management. The team found during the review that the INTEC CM program has a sufficient project plan but the resources to successfully work the design recovery element of the CM plan has not been identified to ensure success of the plan execution (IMG1-1).

Performance monitoring documentation for the feedback and continuous improvement process was reviewed and appropriate personnel interviewed. This included several occurrence reports, deficiency reports, results of post-job reviews, Issue Communication and Resolution Environment (ICARE) reports and reports of self-assessments and independent assessments. Occurrence reports and ICARE entries are being completed in

accordance with the requirements specified in MCP-190, “Event Investigation and Occurrence Reporting” and MCP-2723, “Reporting and Resolving Employee Safety Concerns & Suggestions”, respectively. Process deficiencies are addressed by following the process described in MCP-598, “Deficiency Screening and Resolution.” Personnel assigned these roles are competent by reason of past experience, professional qualifications and training in the procedures and mechanisms to execute these responsibilities.

Implementation of procedures were reviewed to determine if mechanisms are in place that develops feedback and improvement information opportunity at the site and facility levels. Lessons learned are managed and processed in accordance with the requirements described in MCP-192, “Lessons Learned Program.” Management self-assessments are conducted in accordance with MCP-8, “Self-Assessment Process for Continuous Improvement.” The process of independent assessment of facilities and activities is described in MCP-552, “Conduct of Independent Oversite Assessments.” Personnel interviewed and documents reviewed confirmed that these processes are in place and effective.

Procedures and documentation for work control to determine that adequate feedback and improvement mechanism are in place at the individual maintenance or activity level are in place. This is implemented through MCP-3003, “Performing Pre-Job Briefings and Post-Job Reviews,” as the activity-level requirements document. The Analytical Lab organization was reviewed and personnel interviewed to determine the level of feedback and improvement mechanisms. Because of the unique operations of the Laboratory Operations Department, they have developed an innovative way to perform pre-job and post-job briefings and have developed a tailored pre-job checklist to support their operations. The Analytical Lab Department has embraced ISMS and utilizes an integrated process to identify and prioritize specific mission discreet tasks, mission process operations, modifications and work items (IMG1-2).

Procedures and mechanisms utilized by managers to identify improvement opportunities such as self-assessments, lessons learned, occurrence reporting and routine observation were reviewed. Personnel assigned these roles were assessed to ensure they are competent to execute these responsibilities. The INEEL occurrence reporting system (ORPS) to meet DOE requirements is fully implemented at INTEC. Corrective actions from ORPS reports are entered into the ICARE system and tracked to completion. Post-job reviews are performed on completed work packages and provide feedback on lessons learned.

There is some room for improvement for managers to implement established programs that identify improvement opportunities. Currently there is not a implemented program for tracking and trending for maintaining equipment history. Because of the age of the INTEC facilities this trending history could prove invaluable for maintaining important facility operations. This issue has already been recognized as a deficiency by the INTEC Contractor and is captured in Deficiency Report No. 10728. The issue is raised in this report to emphasis the importance that the ISMS Validation Team places on it.

Self-assessments are provided by line management and conducted by management and workers to provide for a continuous improvement process in support of INTEC operations. Procedures are in place that are built upon self-evaluation and feedback that promotes a level of awareness of those areas that require improvement and identifies those areas where excellence has been achieved. There is some concern that INTEC may be performing too many self-assessments and that the program should be looking at improving the quality and standardization of lines of inquiry for self-assessments.

The Construction Coordinator performs a weekly safety surveillance of ES&H requirements on each construction site using a standard checklist. This checklist is used to officially communicate safety deficiencies to the performing organization. The information from this checklist is tabulated to track observations as well as identifies any trends from these tabulations. Management then uses these trends to determine areas of improvement and where to target self-assessments. The Construction Safety Engineer also publishes and distributes the top ten violations and findings from the ES&H checklists, which was noted as a good practice by the team.

There are several procedures in place and utilized by managers to consider and resolve recommendations for improvement, including worker suggestions. One method is the procedure for reporting and resolving employee safety concerns and suggestions. This procedure provides instructions for reporting, acting upon, and closing a safety concern or suggestion. Safety concerns and suggestions are tracked through resolution using the Safety Concerns process on the ICARE system.

The program person responsible for employee suggestions/concerns was interviewed. A understanding of the program and process for handling employee suggestions was demonstrated. Any employee can enter a suggestion into the ICARE system, and this can be done in a variety of ways. Provisions are available for making anonymous entries, if desired. Any suggestion made or issue raised by a worker in ICARE cannot be closed out without that employee's concurrence. This is evaluated as an effective worker suggestion program.

INTEC also uses the Integrated Work Control Process (IWCP) and is the method by which Enhanced Work Planning and the Voluntary Protection Program are implemented for maintenance, construction, and ER/D&D work activities. It provides a single process by which work is performed, and it ensures that work is screened consistently to uniform criteria, and hazards are appropriately identified, analyzed, and controlled. The IWCP uses a post-job review, which is another mechanism for feedback for workers to ensure continuous improvement.

The procedures and mechanisms, which include a process for oversight, that ensure regulatory compliance is maintained were reviewed. Procedures are established for the requirements flow-down process, which facilitates appropriate implementation of these requirements and controls into work activities at INTEC.

The contractor has mechanisms in place to direct, monitor, and verify the integrated implementation of ISMS as described in the ISMS Description. The team found that implementation and integration expectations and mechanisms are evident throughout all institutional line and support organizational functions.

Conclusion:

The Objective has been met**.**

Issue(s):

- The team found during the review that the INTEC Configuration Management (CM) program has a sufficient project plan but the resources to successfully work the design recovery element of the CM plan has not been identified to ensure success of the plan execution (IMG1-1).

Strength(s):

- The Analytical Lab Department has embraced ISMS and utilizes an integrated process to identify and prioritize specific mission discreet tasks, mission process operations, modifications and work items (IMG1-2).

Inspector_____ Glenn M. Morton, P.E.	**Team Leader**_____ Terry W. Smith

Sub-Team INTEC	**FUNCTIONAL AREA: MG.2** **DATE: June 12, 2000**

OBJECTIVE: MG.2 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:

1. 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.

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

3. Facility or activity procedures specify that line management is responsible for safety.

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

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

6. The contractor is using a process to establish, document and implement safety performance objectives, performance measures, and commitments in response to DOE program and budget execution guidance.

APPROACH:

Record Review: Review contractor organization charts and documents describing the contractor matrix management concept. Review organizational documentation such as PDD-1015 "Research and Development Operations," PRD-5060, “Occupational Safety Functions, Roles, Responsibilities, and Interfaces,” MCP-3680, “Central Facilities Area Operations Information, Roles and Responsibilities,” and MCP-3776, “INTEC Roles and Responsibilities,” and other similar documents. Ensure roles and responsibilities for personnel responsible for safety are clearly defined and understood and properly executed. This review could include position descriptions, Form-325.01 “Employee Position Description (EPD)” and other applicable MCPs that describe roles and responsibilities related to ensuring safety are 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 such as PDD-13 "Conduct of Training," MCP-27 "Preparation and Administration of Individual Training Plans," and MCP-33 "Personnel Qualification and Certification" to ensure that managers and workers are competent to safely perform work. Review the personnel records which should include the "Training and Implementation Matrix" (TIM), "Individual Training Plans" and "Employee Training History," to identify the individual qualifications that meet the elements of the position descriptions. Review the applicable records of qualification and certification. Review any training or qualification material, including training and qualification manuals such as Manual 12 and the associated processes that support gaining or verifying competence to fill the positions.

Review the process to establish, document and implement safety performance objectives that support DOE program and budget execution guidance.

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 to determine their understanding of competency requirements and their commitment to performing work safely. Interview senior contractor management at the facility to determine their knowledge of the ISM process and their commitment and participation in the process. Interview contractor line managers who are responsible for the establishment and implementation of the safety performance measures and safety objectives.

Observations: As possible, observe training being delivered for key programs such as hazards identification and analysis. 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.

As possible, observe activities such as weekly planning meetings, plans of the day, event critiques, safety training, OSB meetings, Pre-job briefs, Site Operations Council (SOC) meetings, Corrective Action Review Boards (CARBS) and safety meetings that may provide good examples of the safety training and decision making process. Activities such as facility/process operations, testing, and maintenance also provide opportunities to observe personnel in the execution of roles and responsibilities, their understanding of procedures, awareness of hazards and management commitment to safety.

Record Review:

- MCP-3776 INTEC Roles and Responsibilities, 04/05/00
- IAG-72 Interface Agreement Between INTEC SAD and Project/Construction Mgmt. 06/01/00
- Memo, CPP-602/CPP-630 Facility Boundaries Requiring Work Authorization . . ., R.L. Hand to ALD INTEC Staff, May 11, 2000
- MCP-3567, Authorization Agreement with Authorization Basis List, Rev.1, 08/30/99
- Tenant Use Agreement, Facility CPP-637, 06/01/00
- IAG-55, Interface Agreement Between Power Management and INTEC, Rev. 0, 5/18/00

- Memorandum of Understanding for CPP-651 Ingress/Egress During Construction of CPP-651 Door Modifications Project MDE-01-00, 03/27/00
- PDD-13 Training and Qualification Program, 10/04/99
- Employee Training Record, , INTEC Power Operations
- Employee Training Record, INTEC Utilities Engineering
- Employee Training Record, Utility Operations
- Employee Training Record, Utility Operations
- INTEC Organization Chart, 05/11/00
- MCP-1072, INTEC Work Window Process, 04/05/0
- ESH & Q Performance Measure & Trending Report, May 2000
- PDD-1005, Site Operations Manual, Rev 2, 03/17/00
- Form 325.01, Employee Position Description
- MCP-27, Preparations and Administration of Individual Development Plans
- MCP-33, Personnel Qualification and Certification
- MCP-2006, Analytical Laboratory Department Training and Qual Program, Rev 1, 12/18/97
- Training Handout for Aerial Lifting Devices
- Training Handouts for Site Operations Training for Developing Work Orders
- LST-10, INTEC Training Implementation Matrix, Rev. 1, 5/31/00
- PDD-5, INTEC Training and Administration Support, Rev. 6, 06/1/00
- PDD-13, Conduct of Training, Rev. 2, 10/04/99
- INTEC Training Department Corrective Action Plan, no date [Second CY Quarter 2000]
- Train Report, Job Requirements Report with Associated Programs, for a specific employee 06/07/00
- OJT Check Off Sheet, #00TRN355.P0100, Rev 1, Prepare, Issue, and Use Electronic Dosimeters
- High Level Planner Qualification Checklist, Course Number QLF10025, Rev 0, 07/15/99
- Mid Level Planner Qualification Checklist, Course Number QLF10024, Rev 0, 07/15/99
- Basic Planner Qualification Checklist, Course Number QLF10023, Rev 0, 07/15/00
- Occurrence Report, ID-BBWI-Landlord-2000-0004, Failure to Follow Work Instructions and Perform Lockout/Tagout, 02/03/00
- Occurrence Report, ID-BBWI-Landlord-2000-0015, Near Miss, Work on Incorrect Equipment, 05/06/00
- Occurrence Report, ID-BBWI-Landlord-2000-0017, Electrical Conduit Cut During Demolition Work, 05/24/00
- Corrective Action for Identifier Ribbon Use on Building 606 Related Jobs, received 06/06/00
- PLN-660, Issues Management Excellence Plan, Rev 0, 06/01/00
- MCP-2723, Reporting and Resolving Employee Safety Concerns & Suggestions, Rev. 3, 12/01/99
- Form 440.4, Safety Concern Report Input Form, Rev. 3, 09/30/97
- Safety Concern Report Number 12838, from ICARE 06/05/00
- SNF Drill Program (history of INTEC SNF drills since 1997), one page, dated 06/06/00

Interviews Conducted:

- INTEC—Analytical Laboratories – Department Manager
- INTEC – Analytical Laboratory – Inorganic Chemistry Supervisor
- INTEC – Remote Analytical Laboratory – Technical Lead
- INTEC – CPP-602 Analytical Laboratory – Technical Specialist
- INTEC – Spent Nuclear Fuel(SNF) – Operations Supervisor
- INTEC – ES & H Division—Employee Safety Concerns Principal Engineer
- INTEC – Tenant & Support Operations – Supervisor
- INTEC – Maintenance Department – Manager
- INTEC – Utilities Department – Engineering Supervisor
- INTEC – Utilities Department – Primary System Owners (2 interviewed)
- INTEC – SNF Department – Manager
- INTEC – High Level Waste -- Operations Supervisor
- INTEC – Utilities Department – Work Window Specialist
- INTEC – Tenant & Support Operations – Power Operations Supervisor
- INEEL – Construction Department – Manager
- INEEL – Construction Department – Construction Coordinator
- INEEL – Projects Department – Utilities Upgrade Project Manger
- INEEL – Construction Department – Safety Engineer
- INEEL – Construction Department – Field Engineer
- INEEL – Construction Department – Subcontractor Technical Representative
- INTEC – Site Area Director – Deputy
- INTEC – Engineering Department – Construction and Project Management Supervisor
- INTEC – Construction Contractor – Vice President and Project Manager
- INTEC – Construction Contractor – Superintendent
- INTEC – Construction Contractor – Foreman
- INEEL – Operations Training Directorate -- Director
- INTEC – Training Department – Manager
- INTEC – Training Department – Utilities Trainer
- INTEC – Training Department – Records Supervisor
- INTEC – Training Department – Records Clerk
- INTEC – Engineering Department – Configuration Management Coordinator
- INTEC – Engineering Department – Manager
- INTEC – Integrated Scheduling Dept – Acting Manager
- INTEC – Utilities Department – Supervisor
- INTEC – Management – Self Assessment Coordinator

Observations:

- Radiological Control Technician Retraining Session
- Employee Suggestions/Concerns process walkthrough including ICARE database entries
- Construction walkthrough of CPP-606 Boiler Replacement Project
- Specrochemistry group Plan of the Day meeting including pre and post job briefings

- Job Analysis Training for technical support staff
- Hazards Profile Screening Checklist walkthrough
- Aerial lift safety retraining session
- Work Order development training session
- Construction turnover process walkthrough
- Self-assessment process, database, and tracking system
- Site Access Training
- General Employee Radiological Training
- Environment, Safety, Health, & Quality Assurance Awareness Training
- Employee training folders (several)

Discussion of Results:

The review team examined in depth the methodology employed by INTEC to define roles and responsibilities of all the various departments. Particular attention was paid to areas of interface between INTEC Operations and other organizations such as Construction, Analytical Laboratories, Landlord/Utilities, and Power Management. The basic governing document is MCP-3776 INTEC Roles and Responsibilities. In addition there are several interface agreements, some of which are very recent such as the one with Construction; but, not all such documents are in place at this time. In the various interviews, the review team found a clear understanding of each interviewee's area of responsibility, accountability, and interface areas. Almost all interviewees understood the governing documents and the "big picture" of the INTEC management framework. The team concludes that the definition and understanding of roles and responsibilities at INTEC is adequate and well implemented.

Utilizing interviews in a given area or facility from the manager to the worker level and the supervision levels in between, the review team discerned a clear understanding by the employees at each level of the management system in place and flow of safety responsibility within that system. No evidence was found, either through interviews or observations, that pursuit of the work was more important than the safety of the work. The team concludes that the roles and responsibilities within each facility and area are clearly defined and implemented to ensure that safety is maintained at all levels.

For each area and facility examined, the review team found that clear understandings and assumption of line management safety responsibility have been implemented. Line management is actively engaged to assure that the work activity under their cognizance can be safely accomplished. Each work package is walked down and approved at the proper level of management before work can commence.

The review team examined the procedures and systems in place to assure that supervisory personnel have competence commensurate with their responsibilities. Several of the INTEC department managers are new in their jobs, i.e., some assignments have been made in the last two/three months. Training plans have been developed and training in progress to assure these newly placed management personnel are properly trained. The review team did find that in the non-nuclear areas, there was not a formal system in place for technical training or qualification of the system engineer to their system(s) (IMG2-1). This situation has been identified by INTEC

management and corrective action is underway. Given the aforementioned conditions which INTEC management recognized and is correcting, the review team believe the system for assuring supervisory competence has been adequately implemented.

INTEC has significantly upgraded the training system to assure that personnel performing the work are competent to safely perform their assignments. The improvements include the use of a training qualification card which each employee carries with themselves indicating that current qualifications and expiration dates (IMG2-3). Another improvement is that the supervisors personally inspect the training folder for each of their employees to ascertain that the training documentation is complete and accurate, thus assuring the workers competence to do the assigned work (IMG2-4) The team found that the rigor of nuclear casualty drills in the SNF area should be improved and a minimum attendance policy should be established (IMG2-2) INTEC management has recognized these deficiencies and corrective actions are planned. The review team concludes that the system to assure worker competence to work safely has been implemented in a very good manner.

INTEC, as part of the overall INEEL management system, has embraced a “balance scorecard” methodology wherein safe work performance is embedded in achieving operational excellence in performing DOE assigned work. The Balanced Scorecard performance model provides the basis for the Performance Evaluation Measurement Plan (PEMP). Within the PEMP are both safety and performance measures. Progress on these measures are reviewed in formal monthly performance review meetings. Deviations from plans are reviewed with corrective actions assigned. Trending of ESH & Q performance measures has recently been formalized. The management approach also ensures that ESH& Q concerns are identified and acted upon in establishing budget priorities for outyear work. The review team concludes that INTEC has implemented an adequate program for safety objectives to be developed in conjunction with performance plans to met programmatic objectives.

The INTEC management system and execution of the system provides clear assignment of roles and responsibilities for all work performed at INTEC. Managers at all levels show an understanding and an active commitment to ISMS principles. Line management responsibility and accountability for safety of activities in their assigned areas is well documented and well understood by the supervisory work force. Improvements made in statusing the qualification and certification of each employee provides increased assurance that all personnel are competent for their assigned responsibilities. Records review, interviews, and observations performed by the review team indicate that the implemented program is adequate to assure employees are trained commensurate with their responsibilities.

Conclusion:

The objective has been met.

Issue(s):

- For non-nuclear areas, the training of the cognizant system engineer (primary system owner) should be strengthened to formally train and qualify the engineer to the system(s) for which they are responsible (IMG2-1).
- Improvements in the nuclear drill program for SNF operations are necessary. The complexity of the drills should be enhanced. Several operators have not received casualty drill training in the last two years (IMG2-2).

Strength(s):

- The utilization of the qualification card which each employee carries at all assures that each individual is aware of their training status all times (INMG2-3).

- Having the responsible supervisor personally review the training package to verify worker qualification is a noteworthy practice (INMG2-4).

Inspector_____ Peter J. Dirkmaat	**Team Leader**_____ Terry W. Smith

Sub-Team: INTEC	**FUNCTIONAL AREA: OP** **DATE**: June 12, 2000

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

CRITERIA:

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

2. 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.

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

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

5. Procedures and/or mechanisms are in place and utilized which ensure those adequate performance measures and indicators, including safety performance measures are established for the work, and the controls to mitigate hazards are observed while work is being performed.

6. Workers actively participate in the work planning process.

APPROACH:

Record Review: As applicable, review documentation and/or mechanisms that govern the work control process for planning, authorizing, and conducting work such as STD-101 "Integrated Work Control Process," MCP-3562 "Hazard Identification, Analysis & Control of Operational Activities," PRD-5043 "Operational Safety Boards", PDD 1012 "INEEL Environmental Management System" and MCP-3480 "Environmental Instructions for Facilities, Processes, Materials and Equipment." This review should assess the adequacy of the documents and the status of their implementation, to meet the requirements listed above and determine that the maintenance and work control process is effectively integrated into the facility/activity procedures. Review documentation that describes roles and responsibilities for the work control process, worker involvement in all aspects of the activity, and the work authorization process. Controls for individual

work items or activities such as Job Safety Analysis (JSA), Radiation Work Permits (RWP), Hazard Profile Screen Checklist (HPSC), Work Control Forms (WCF), Confined Space Entry Permit, and operating procedures should also be evaluated.

As applicable, review the ALARA process to ensure the basic concepts of ALARA as well as any ALARA Committee recommendations are incorporated into the work control documentation.

Review the integration of subcontractor work control into the facility work control process. Evaluate the review of subcontractor work control documentation, the approval of the documentation, work authorization, and the oversight of subcontractor work in the facility.

Review the performance measures and performance indicators using the "INEEL Performance Measures and Trending Report," MCP-3521 "Trending Center," self - assessments conducted in accordance with MCP-8 "Self-Assessment Process for Continuous Improvement," or the Facility Excellence Program PDD-1011 "Facility Excellence Program." Determine if these tools provide information that is truly a direct indicator of how safely the work is being performed.

Review the process used to prepare Authorization Agreements, MCP-3567 "Authorization Agreements with Authorization Basis List" and TEM-2, "Template for Authorization Agreement with Authorization Basis List." As applicable, review the Authorization Agreements for the selected facilities 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 preparing, authorizing, performing, and measuring the performance of the work. This should include personnel such as those responsible for preparing and maintaining work control documents, hazard identification and control documents, the Plan of the Day (POD), equipment status files, pre-job briefings, and the conduct of facility or activity operations.

Interview personnel responsible for individual activity procedures and controls (e.g. JSAs, RWPs, HPSCs, WCFs, etc.) Verify adequate worker involvement at each step of the process.

Interview personnel responsible for the development and implementation of the self-assessment program including individuals who participate in self-assessments. As applicable, interview those individuals responsible for development, maintenance, and approval of the Authorization Agreement. Interview members of the management team charged with adherence to the requirements listed within the Authorization Agreement.

Observations: Observe the actual authorization and performance of work activities. Observe a plan of the day or plan-of-the-week meeting. As possible, attend an Operational Safety Board (OSB) meeting or an Independent Hazard Review Group

(IHRG) meeting with field verification that hazard controls specified by the hazards control documents are being implemented. As possible, team members should observe the development of a maintenance work package as well as the field execution of a maintenance work package. Observation could include the pre-job brief, authorization by the managers to proceed, command and control of the work, review of safety requirements, post-job review, etc.

As possible, observe work hazard identification activities (e.g. JSAs, RWPs, etc.) and the application of MCP-3562 during an operational procedure walk-down and review. Observe worker involvement in these processes.

Record Review:

- PDD-1004, INEEL Integrated Safety Management System, Rev. 4, 2/25/2000
- PDD-1005, Site Operations Manual, Rev. 2, 3/17/00
- PDD-1012 - INEEL Environmental Management System, Rev 3, 5/9/00
- MCP-3776, INTEC Roles and Responsibilities, Rev. 2, 5/31/00
- STD-101, Integrated Work Control Process, Rev. 3, 12/14/99
- MCP-135, INTEC Document Development and Review Process (Supplemental to MCP-135), Rev. 2, 2/16/2000
- MCP-3562, Hazard Identification, Analysis and Control of Operational Activities, Rev. 2, 3/17/00
- MCP-3003, Performing Pre-Job Briefings and Post-Job Reviews, Rev. 5, 8/9/99
- MCP-3571, Independent Hazard Review, Rev. 2, 1/31/00
- MCP-2783, Start and Restart of Facilities and Activities, Rev. 3, 3/17/00
- INEEL Performance Measures and Trending Report, 4/00
- MCP-3521, Trending Center, Rev. 0, 3/1/99
- MCP-3567, Authorization Agreements with Authorization Basis List, Rev. 2, 5/25/00
- MCP-553, Stop Work Authority, Rev 3, 4/12/00
- MCP-8, Self-Assessment Process for Continuous Improvement, Rev. 3, 8/31/99
- FY 2000 INTEC Self Assessment Schedule, 5/23/00
- TPR-P2.1-G4 Repackage, Handle, and/or Store Fuel, Rev. 15, 2/16/2000
- SNF Technical Standard 5.6A1 (Controlled Copy)
- SNF Technical Standard 5.6A2 (Controlled Copy)
- Work Order (WO) 00024494 01, Install Vibration Analysis Contact (CPP-666), Chg. 1, 3/30/00
- WO 00026573 01, Replace broken Coupling on Valve (CPP-666), Chg. 2, 6/1/00
- WO 00027209 01, Replace Battery in Waste Loadout Car, Chg. 1, 4/20/00
- WO 25256, Dry Run FECG Hatch Pull (CPP-603), Chg. 0, 6/1/00
- Subcontract NO S00-096445, Becthel BWXT Idaho, LLC, 3/28/00
- Modification No. 9 Subcontract No. S98-295983, 10/20/99
- SNF FY-2000 Recordable and First Aid Cases, 4/00
- Performance Monitor Meeting Notes Nuclear Fuel Operations, 3/14/00
- List of ICARE Items for SNF, 5/25/00

- US DOE ID and Bechtel BWTX Idaho LLC Authorization Agreement for the INTEC Fluorinel Dissolution and Fuel Storage (FAST) Facility, Rev. 1, 10/1/99
- US DOE ID and Bechtel BWTX Idaho LLC Authorization Agreement for the INTEC Underwater Fuel Receiving and Storage Facility, Rev. 4, 5/10/00
- US DOE ID and Bechtel BWTX Idaho LLC Authorization Agreement for the INTEC Unirradiated Fuel Storage Facility, Rev. 7, 4/26/00
- US DOE ID and Bechtel BWTX Idaho LLC Authorization Agreement for the Irradiated Fuel Storage Facility (CPP-603) and the Underground Fuel Storage Facilities, Rev. 2, 10/1/99
- Implementation Plan for Department of Energy Orders 5480.23 and 5480.22, Rev. 1 May 2000

Interviews Conducted:

- INTEC Director
- BBWI Construction Director
- Construction Force Account Subcontractors
- SNF Shift Supervisors
- SNF Operators (6)
- 603/749 Supervisor
- SNF Operations Supervisor
- SNF Craftsmen (6)
- SNF Maintenance Supervisor
- SNF Maintenance Foreman
- INETC Maintenance Department Manager
- SNF Self-Assessment Coordinator
- SNF Engineering Supervisor
- SNF Work Planner (1)
- SNF Engineers (4)

Observations:

- SNF Work Package Walk-down WO 26573
- SNF Operational Safety Board Meeting
- SNF Pre-Job Work Evolution – Peach Bottom Fuel Receipt
- SNF Plan of the Day
- SNF Plan of the Week
- SNF Maintenance Work Evolution WO # 9639
- Construction Work Evolution WO # 9639
- SNF Maintenance Post-Job Brief WO # 26573
- SNF Workability Work Package Walk-down, FECF Hatch Pull
- Construction Pre-Job Brief for the CPP-651 Door Upgrade

Discussion of Results:

This portion of the ISMS Verification is focused on implementation of the OP.1 Criteria at INTEC Spent Nuclear Fuel (SNF) Operations.

Interviews with SNF management, supervisors, operators, INTEC maintenance management and craft personnel assigned to SNF confirmed that staff and management were aware of key procedures for planning and implementing work such that hazards are analyzed and appropriately mitigated and controlled. Observation of work activities indicated that key procedures (STD 101) were appropriately utilized to ensure that work planning was executed at the activity level under appropriate authorizations and controls (e.g., corrective and preventative maintenance tasks, construction activities). Work planning in accordance with STD 101 provided for a diligent approach for analyzing hazards and developing appropriate controls. Although not fully implemented (as discussed below), the MCP-3562 process will enhance the current protectiveness of operational procedures for activities conducted by SNF operations.

According to PPD-1004, readiness at the nuclear facility-level for starts or restarts after shutdown is confirmed through the conduct of operational readiness reviews (ORRs), operational readiness assessments (ORAs) or contractor expanded reviews (CER) conducted in accordance with MCP-2783, "Start and Restart of Facilities and Activities." There were no SNF facilities in the midst of ORR, ORS, or CER; therefore, no direct observations of the process were possible. Operations Manager and Facilities Supervisors appeared to have good understanding of start and restart requirements for their facilities.

For maintenance and construction activities, readiness is confirmed via the process defined in STD-101 after the Site Area Director and the Facility Manager have approved the work order (used synonymously with SNF Operations Manager: MCP 3776). Before maintenance and construction tasks commence, a workability walk-down is scheduled and conducted by the appropriate craftsmen, SMEs, and foreman/job supervisor to identify any changes in site conditions since the Work Package and pre-job site inspections were conducted. After confirmation that conditions are consistent with those defined in the approved work package, a pre-job briefing is held by the foreman to review major hazards and to ensure craftsmen understand the hazards and the mitigating controls. All reviewed WOs included the appropriate work prerequisites. Observation of both workability walk-downs (SNF WO # 26573 and SNF WO # 9636) and pre-job briefings (WO # 26573) indicated that maintenance activities performed within the SNF were consistent with the requirements of STD-101 and MCP-3003, "Performing Pre-Job Briefings and Post-Job Reviews." Maintenance and construction craftsmen interviewed demonstrated a clear understanding of their roles and responsibilities in implementing the workability walk-downs, pre-job briefings and for maintaining appropriate training, qualifications and certifications. The maintenance foremen was observed to review the training of all support personnel (i.e., those personnel for which the foremen was unfamiliar with their training status) and requested qualification cards for review prior to commencement of work.

For operational activities involving hazardous work, pre-job briefs are conducted in accordance with MCP-3003 and address worker readiness through a review of hazards, hazard mitigation and control, work procedures, special precautions, PPE, appropriate emergency responses, etc. Observation of operational pre-job briefings (SNF Pre-Job and Work Evolution Peach Bottom Fuel Receipt CPP-666) indicated that the meeting contents were compliant with and met the intent MCP-3003. Interviews with SNF Fuel Handlers and Equipment Operators indicate an appropriate level of understanding their roles and responsibilities for ensure readiness, including implementation of MCP-3003 and maintaining appropriate training, qualifications, and certifications.

The terms and conditions under which DOE authorizes BBWI to operate SNF nuclear facilities are promulgated through a number of Authorization Agreements (AA). They are also the terms and conditions under which the contractor agrees to operate the facilities. Any changes to these conditions require renegotiations of the AA. These include the AAs for the INTEC FAST Facility (CPP-666), the INTEC Underwater Fuel Receiving and Storage Facility (CPP-603), the INTEC Unirradiated Fuel Storage Facility (CPP-651), the Irradiated Fuel Storage Facility (CPP-603) and the Underground Fuel Storage Facilities (CPP-749). The agreement is an acknowledgement by the contractor and DOE-ID that the facility's authorization basis (AB) and other referenced documents are sufficient to protect the public, the workers, and the environment when implemented. Although the ABs are deemed sufficiently protective, they not compliant with the requirements of DOE O 5480.22, *Technical Safety Requirements*, and 5480.23, *Nuclear Safety Analysis Reports*. The contractor is aware of the deficiency and INTEC is revising its AB documentation according to their "Implementation Plan for DOE Order 5480.23 and 5480.22, Rev. 1, May 2000." All six SNF nuclear facility AB's are scheduled to be revised to be compliant with DOE Orders 5480.22 and 23 by September 2002.

Procedures are in place for ensuring that there is a process used to gain authorization to conduct operations. Maintenance and construction activities are authorized in accordance with STD 101. STD 101 establishes a detailed procedure for initiating, developing and approving Work Orders. STD 101 requires the operations/facility manager to give approval to commence work once the Work Order has been approved by the appropriate SMEs. MCP-3776 also requires Work Orders for construction and maintenance activities associated with SNF to be approved by the Operations Manager. Currently, by direction from the Site Operations Manager, the Site Area Director reviews and approves Work Orders. The Work packages reviewed for maintenance and construction activities were observed to be consistent with the requirements of STD 101. Interviews with craftsmen indicated a thorough understanding of procedures for authorizing work and of the appropriate foreman or supervisor responsible for authorizing commencement of work after approval of the WO by the Facility Manager. Observations of work evolutions (WO # 9639 and subcontractor construction activities at CPP-651) were authorized and approved according to procedures. The requirements of ISMS flow down to the subcontractor via the terms of the contract as observed in Subcontract NO S00-096445, Becthel BWXT Idaho, LLC, 3/28/00 and Modification No. 9 Subcontract No. S98-295983. The observed pre-job briefing and review of the criteria issued to the pre-qualify the subcontractor for the CPP-651 work activity suggested that requirements from STD-

101 for planning, authorizing and controlling work flow down to the subcontractor as required by DEAR 970.5204-2.

According to MCP 3776 the SNF Operations/Facility Manager authorizes all work performed in his facility. Operations are conducted after POD approval by the Facility Manager. In accordance with MCP-3776, the shift supervisor authorizes and directs performance of operational activities as specified in the Facility Manager POD. Fuel Handler and Equipment Operators were found to be knowledgeable of the lines of authority relative to approval of work.

Safety requirements are integrated into work performance via the STD 101 and MCP-3562 processes. For maintenance and construction activities safety requirements are included first by screening the work activities with the HPSC. The HPSC links specific hazards to sets of mitigating actions. These mitigating actions typically call for the implementation of MCPs that are in turn written to address List A and List B contract requirements. After development of the WO it is submitted to the appropriate SMEs for further identification of applicable environment, safety and health requirements. The SAD and the FM also perform reviews to ensure appropriate requirements are included WO before approval. Finally, the approved WO is reviewed during the pre-job brief to make a final determination if all requirements were included. Review of maintenance and construction WOs indicated that the STD-101 process was followed. An observed corrective maintenance workability walk-down and subsequent pre-job brief, (WO # 26573) identified the need for additional mitigating controls not identified during the WO development, pointing to the effectiveness of the iterative review process defined by STD-101 (i.e., pre-WO development walk down, SME review and approval, Facility Manager review and approval, workability walk-down, and pre-job briefing).

SNF operations typically are controlled by procedures instead of STD-101 WOs. BBWI is currently reviewing its procedures relative to hazard identification criteria established in MCP-3562. In simplest terms, current procedures are being reviewed relative to a Job Safety Analysis developed through a hazard evaluation group (HEG), a multi disciplined group of SMEs, supervisors, operators and craftsmen. Procedural steps are reviewed against screening statements and mitigating actions listed in Appendix E of the MCP-3562. If the procedural step is consistent with the screening statement then associated mitigating controls are considered for inclusion in the JSA and the subject procedure. The mitigating controls are typically citations of appropriate MCPs that address requirements derived from the List A and B set of contract requirements. SNF has approximately 12 out of 102 procedures that have been processed. According to MCP-135 all procedures must be revised via the MCP-3562 process before September 30, 2000. Failure to satisfy this milestone will result in the procedure being designated as "inactivated." Currently, SNF operations are controlled by existing procedures that are linked to approved authorization basis documents. These procedures are linked to the current authorization basis documents and define work processes that meet the requirements of the Technical Standards and the Safety Limits and Limiting Conditions of Operations defined therein. These procedures are therefore considered sufficient to provide appropriate controls during fuel handling operations, as defined in the respective

facility ABs. SNF operations must review and modify, as necessary, approximately 90 procedures so that they meet the more rigorous hazard identification and mitigation requirements of MCP-3562. SNF operations is currently executing a schedule to have all remaining procedures reviewed by the end of September 2000.

In accordance with MCP-8, SNF conducts approximately 100 self-assessments annually. SNF conducts its self-assessments following a master schedule managed by a central INTEC Self-assessment coordinator. The self-assessments include those specifically related to ES&H areas, as well as non-ES&H areas. The SNF self-assessment coordinator schedules the assessment, tracks closing of findings or issues, and facilitates resolution of issues associated with findings. Issues and findings arising from self-assessments are tracked and closed in a number of ways. If possible, issues are addressed immediately. If longer-term corrective actions are necessary the issue is tracked through the ICARE system. No self-assessments were observed, however, several reports were reviewed. Although there is currently a self-assessment system in place, the content of the self-assessment reports appear to be terse and short on details (e.g., checklists or simple forms) and the underlying criteria for the reviews are not established in detail. SNF Operations is aware of this and of the need to develop better defined review plans and criteria. SNF operations is conducting assessments to a schedule established prior to a recent change in management and has directed additional self-assessments targeting specific areas of concern, such as shift turnovers. These additional assessments, however, have not been incorporated by revisions to the self-assessment schedule. The SNF coordinator has develop a detailed draft set of self-assessment plans for specific ES&H and non-ES&H functional areas. This is an area of improvement of which SNF management is aware and is addressing.

An example of improved facility safety, directly resulting from the self-assessment program, has included a full review of SNF Technical Standards to ensure that operational procedures capture all Safety Limits and Limiting Conditions for Operations between January and May 2000. This review was conducted by SNF engineering and the Facility Manager. Corrective actions relative to this process are being formally tracked in the ICARE system.

The SNF Operations manager currently tracks a number of safety performance measures for activities under his cognizance, including maintenance and construction activities performed within SNF facilities. These include Occurrence Reports, Safety Severity Index, Lost Work Days, First Aids, “Flashes” and ICARE issues. SNF management appeared to be sufficiently aware of the relevant safety performance indicators and measures and their meaning relative to safety needs.

Both for INTEC and SNF their appears to be a need for defining and tracking significant performance indicators related to Preventative Maintenance (PM) and Corrective Maintenance (CM) activities. Although these indicators are not direct safety performance measures, equipment failures can directly impact safety and comprise a common root cause of occurrences across the complex. Interviews with the SNF maintenance supervisor and the INTEC division maintenance manager indicated that the site is in the

process of redefining their PMs to include only those that impact safety and mission needs. Currently, all PM and CM WOs are tracked regardless of the mission or safety importance. For example, SNF recorded PM delinquencies of approximately 50% in April. This is poor performance for a nuclear facility; however, the metric includes non-safety and non-mission critical structures, systems, and components (SSCs). It is, therefore, difficult to monitor meaningful maintenance indicators such as those that impact safety significant or safety class SSCs. Important measures of maintenance performance included PM delinquencies, CM backlogs, and CM tasks verses total maintenance backlog (CM+PM). The site has apparently identified this as a concern and is attempting to remedy the problem. This is an area identified as needing improvement and Site Area Director and the SNF Facility Manager indicated their commitment to remedy this concern. There is presently no formal plan to develop a meaningful system to monitor maintenance performance for safety and mission related SSCs. INTEC should pay careful attention to developing and refining the definition of critical SSCs as "Implementation Plan for Department of Energy Orders 5480.23 and 5480.22, Rev. 1 May 2000" is executed. (IOP1-1)

SNF operators and crafts personnel indicated that the workers have become an important part of work planning and evaluation since the ISMS process has been implemented. The most common observation made during interviews is that management is now committed to listening to worker feedback. It was also noted by many of the workers that if their management did not respond, they were comfortable using the ICARE system or going to the SAD, if necessary. Likewise the SAD and SNF Manager indicated that they were committed to maintaining an open door policy to hear safety concerns. Observations of workability walk-downs, pre-job briefings, and post-job briefings confirmed that SNF operators and crafts personnel were engaged in the work planning, authorization, and improvement process consistent with the intent of Guiding Principle 8 as defined in PDD-1004 and in compliance with STD-101. Workers and operators are also engaged in the HEGs, where they feel their input is incorporated in the redevelopment of procedures via the MCP-3562 process.

All employees interviewed were confident in their ability to stop both their own work and the work of fellow INTEC employees. Several of the craftsmen provided example of construction and maintenance activities they had personally stopped without negative feedback from management. (IOP1-2)

Conclusions:

The criteria for the OP-1 have been meet by INTEC SNF Operations.

Issue(s):

- SNF and INTEC lack the ability to effectively track PM delinquencies, CM backlogs, and other performance measures for critical SSCs that impact INTEC missions and safety. Critical safety systems, as used here, includes non-safety class and non-safety significant SSCs, such as sprinkler systems. (IOP1-1)

Strength(s):

- The understanding between management and the workers that safety comes first in work planning, readiness checks, and work performance, including stop work, is not just a empty slogan but appears to be part of the culture at SNF. (IOP1-2)

Inspector_____ Thomas S. Helms	**Team Leader**_____ Terry W. Smith

Sub-Team: INTEC	**FUNCTIONAL AREA: OP** **DATE**: June 12, 2000

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

CRITERIA:

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

2. 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.

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

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

5. Procedures and/or mechanisms are in place and utilized which ensure those adequate performance measures and indicators, including safety performance measures are established for the work, and the controls to mitigate hazards are observed while work is being performed.

6. Workers actively participate in the work planning process.

APPROACH:

Record Review: As applicable, review documentation and/or mechanisms that govern the work control process for planning, authorizing, and conducting work such as STD-101 "Integrated Work Control Process," MCP-3562 "Hazard Identification, Analysis & Control of Operational Activities," PRD-5043 "Operational Safety Boards", PDD 1012 "INEEL Environmental Management System" and MCP-3480 "Environmental Instructions for Facilities, Processes, Materials and Equipment." This review should assess the adequacy of the documents and the status of their implementation, to meet the requirements listed above and determine that the maintenance and work control process is effectively integrated into the facility/activity procedures. Review documentation that describes roles and responsibilities for the work control process, worker involvement in all aspects of the activity, and the work authorization process. Controls for individual

work items or activities such as Job Safety Analysis (JSA), Radiation Work Permits (RWP), Hazard Profile Screen Checklist (HPSC), Work Control Forms (WCF), Confined Space Entry Permit, and operating procedures should also be evaluated.

As applicable, review the ALARA process to ensure the basic concepts of ALARA as well as any ALARA Committee recommendations are incorporated into the work control documentation.

Review the integration of subcontractor work control into the facility work control process. Evaluate the review of subcontractor work control documentation, the approval of the documentation, work authorization, and the oversight of subcontractor work in the facility.

Review the performance measures and performance indicators using the "INEEL Performance Measures and Trending Report," MCP-3521 "Trending Center," self - assessments conducted in accordance with MCP-8 "Self-Assessment Process for Continuous Improvement," or the Facility Excellence Program PDD-1011 "Facility Excellence Program." Determine if these tools provide information that is truly a direct indicator of how safely the work is being performed.

Review the process used to prepare Authorization Agreements, MCP-3567 "Authorization Agreements with Authorization Basis List" and TEM-2, "Template for Authorization Agreement with Authorization Basis List." As applicable, review the Authorization Agreements for the selected facilities 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 preparing, authorizing, performing, and measuring the performance of the work. This should include personnel such as those responsible for preparing and maintaining work control documents, hazard identification and control documents, the Plan of the Day (POD), equipment status files, pre-job briefings, and the conduct of facility or activity operations.

Interview personnel responsible for individual activity procedures and controls (e.g. JSAs, RWPs, HPSCs, WCFs, etc.) Verify adequate worker involvement at each step of the process.

Interview personnel responsible for the development and implementation of the self-assessment program including individuals who participate in self-assessments. As applicable, interview those individuals responsible for development, maintenance, and approval of the Authorization Agreement. Interview members of the management team charged with adherence to the requirements listed within the Authorization Agreement.

Observations: Observe the actual authorization and performance of work activities. Observe a plan of the day or plan-of-the-week meeting. As possible, attend an Operational Safety Board (OSB) meeting or an Independent Hazard Review Group

(IHRG) meeting with field verification that hazard controls specified by the hazards control documents are being implemented. As possible, team members should observe the development of a maintenance work package as well as the field execution of a maintenance work package. Observation could include the pre-job brief, authorization by the managers to proceed, command and control of the work, review of safety requirements, post-job review, etc.

As possible, observe work hazard identification activities (e.g. JSAs, RWPs, etc.) and the application of MCP-3562 during an operational procedure walk-down and review. Observe worker involvement in these processes.

Record Review:

- Various Plan of the Day and Plan of the Week schedules for INTEC Balance of Plant
- Work Orders 23240, 24523, 28497, 27138, and 26845
- TPR-P9.2-D3, Potable Water Production, Rev 3, dated 4/25/200 and associated MCP-3562 documents
- ACLP 7.23, Removing and Installing RAL ICP Cubicle Glove Port Shielding Plates, Rev 4, dated 3/7/2000 and associated MCP-3562 documents
- Construction subcontract D98-295983, Modification 9, dated 10/11/99
- Vendor subcontract B96-180355, dated 11/22/95, associated modifications, and E-mail from procurement management dated 6/8/2000 concerning immediate corrective actions for noted deficiencies.
- Self-assessment schedules for INTEC for the year 2000 for those INTEC activities not directly associated with High Level Waste and Spent Fuel.
- Construction self-assessment schedules for the year 2000
- 5 self-assessments completed in May 2000 for Balance of Plant and construction and documentation indicating disposition of issues.
- Performance Indicators and associated documentation for Balance of Plant
- ICARE printouts for open DR's and SCR's for INTEC Balance of Plant.
- Documentation showing trends in maintenance backlog
- Interface agreement IAG-55, Interface Agreement Between Power Management and INTEC, rev 0, dated 5/18/00
- Authorization Agreement IAG-35, Idaho Nuclear Technology and Engineering Center Experimental Facilities, rev 1, dated 10/1/99 and associated Authorization Basis List for INTEC Experimental Facilities, LST-104, rev 3, dated 4/26/00
- Authorization Agreement IAG-42, Idaho Nuclear Technology and Engineering Center Laboratory Facilities, rev 1, dated 10/1/99 and associated Authorization Basis List for INTEC Laboratory Facilities, LST-111, rev 3, dated 4/26/00
- Authorization Agreement IAG-38, Idaho Nuclear Technology and Engineering Headend Processing Plant, rev 1, dated 10/1/99 and associated Authorization Basis List for INTEC Headend Processing Plant, LST-107, rev 2, dated 4/26/00

- Authorization Agreement IAG-38, Idaho Nuclear Technology and Engineering Fuel Processing Facility, rev 1, dated 10/1/99 and associated Authorization Basis List for Fuel Processing Facility, LST-106, rev 3, dated 4/26/00
- Interface Agreement IAG-72, Interface Agreement Between INTEC Site Area Director and Project/Construction Management, Rev 0, approved 5/31/00
- ALARA Committee review comments and documentation showing their disposition
- Conduct of Operations conformance matrices for INTEC Balance of Plant
- "Flash" messages dated 5/24/2000 (2) and 5/17/2000.
- INTEC Self-assessment Summary First Half FY-2000
- Tenant Use Agreement for CPP-637, approved 6/1/00
- Independent Hazard Reviews (IHR) INTEC-00-02 and INTEC-00-03 for R&D work at INTEC.
- List of INTEC specific Maintenance Related Tasks
- Construction work order 23624, Support the Main Stack Sampling Effort
- Construction work order 24207, Grout Waste Boxes
- BBWI Subcontract S00-180270 with Wheeler Electric Inc, dated 4/25/00
- Wheeler Electric Inc. Integrated Safety Management System document, rev 2, dated 1/19/00
- Work Order 24079 for ventilation filter replacement in NWCF
- Confined Space Permit 8980 associated with work order 24079
- Radiation Work Permit 3100450 associated with work order 24079
- MCP-8 , Self-Assessment Process for Continuous Improvement, rev 3, 31Aug99
- MCP-598, Deficiency Screening and Resolution, rev 12, 10 May 00
- PDD-1004, INEEL Integrated Safety Management System, rev 4, 25 Feb 00
- PDD-1005, Site Operations Manual, rev 2, 16 Mar 00
- MCP-3571, Independent Hazard Review, rev 2, 02 Feb 00
- MCP-3562, Hazard Identification, Analysis and Control of Operational Activities, rev 2, 14 Mar 00
- STD-101, Integrated Work Control Process, rev 3, 14 Dec 99
- PRD-5043, Operational Safety Boards, rev 0, 02 Aug 99
- PDD-1012, Environmental Management System, rev 3, 09 May 00
- MCP-3480, Environmental Instructions for Facilities, Processes, Materials and Equipment, rev 2, 03 May 00
- MCP-3567, Authorization Agreement with Authorization Basis List, rev 1, 30 Aug 99
- MCP-3776, INTEC Roles and Responsibilities, rev 1, 05 Apr 00
- MCP-1072, INTEC Work Window Process, rev 1, 05 Apr 00
- PLN-597, Applied Technology Implementation Plan for MCP-3571, rev 0, 12 May 00
- PLN-566, INTEC Project Plan for Implementation of MCP-3562, rev 0, 16 Nov 99
- MCP-3521, Trending Center, rev 0, 03/01/99
- PDD-1011, Facility Excellence Program, rev 0, 03/15/99

- TEM-2, Template for Authorization Agreement with Authorization Basis List, rev1, 08/30/99
- MCP-9141, Tenant Use Agreements, draft
- ACMM-7012, Titrimetric Determination of the Acidity of Aqueous and Organic Solutions Containing Hydrolyzable Ions, rev 11
- ACLP 2.38, Periodic Safety Inspection and Radiation Survey Procedure, rev 1

Interviews Conducted:

- INTEC Site Area Director
- INTEC Utilities Supervisor
- INTEC Utility Foremen (2)
- INTEC Balance of Plant Maintenance Supervisor
- INTEC Maintenance Foremen (2)
- Construction craftsmen (2)
- INTEC Balance of Plant System Engineers (2)
- INTEC Balance of Plant Planners (2)
- Office workers (2)
- Plant Shift Manager (unscheduled)
- Tenant and Support Department Manager
- INTEC Self-Assessment Coordinator
- INTEC Applied Technology Department Manager
- INTEC Applied Technology IHRG Chairman
- INTEC Department Manager for Analytical Laboratory Department
- Analytical Chemists (2)
- Manager of Facility Support Operations
- Electricians (4) (2 were unscheduled)
- INTEC Utility Operators (2)
- Construction Project Manager
- Construction Coordinators (2)
- Construction Projects Team Lead
- Utility/Landlord Shift Maintenance Supervisor
- INEEL Construction Manager
- INEEL Manager of Construction Operations (unscheduled)
- INTEC Mechanical Craftsman (unscheduled)
- Hazard Evaluation Group Chairman
- Custodian (unscheduled)
- HLW Operations Support Engineer (unscheduled)
- Waste Side Operator (unscheduled)
- Waste Processing Shift Supervisor (unscheduled)
- Heavy Equipment Operator (unscheduled)
- Chemical Analyst
- Chemical Engineer (unscheduled)
- Biologist (unscheduled)

- Manager for Planning and Controls for Nuclear Operations
- Cafeteria workers (3) (unscheduled)

Observations:

- Execution of Utilities/Maintenance work order 27142, UPS Battery Replacement
- Execution of Spent Nuclear Fuel (SNF) work order 26573, Replace Broken Coupling
- Spent Nuclear Fuel Operational Safety Board (OSB) meeting for Unreviewed Safety Question's (USQ) in CPP-651
- TS&O Plan of the Day meeting
- Shift Operations Meeting (backshift)
- Independent Hazard Review Group (IHRG) meeting for the Composition Variation Study test plan
- Work planning walkdown for Power Management work order 29275, Install Current Monitor
- Hazard Evaluation Group (HEG) activities for Analytical Labs procedure ACLP 2.38, Periodic Safety Inspection and Radiation Survey Procedure
- Corrective Action Review Board meeting on 6/8/00
- Execution of ACMM-7012, Titrimetric Determination of the Acidity of Aqueous and Organic Solutions Containing Hydrolyzable Ions, rev 11
- Execution of work order 24079 for ventilation filter replacement in the NWCF

Discussion of Results:

This assessment form documents the ISMS verification of the "Balance of Plant" (BOP) at INTEC. BOP consists of all organizations and activities not associated with spent nuclear fuel or waste management. As such, the activities and personnel represent a wide range of facilities, operations, responsibilities, and competencies.

Procedures and/or mechanisms are in place and utilized to ensure that work planning is integrated at the individual maintenance or activity level, and work planning fully analyzes hazards and develops appropriate controls. Work performed in the INTEC Balance of Plant area includes maintenance and maintenance-like activities such as construction, operations, and analytical and research laboratory activities. Maintenance and construction work are planned and executed using the process described in STD-101. STD-101 provides an adequate process for determination and mitigation of hazards. All work orders, including construction, produced under STD-101 are generated using a computerized maintenance management system. Craftsmen performing maintenance work and construction subcontractor personnel are involved in the work planning process; most notably in the area of hazard identification and mitigation. A proven process, MCP-3562, for ensuring operational procedures are adequately evaluated for associated hazards, is utilized for both facility operations and laboratory analysis procedures. Hazards associated with research work performed in laboratories at the INTEC are evaluated and mitigated using the Independent Hazard Review (IHR) process of MCP-3571. Interviews and field observations indicated that these processes are well

understood by the personnel involved and are utilized. Reviews of work control documents, IHR packages and operations procedures indicated that these requirements are implemented. It should be noted that, although all operational procedures have not been through the MCP-3562 process and all test plans for laboratory work have not been through the MCP-3571 process, the ones reviewed during this assessment that have been completed were determined to be adequate and a path forward exists for the completion of the remaining procedures and test plans.

A review of construction and vendor subcontracts was conducted to determine if the requirements for an ISMS were included. In most instances, the ISMS clause was passed down to the subcontractors requiring that they manage and perform work in accordance with BBWI's Safety Management System or develop their own documented system that meets the same requirements as BBWI's. It was noted in the case of vendor subcontract B96-180355 that the ISMS clause was not passed down to the vendor in spite of several contract modifications taking place in the recent past. [IOP1-4]

Procedures and 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. Maintenance and construction work is developed, reviewed, approved and executed using the process defined in STD-101. Hazards associated with the work are determined using the Hazard Profile Screening Checklist, Facility Hazards List, and a planning walkdown of the work site using a team approach. In addition, a workability walkdown is conducted prior to the performance of the work. All work orders are approved by the Site Area Director and must be scheduled on the Plan of the Day prior to performance. A pre-job briefing, which includes all personnel involved in the work, is conducted prior to starting work. The same methodology for hazard identification described for maintenance also applies to construction work orders. Pre-job briefings were found to be an integral part of the work control process regardless of the type of work being performed. Interviews with personnel, review of documents and observation of work in the field indicate that these processes are implemented. Personnel interviewed displayed a thorough understanding of their "Stop Work" authority. Personnel also indicated that they would not hesitate to use it and would not fear reprisal for doing so.

Work being conducted in the laboratories, other than maintenance, falls into two categories; test plans and analytical/laboratory procedures. The Integrated Hazard Review process of MCP-3571 is utilized for all new test plans. Document reviews indicated that a path forward exists for the completion of the remainder of active test plans. It was also verified that analytical procedures used in the laboratories are being evaluated through the MCP-3562 process and a path forward exists for completion of the remaining operations procedures. Interviews with personnel, review of documents, observation of the review processes and observation of work in field indicated that personnel understand these processes and they are implemented. All research and development work in the laboratories is required to be approved on the Plan of the Day. It should be noted that the enthusiasm of all personnel in both the R&D and Analytical

laboratories toward their participation in ISMS implementation process is exceptional. [IOP1-8]

Procedures and/or mechanisms are in place and utilized which ensure that there is a process used to gain authorization to conduct operations. All maintenance and construction work performed at the INTEC is approved by the Site Area Director and must be scheduled on the Plan of the Day before it may be performed. In addition, appropriate Conduct of Operations conformance matrices, approved by both the INTEC Site Area Director and DOE-ID, are in place. Procedures specified in the matrix implement the various chapters of DOE 5480.19. These company level and facility specific supplemental procedures determine how operations are authorized and performed within INTEC. Selected Authorization Agreements were reviewed. Those reviewed were determined to have been prepared, reviewed and approved using the process specified in MCP-3567. All personnel interviewed understood how work activities are authorized. Observation of Plan of the Day meetings, a Shift Operating meeting and work in the field indicated that these processes are implemented.

Procedures and/or mechanisms are in place and utilized which ensure that safety requirements are integrated into work performance. STD-101 and MCP-3562 both contain requirements for the use of specific tools for ensuring that hazards associated with maintenance and operations are determined, evaluated and mitigated in the documents used to control the work. The tools used in the hazard identification and mitigation process include the Hazard Profile Screening Checklist, Facility Hazards Lists, planning walkdowns, workability walkdowns, pre-job briefings and the establishment of an adequate “stop work” process. Interviews with personnel involved in work control document development, approval and use were all well aware of the procedures and mechanisms used to ensure safety is integrated into work performance and were satisfied that they were adequate to provide the required protection. Reviews of work control documents and operations procedures followed by work observation in the field indicated that the process was adequate for ensuring the safety requirements are integrated into work performance.

The Independent Hazard Review process for research activities also provides for the use of tools to ensure that safety requirements are integrated into work performance. These tools, as specified in MCP-3571, include the Independent Hazard Review Checklist and Hazard Mitigation Plan, Hazard Assessment and Mitigation Plan, Hazard Mitigation Checklist, Work Activities Checklist for compliance with NEPA, Exposure Survey and Assessment forms, and a Conduct of Operations Checklist. Observations of the IHRG process for approving and authorizing research; interviews with personnel involved in the development, approval and use of the IHR; and review of approved and in-use IHR documents in the field indicates that the process is adequate for ensuring that safety requirements are integrated into work performance.

Interface problems between construction subcontractors and INTEC operations have been apparent in the recent past. A portion of the corrective action was to develop an Interface Agreement that would define the responsibilities, controls, and accountability for all

construction work performed at INTEC except where INTEC facility management has granted Construction Management exclusive control over a defined area. Review of interface agreement (IAG) –72, Interface Agreement Between INTEC Site Area Director and Project/Construction Management, showed it to be comprehensive in meeting its stated purpose. Interviews with construction and operations personnel indicated an understanding of the agreement and a universal belief that it will go a long way in alleviating the existing interface problems. Although some actions have been implemented, a conclusion concerning the adequacy of implementation and actual effectiveness could not be determined since IAG-72 was only recently issued (approved 5/31/00) and its implementation is in its infancy [IOP1-3]. Other Interface Agreements currently in effect were reviewed with no noted problems.

Several Conduct of Operations problems were noted during field observation of maintenance work. The first involved maintenance work order 26573 that required activity steps be worked in a sequential order. In one instance information was entered into a step prior to the completion of some previous steps. The step in question had both an action portion and an information portion. Only information was entered into the step; the action portion of the step was not worked out of sequence. The action portion of the step involved torqueing of fasteners and the information entered out of sequence was the torque wrench serial number and calibration date. [IOP1-5] The second Conduct of Operations problem deals with the method used to ensure appropriate and adequate isolation boundaries prior to final approval for hanging a lockout/tagout. A Primary Authorized Employee responsible for final approval of a lockout/tagout did not utilize as-built drawings of the system being tagged in order to grant the final approval. A walkdown of the system boundary was performed instead of in addition too a review of the as-built drawing for the system. [IOP1-7]

Procedures and/or mechanisms are in place and utilized which ensure those adequate performance measures and indicators, including safety performance measures are established for the work, and the controls to mitigate hazards are observed while work is being performed. Entities within the INTEC Balance of Plant have established performance measures at both the company and directorate level. Managers interviewed believe that the performance measures established by the company and themselves have been and are effective in driving behavior, including safety, within their directorates. A very active and aggressive self-assessment program is in place at the INTEC. Feedback from the process is tracked to closure.

One major feedback mechanism in the STD-101 work control process was noted to be in need of improvement. The Post-Job Review records utilize a numbering system for reporting the adequacy of various portions of the work control document. Interviews with personnel responsible for incorporating the feedback into work control process find the numbering system provides no useful information. Further review indicated that the contractor had previously noted this issue and, although actions are in progress, changes to the Post-Job Review have not been implemented. [IOP1-6]

STD-101 and MCP-3562 contain specific requirements for employee participation in the planning process. When planning maintenance work, employees are involved in the planning walkdown, workability walkdown, and pre-job briefings as a minimum. They are also involved in any team planning sessions. Direct observation of pre-job briefings, planning walkdowns, interviews with workers and performance of work in the field indicated that worker participation in the work planning process for maintenance is adequate. Operators are involved in the MCP-3562 process for determined the adequacy of hazard identification and mitigation in operations procedures. This includes laboratory personnel who use analytical procedures. Direct observation of a Hazard Evaluation Group review of an operations procedure and interviews with operators and laboratory personnel indicated that worker participation in the work planning process for operations activities is adequate. Laboratory personnel are involved in the preparation and performance of research work under the IHRG process of MCP-3571. Observation of an IHRG and interviews with personnel working under an IHR indicated that worker participation in the work planning process for research and development activities is adequate. Without exception, workers demonstrated an enthusiastic attitude toward their participation in the work planning process. [IOP1-8]

Conclusions:

The objective is met for INTEC Balance of Plant.

Issue(s):

- Interface Agreement IAG-72 titled "Interface Agreement Between INTEC Site Area Director and Project/Construction Management" is not implemented. (IOP1-3)
- The procurement process for ensuring inclusion of the ISMS clause in vendor subcontracts was not adequate to prevent failure of the process. (IOP1-4)
- There was one noted instance in which information was entered into a mandatory sequencing work control document in an out-of-sequence order. (IOP1-5)
- The numbering system in Post-Job Review forms used to provide feedback to Primary Owners and Planners is not useful in improving the work control process. This issue was previously self-identified by the Contractor. (IOP1-6)
- A Primary Authorized Employee performed a walkdown of the lockout/tagout isolation boundary to provide final approval of the isolation boundary in lieu of the use of an available as-built drawing. (IOP1-7)

Strength(s):

- Without exception, workers demonstrated an enthusiastic attitude toward their participation in the work control process. (IOP1-8)

Inspector_____ Charles A. Jones	**Team Leader**_____ Terry W. Smith

Sub-Team: INTEC	**FUNCTIONAL AREA: OP** **DATE**: June 10, 2000

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

CRITERIA:

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

2. 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.

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

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

5. Procedures and/or mechanisms are in place and utilized which ensure those adequate performance measures and indicators, including safety performance measures are established for the work, and the controls to mitigate hazards are observed while work is being performed.

6. Workers actively participate in the work planning process.

APPROACH:

Record Review: As applicable, review documentation and/or mechanisms that govern the work control process for planning, authorizing, and conducting work such as STD-101 "Integrated Work Control Process," MCP-3562 "Hazard Identification, Analysis & Control of Operational Activities," PRD-5043 "Operational Safety Boards", PDD 1012 "INEEL Environmental Management System" and MCP-3480 "Environmental Instructions for Facilities, Processes, Materials and Equipment." This review should assess the adequacy of the documents and the status of their implementation, to meet the requirements listed above and determine that the maintenance and work control process is effectively integrated into the facility/activity procedures. Review documentation that describes roles and responsibilities for the work control process, worker involvement in all aspects of the activity, and the work authorization process. Controls for individual

work items or activities such as Job Safety Analysis (JSA), Radiation Work Permits (RWP), Hazard Profile Screen Checklist (HPSC), Work Control Forms (WCF), Confined Space Entry Permit, and operating procedures should also be evaluated.

As applicable, review the ALARA process to ensure the basic concepts of ALARA as well as any ALARA Committee recommendations are incorporated into the work control documentation.

Review the integration of subcontractor work control into the facility work control process. Evaluate the review of subcontractor work control documentation, the approval of the documentation, work authorization, and the oversight of subcontractor work in the facility.

Review the performance measures and performance indicators using the "INEEL Performance Measures and Trending Report," MCP-3521 "Trending Center," self - assessments conducted in accordance with MCP-8 "Self-Assessment Process for Continuous Improvement," or the Facility Excellence Program PDD-1011 "Facility Excellence Program." Determine if these tools provide information that is truly a direct indicator of how safely the work is being performed.

Review the process used to prepare Authorization Agreements, MCP-3567 "Authorization Agreements with Authorization Basis List" and TEM-2, "Template for Authorization Agreement with Authorization Basis List." As applicable, review the Authorization Agreements for the selected facilities 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 preparing, authorizing, performing, and measuring the performance of the work. This should include personnel such as those responsible for preparing and maintaining work control documents, hazard identification and control documents, the Plan of the Day (POD), equipment status files, pre-job briefings, and the conduct of facility or activity operations.

Interview personnel responsible for individual activity procedures and controls (e.g. JSAs, RWPs, HPSCs, WCFs, etc.) Verify adequate worker involvement at each step of the process.

Interview personnel responsible for the development and implementation of the self-assessment program including individuals who participate in self-assessments. As applicable, interview those individuals responsible for development, maintenance, and approval of the Authorization Agreement. Interview members of the management team charged with adherence to the requirements listed within the Authorization Agreement.

Observations: Observe the actual authorization and performance of work activities. Observe a plan of the day or plan-of-the-week meeting. As possible, attend an Operational Safety Board (OSB) meeting or an Independent Hazard Review Group

(IHRG) meeting with field verification that hazard controls specified by the hazards control documents are being implemented. As possible, team members should observe the development of a maintenance work package as well as the field execution of a maintenance work package. Observation could include the pre-job brief, authorization by the managers to proceed, command and control of the work, review of safety requirements, post-job review, etc.

As possible, observe work hazard identification activities (e.g. JSAs, RWPs, etc.) and the application of MCP-3562 during an operational procedure walk-down and review. Observe worker involvement in these processes.

Record Review:

- Technical Procedure, Waste Handling at WROC RCRA Storage Units, TPR-WROC-3.1.11 (Rev. 0, 6/1/00) including associated JSA
- Technical Procedure, Operating INTEC-1617 and INTEC-1619, INTEC-TPR-P12.1-G1 (Rev. 0, 3/21/00) including HPSC, WC and JSA
- U.S. Department of Energy, Idaho Operations Office Idaho National Engineering and Environmental Laboratory Pollution Prevention Plan, DOE/ID-10333(97), May 1997
- Idaho Nuclear Technology and Engineering Center Waste Minimization Plan (PLN-225, 2/7/00)
- INTEC Technical Development Complex CY-2000 Pollution Prevention/Waste Minimization Plan
- INTEC Analytical Laboratories Department CY-2000 Pollution Prevention/Waste Minimization Plan
- INTEC CY-2000 Pollution Prevention/Waste Minimization Plan
- Integrated Waste Tracking System Material and Waste Characterization Profile 2928A (5/26/98) and 2957A (3/23/98)
- Idaho Nuclear Technology and Engineering Center (INTEC) Airborne Waste Management Facilities Authorization Agreement, IAG-32, 10/1/99
- Idaho Nuclear Technology and Engineering Center (INTEC) Calcined Solids Storage Facilities Authorization Agreement, IAG-33, 10/1/99
- Idaho Nuclear Technology and Engineering Center (INTEC) Process Equipment Waste System Authorization Agreement, IAG-41, 10/1/99
- Idaho Nuclear Technology and Engineering Center (INTEC) New Waste Calcining Facilities Authorization Agreement, IAG-43, 10/1/99
- Idaho Nuclear Technology and Engineering Center (INTEC) Tank Farm Facilities, Authorization Agreement, IAG-39, 10/1/99
- Work Order 13809, Clear Drain Line From Filter Leach, 7/26/99
- Work Order 27400, Install Outlet for Frisker, 5/1/00
- Work Order 20848, Replace F-WLL-170-17, 11/18/99
- Work Order 12762, Construct New Valve Box C40, 4/19/00
- Technical Procedure, LET&D-Sampling, INTEC-TPR-P7.4-S1, 2/16/00

- Technical Procedure, Operation of the Atmospheric Protection System-Process Off-Gas, INTEC-TPR-P7.6-D1, Rev.2, 6/7/00
- Technical Procedure, Transfer Process liquid Waste, INTEC-TPR-P8.1-T1, 5/9/00
- Work Order 17671, Troubleshoot and Repair Problem With FV-332-2 Flow Control Valve, 10/4/99
- MCP-8 , Self-Assessment Process for Continuous Improvement, rev 3, 31Aug99
- MCP-553, Stop Work Authority, rev. 3, 4/12/00
- MCP-598, Deficiency Screening and Resolution, rev 12, 10 May 00
- PDD-1004, INEEL Integrated Safety Management System, rev 4, 25 Feb 00
- PDD-1005, Site Operations Manual, rev 2, 16 Mar 00
- MCP-3571, Independent Hazard Review, rev 2, 02 Feb 00
- MCP-3562, Hazard Identification, Analysis and Control of Operational Activities, rev 2, 14 Mar 00
- STD-101, Integrated Work Control Process, rev 3, 14 Dec 99
- PDD-1012, Environmental Management System, rev 3, 09 May 00
- MCP-3480, Environmental Instructions for Facilities, Processes, Materials and Equipment, rev 2, 03 May 00
- MCP-3567, Authorization Agreement with Authorization Basis List, rev 1, 30 Aug 99
- MCP-3776, INTEC Roles and Responsibilities, rev 2, 05 Apr 00
- PLN-566, INTEC Project Plan for Implementation of MCP-3562, rev 0, 16 Nov 99
- MCP-3521, Trending Center, rev 0, 03/01/99
- MCP-2863, construction work Coordination and Hazard Control, 4/12/99
- IAG-72, Interface Agreement Between INTEC Site Area Director and Project/Construction Management, 5/31/00

Interviews Conducted:

- INTEC Site Area Director
- BBWI INEEL Construction Director
- INTEC HLW Shift Supervisor
- INTEC HLW Senior Operators (2)
- INTEC WGS Facility Representative
- INTEC Self Assessment Coordinator
- INTEC WASP Steering Committee Member
- INTEC VPP POC
- WROC Mixed Waste Facility Manager
- WROC Safety Analyst
- WROC Facility Operator
- INTEC Electricians (2)
- INTEC Environmental Supervisor
- INTEC Facility Environmental Support Engineer (2)

- INTEC Planners/Primary Owners (2)
- INTEC Electrical General Foreman
- INTEC Pipefitter General Foreman
- INTEC MCP-3562 HEG Team Coordinator
- INTEC MCP-3562 Implementation Team Lead
- Valve Box C-40 project Construction Coordinator
- Valve Box C-40 project Project Manager
- INTEC HLW Operations Supervisor
- INTEC HLW Facility Manager
- INTEC HLW RCT Foreman
- WAG 3 Project Manager
- INTEC ER ES&H POC
- INTEC ER ESH&QA Deputy Manager
- INTEC HLW Tracking Coordinator
- INTEC Construction Management Senior Supervisory Watch
- WGS Manager
- WGS ES&H Supervisor

Observations:

- MCP-3526 Hazard Evaluation Group process for draft INTEC-TPR-P7.5-T2 including walkdown
- Performance of WO 12762, Construct New Valve Box C-40
- NWCF Shift Turnover and Crew Brief
- STD-101 Hazards, Identification, and Mitigation group process for draft Annual PM on Blower "BLO-NCD-289", WCF 17407
- Performance of Technical Procedure, Transfer Process Liquid Waste, INTEC-TPR-P8.1-T1 including Pre and Post-Job Briefings
- MCP-3003, Performing Pre-Job Briefings and Post-Job Reviews
- Performance of Technical Procedure, Operation of the Atmospheric Protection System-Process Off-Gas, INTEC-TPR-P7.6-D1 including Pre and Post-Job Briefings
- Corrective Action Review Board Meeting

Discussion of Results:

This assessment form documents the ISMS verification of the "High Level Waste (HLW) and Waste Management Activities" at INTEC. HLW consists of all organizations and activities not associated with balance of plant or spent nuclear fuel. As such, the activities and personnel represent a wide range of facilities, operations, responsibilities, and competencies.

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

knowledge of ISMS core functions, guiding principles and implementing procedures, MCP-3562 and STD-101, is exemplary. [IOP1-15] Roles and responsibilities are clearly defined in MCP-3776, INTEC Roles and Responsibilities. Personnel are knowledgeable of their roles and responsibilities associated with the work activities they perform. Maintenance and construction work performed in the HLW area is planned using the process defined in STD-101. Procedures that govern operations work are planned utilizing the MCP-3562 process. Both processes provide a formalized method for determining hazards associated with the work and establishing appropriate controls to mitigate the hazards. Personnel interviewed understood the requirements established by these procedures. Reviews of work control documents and operations procedures indicated that these requirements are implemented. Interviews indicated that personnel involved in work planning and execution understood the methods used for determining and mitigating hazards.

Waste management hazards and controls are delineated in work control planning through the STD-101 and MCP-3562 Hazard Profile Screening Checklist (HPSC), planning teams, pre-job briefing checklists, and the WGS characterization process. Though waste management hazards and controls are delineated in the work control process, the identification of wastes is not adequately identified in the work packages or procedures. This issue is identified within the Hazards CRAD as IHAZ1-2.

Work Order 12762, Construct New Valve Box C40, was reviewed. It was noted that some Job Safety Analysis (JSAs) for the C-40 project were developed after the approval date of the work order. Subsequent JSAs, those which are written after the approval of the work order, are developed, approved, and implemented in accordance with MCP-2863, Construction Work Coordination and Hazard Control, and MCP-3450, Developing and using Job Safety Analyses. MCP-2863 and MCP 3450 do not require the subsequent JSAs to go through the work order change (WOC) process. A disparity exists between the approval process for subsequent JSAs and the approval process of the WOC identified by STD-101. The approval process for subsequent JSAs identified in MCP-3450 and MCP-2863 is less stringent than those required by the hazard identification and mitigation approval process of STD-101. [IOP1-9] INTEC has developed an interface agreement (IAG-72) between the INTEC SAD and Project/Construction Management. Although not fully implemented, as identified in IOP1-3, HLW Management has implemented the section within IAG-72, which requires subsequent JSAs to be approved through the WOC process. The implementation of IAG-72 is only a temporary change to the inconsistency within the overall BBWI process. Currently only one change to a subsequent JSA from the C-40 project has gone through the WOC process.

Pollution prevention and waste minimization is implemented at INTEC through the site specific Pollution Prevention/Waste Minimization Plans for CY 2000. Although resources for implementation of the program are limited, workers and management are highly aware of the importance of pollution prevention and waste minimization and ensure the work planning process includes these aspects. Pollution prevention and waste minimization is incorporated into the work control process through the following: the STD-101 and MCP-3562 HPSC; the Waste Determination and Disposition Form

(WDDF), form 435.39 used in the waste characterization process; required pollution prevention/waste minimization training; the Affirmative Procurement Program; the INEEL Reusable Property, Recyclable Materials, and Waste Acceptance Criteria (RRWAC); and in the field by the workers. Electrical crafts personnel demonstrated keen awareness for pollution prevention and waste minimization opportunities in their work activities. [IOP1-16] Their knowledge of recycling and pollution prevention activities directly related to their craft included the recycling of circuit boards, metals, and batteries and minimizing chemical products and tools into radiological areas to reduce the potential of mixed and decontamination wastes .

The implementation of the MCP-3562 process at INTEC is being accomplished successfully. PLN-566, INTEC Project Plan for Implementation of MCP-3562, was developed to ensure ISMS implementation of operational procedures by September 30, 2000. Currently, there are 692 total operating procedures and 617 forms/transfer sheets that are required to be evaluated through the process. Of the 692 total operating procedures 318 have JSAs developed, 316 have JSAs approved, 270 have DARs generated, and 237 have DARs approved. Ninety two operational procedures and 123 forms/transfer sheets have successfully been through the process and issued. The target completion date is September 30, 2000. To complete the project, 7 procedures per day are required to go through the process, this aggressive schedule may require the implementation of two HEG groups. For those procedures not completed, PLN-566 requires SAD approval prior to performance. The MCP-3562 team is commended for their efforts in implementing this process. [IOP1-17]

The INTEC MCP-3562 Team has developed a tool to consistently implement controls for hazards into procedures, titled “INTEC Mitigation Guidelines for TPRs.” [IOP1-18] The tool has been accepted by the Subject Matter Experts as consistent and appropriate text for implementing hazard controls. The tool is utilized by the procedure writers to develop a work control document that provides consistent implementation of controls. Overall, the guide reduces the amount of time required to generate text and provides consistency across INTEC for implementing hazard controls.

The USQ screening box on the Document Action Request (DAR) form for technical procedure TPR-WROC-3.1.11, Waste Handling at WROC RCRA Storage Units, was not completed. [IOP1-10] A USQ screen was not required for this procedure and has been determined to be an oversight by the document owner.

Procedures and 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. Maintenance work performed in the HLW area is developed, reviewed, approved and executed using the process defined in STD-101. Once a Work Control Form is submitted, the hazards associated with the work are determined using three tools; the Hazard Profile Screening Checklist (HPSC), Facility Hazards List (FHL) and a planning walkdown of the job site using a team approach. Once written, the work order is reviewed, a workability walkdown is conducted, the work order is approved and then

scheduled for work on the Daily Orders. The job supervisor conducts a pre-job briefing prior to the performance of the work. All work orders are approved by the Site Area Director and must be scheduled on the Daily Orders, which is authorized by the Facility Manager, prior to performance. Finally, all work is authorized by the facility Shift Supervisor prior to performance. The same methodology for hazard identification and mitigation described for maintenance also applies to construction work orders. Document reviews, interviews with appropriate personnel and direct observation of work indicated that these processes are implemented. These procedures and mechanisms are considered to be adequate to ensure the facility and workforce are in an adequate state of readiness prior to the performance of work.

The process to assure hazards are identified and controlled for operational activities in the HLW area is described in MCP-3562. Operational procedures performed in the HLW area are developed, reviewed, approved, and executed using the process defined in MCP-3562. Once the need for an operational procedure is identified, the hazards associated with the work are determined using tools such as the Hazard Screening Checklist (HSC), FHL, safety basis documentation, and a planning walkdown of the job site using a team approach. Once written, the procedure is reviewed by the team, is approved and then, as appropriate, scheduled for work on the Daily Orders. The facility Shift Supervisor conducts a pre-job briefing prior to the performance of the procedure. Operational activities must be scheduled on the Daily Orders prior to performance. These procedures and mechanisms are considered to be adequate to ensure the facility and work force are in an adequate state of readiness prior to the performance of work. All individuals interviewed fully understood their "Stop Work" authority and indicated that they would not hesitate to use it.

Staff and management are aware of their Employee Training Plans, the TRAIN database, and the management personnel responsible for ensuring they are appropriately trained for their work activities. Training appropriate for the work activity is identified during the planning phases of the work through the STD-101 and MCP-3562 processes and at the pre-job briefings. Facility supervision verifies worker qualifications prior to the commencement of work. Workers understand that it is both theirs and their management's responsibility to ensure that they are fit for duty.

MCP-3776 requires that interface agreements be maintained with other organizations as necessary to ensure that the quality of equipment, hardware, software, and documentation meets site facility requirements. An interface agreement does not exist between Waste Reduction Operations Complex and INTEC for the management of INTEC-1617 & 1619. [IOP1-11] Additionally, an interface agreement does not exist between Environmental Restoration (ER) and INTEC. The lack of interface agreement between ER and INTEC has been identified by BBWI and is currently being developed. [IOP1-12]

Procedures and/or mechanisms are in place and utilized which ensure that there is a process used to gain authorization to conduct operations. Operations within the HLW area, CERCLA activities within INTEC, and WROC TSD units INTEC-1617 and 1619 fall under the cognizance of the INTEC SAD. An Authorization Agreement exists

between INTEC and DOE-ID for each nuclear facility operated by HLW operations. An Auditable Safety Analysis exists for WROC TSD units INTEC-1617 and 1619. Health and Safety Plans exist for ER operations. Conduct of Operations conformance matrixes, approved by both the INTEC SAD and DOE-ID, exists for INTEC, ER and WROC. Procedures specified in the matrix implement the various chapters of DOE Order 5480.19. The Authorization Agreements, company level and facility specific supplemental procedures determine how operations are authorized and performed within INTEC. All personnel interviewed understood how operations activities are authorized and performed. Additionally, work authorization is implemented through the process discussed previously.

Procedures and/or mechanisms are in place and utilized which ensure that safety requirements are integrated into work performance. STD-101 and MCP-3562 both contain requirements for the use of specific tools for ensuring that hazards associated with maintenance and operations are identified, evaluated and mitigated in the documents used to control work. The tools included in the hazard identification and mitigation process include the HPSC, FHL, planning walkdowns, workability walkdowns, pre-job briefings, post-job briefings and the establishment of an adequate "stop work" process. Interviews with personnel involved in work control document development, approval and use were all well aware of the procedures and mechanisms used to ensure safety is integrated into work performance and were satisfied that they were adequate to provide the required protection. Reviews of work control documents and operations procedures followed by work observation in the field indicated that the process was adequate for ensuring that safety requirements are integrated into work performance.

An observation was conducted of the performance of INTEC-TPR-P8.1-T1, Transfer Process Liquid Waste. The procedure was complied with fully. All operators competency was demonstrated with one noted deficiency. One newly qualified operator (qualification date 3/31/00) did not demonstrate his proficiency in operating the Distributed Control System and utilizing the Inoperable Valve Limit Switch Log without assistance from the Control Room Operator. [IOP1-13] The operator's proficiency to perform the remainder of the procedure was demonstrated fully. An observation was conducted of the performance of INTEC-TPR-P7.6-D1, Operation of the Atmospheric Protection system-Process Off-Gas. Performance of the procedure was noted to be in full compliance and all operators competency was demonstrated.

Procedures and mechanisms are in place and utilized which ensure that adequate performance measures and indicators, including safety performance measures, are established for the work. Performance measures are maintained at INTEC for the HLW area for Lockout/Tagout (LO/TO), work control process, award fee activities, and OSHA required measures. Performance measures are measured weekly for the work control process and twice a month for LO/TO implementation. These performance measures ensure trends in emergent work and LO/TO violations, which are both safety related, are understood, corrected, and mitigated in a timely fashion.

Procedures and/or mechanisms are in place and utilized which ensure those adequate performance measures and indicators, including safety performance measures are established for the work, and the controls to mitigate hazards are observed while work is being performed. A self assessment program is maintained for the HLW area which is incorporated into the INTEC wide self assessment program. The self assessment program incorporates the assessment of ES&H performance adequately. Deficiencies identified during self assessments, post-job briefs, and 3562 planning walkdowns are closed immediately or tracked to closure using the WCF or ICARE system. Document reviews, interviews with appropriate personnel and direct observation of work indicated that these processes are implemented.

An observation was conducted of the Corrective Action Review Board meeting. Deficiency Report number 12541 was discussed. The issue involved the implementation of emergency equipment requirements on the Spent Nuclear Fuels side TSDs of INTEC. A lessons learned discussion was invoked to ensure that the HLW area had evaluated their TSD program to ensure appropriate actions had been taken to prevent a similar occurrence. The discussion was not expanded to include INTEC 1617 and 1619 which are TSDs within the INTEC, but operationally owned by WROC. [IOP1-14]

Flash messages as described in PDD-1004, are notifications distributed across the INEEL to Site Area Directors regarding significant issues across the site. The SAD utilizes this information to determine the affect at his facility, if any. The SAD determines if further distribution is required. This process provides a timely notification to the SAD of significant events that may need mitigation and control at his facility.

Workers actively participate in the work planning process. Workers are involved and actively participate in all aspects of the work planning process. STD-101 and MCP-3562 contain specific requirements for employee participation in the planning process. For the planning of maintenance and operational activities, in accordance with STD-101 and MCP-3562, respectively, workers participate on the hazard, identification and mitigation planning teams to identify hazards and controls. The workers participate in the walkdown of the job site, planning meetings, reviewing the work document, pre-job brief, workability walkdowns, and finally post-job briefs. Workers actively participate in the "stop work authority" as described in MCP-553. Direct observation of HIM/HEG planning meetings, planning walkdowns, post-job briefings, interviews with workers and performance of work in the field indicated that worker participation in the work planning process for maintenance and operational activities is exemplary. [IOP1-19] Without exception, workers demonstrated an enthusiastic attitude toward their participation in the work planning process.

Worker feedback into the work control process is evident through the implementation of several programs at the INEEL including the STD-101 and MCP-3562 processes, pre and post job briefs, the Voluntary Protection Program, the Worker Applied Safety Program (WASP), management "open door policy", and "stop work" authority. Management support for the worker involvement and feedback processes was proven through interviews with personnel and observation of work in the field. INTEC worker

involvement in the VPP Employee Safety Team Accident Review Teams has proven to mitigate substantial hazards. [IOP1-20]

HLW has generated an operationally oriented post job review form to document post job reviews versus utilizing the maintenance oriented form referred to in MCP-3003. [IOP1-21] The post-job checklist identified in MCP-3003 has been determined to be more applicable to maintenance type work activities, therefore HLW generated an operational post-job checklist to be used which better serves their needs.

Conclusions:

The objective is met for the HLW/Waste area of INTEC.

Issue(s)

- A disparity exists between the approval process for subsequent JSAs and the approval process of the WOC identified by STD-101. The approval process for subsequent JSAs identified in MCP-3450 and MCP-2863 is less stringent than those required by the hazard identification and mitigation approval process of STD-101. (IOP1-9)

- There was one noted instance where the USQ screening box on the Document Action Request (DAR) form for a technical procedure, TPR-WROC-3.1.11(Waste Handling at WROC RCRA Storage Units) was not completed. (IOP1-10)

- An interface agreement does not exist between Waste Reduction Operations Complex and INTEC for the management of INTEC-1617 & 1619. (IOP1-11)

- An interface agreement does not exist between Environmental Restoration (ER) and INTEC. The lack of interface agreement between ER and INTEC has been identified by BBWI and is currently being developed. (IOP1-12)

- One instance was noted in which a newly qualified operator (qualification date 3/31/00) did not demonstrate his proficiency in operating the distributed control system and utilizing the Inoperable Valve Limit Switch Log without assistance from the Control Room Operator. (IOP1-13)

- There was one noted instance where lessons learned were applied to all facilities within INTEC except INTEC-1617 and 1619. (IOP-1-14)

Strength(s)

- The worker and management knowledge of ISMS core functions, guiding principles and implementing procedures, MCP-3562 and STD-101, is exemplary. (IOP1-15)

- Electrical crafts personnel demonstrated keen awareness for pollution prevention and waste minimization opportunities in their work activities. (IOP1-16)

- The MCP-3562 team has demonstrated complete accountability for implementing the 3562 process at INTEC by September 30, 2000. (IOP1-17)

- The INTEC MCP-3562 Team has developed a tool to consistently implement controls for hazards into procedures, titled "INTEC Mitigation Guidelines for TPRs." (IOP1-18)

- Worker involvement in the work planning and feedback process is exemplary. (IOP1-19)

- INTEC worker involvement in the VPP Employee Safety Team Accident Review Teams has proven to mitigate substantial hazards. (IOP1-20)

- HLW has generated an operationally oriented post job review form to document post job reviews versus utilizing the maintenance oriented form referred to in MCP-3003. (IOP1-21)

Inspector_____ Nicole K. Hernandez	**Team Leader**_____ Terry W. Smith

Sub-Team: INTEC	**FUNCTIONAL AREA: HAZ** **DATE**: June 12, 2000

OBJECTIVE: HAZ.1 The full spectrum of hazards associated with the Scope of Work is identified, analyzed, and categorized. Those individuals responsible for the analysis of the environmental, health and safety, and worker protection hazards are integrated with personnel assigned to analyze the processes. 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 are used to ensure adequate protection of the public, worker, and the environment and are established as agreed upon by DOE. These mechanisms demonstrate integration, which merge together at the workplace. (CE II-2, CE II-3)

CRITERIA:

1. Procedures and/or mechanisms are in place and utilized by personnel to ensure hazards associated with the 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 environmental, health and safety concerns are integrated with those assigned to analyze the hazards for the facility or activity. The use of these mechanisms ensure direction and approval from line management and integration of the requirements.

2. Procedures and/or mechanisms are in place and utilized by personnel that describe the interfaces, 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.

3. Procedures and/or mechanisms are in place to develop, review, approve and maintain current all elements of the facility Authorization Basis Documentation with an integrated workforce.

4. Procedures and/or mechanisms that identify and implement appropriate controls for hazards mitigation within the facility or activity are developed and utilized by workers and approved by line managers. These procedures/mechanisms reflect the set of safety requirements agreed to by DOE.

5. The implementation of Standards and requirements is appropriately tailored to the hazards.

6. Procedures and/or mechanisms are in place to effectively and accurately implement all aspects of the Authorization Basis.

7. Workers actively participate in hazard identification, analysis, and mitigation processes.

APPROACH:

Record Review: Review the documents that govern the conduct, review, and approval of facility hazard analysis such as: Technical Safety Requirements MCP-2450 "Technical Safety Requirements", Fire Hazards Analysis (FHA) MCP-579 "Fire Hazards Analysis", Safety Analysis PDD-22 "Safety Analysis" and PRD-164 "Safety Analysis for Other than Nuclear Facilities", and MCP-3680 "Environmental Aspects and Evaluation" (EAE) to verify that these documents conform to the hazard analysis requirements.

Review a sample of hazard control documents 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, Safety Analysis Reports (SARs), Technical Safety Requirements (TSRs), Health and Safety Plans (HASPs), Auditable Safety Analysis (ASA), Fire Hazards Analysis (FHA), Criticality Safety Evaluation (CSE), etc.

Review procedures and documentation such as that pertaining to field verifications for activities/processes such as: STD-101 "Integrated Work Control Process," Radiological Work Permits (MCP-7 "Radiological Work Permit"), operations procedures (such as MCP-3480 "Environmental Instructions for Facilities, Processes, Materials, and Equipment), Hazards Identification and Control documents (MCP-3562 "Hazards Identification, Analysis & Control of Operational Activities" or MCP-3571 "Independent Hazard Review") to ensure accurate and effective implementation of Authorization Basis documentation requirements. In particular, note the integration of hazard identification and controls (i.e. chemical, radiological, waste streams, environmental) into the work planning process.

Where appropriate, review the process used to resolve Unreviewed Safety Questions (USQs) to ensure new tasks are being evaluated against the approved authorization basis as required by MCP-123, "Unreviewed Safety Questions." Review completed USQ or in progress USQ implementation documentation.

The primary focus of this section of the review (HAZ) is the identification of hazards, development of controls, the review, and approval of Authorization Basis documentation at the facility level. Implementation of controls for individual work items or activities will be evaluated using the Operations (OP) CRAD.

Interviews: Interview personnel responsible for the identification and analysis of work hazards including personnel responsible for ALARA review requirements. For example, this should include personnel responsible for USQ determination, procedure technical

reviews, etc. 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, FHA, CSE, and EAE preparations and implementation.

Observations: As possible, observe the actual preparation and field implementation of the hazard analysis. In nuclear facilities, this should include an Unreviewed Safety Question Determination (USQD), preparation of a Job Safety Analysis (JSA), and a job walk down.

As possible, observe the actual processes development, review, approval, and implementation of SAR/TSR, and other Authorization Basis Documents as available. Where appropriate, observe that new tasks are being evaluated to determine if the tasks fall within the safety envelope described in the approved authorization basis as required by MCP-123, "Unreviewed Safety Questions."

Record Review:

- INTEC-TPR-P3.3-G12 Handling of ROVER (PARKA) Shipping Packages in ISFS, Rev 0
- Hazard Walkdown Checklist of INTEC-TPR-P3.3-G12
- USQ Safety Evaluation Screening for Procedure Changes of INTEC-TPR-P3.3-G12
- Exposure Assessment Review of INTEC-TPR-P3.3-G12
- SME reviews of INTEC-TPR-P3.3-G12
- ACLP 7.23 Installing and Removing RAL ICP Cubical Glove Port Shielding Plates, Rev 3
- Hazard Walkdown Checklist of ACLP 7.23
- USQ Safety Evaluation Screening for Procedure Changes of ACLP 7.23
- SME reviews of ACLP 7.23
- Work Order QO2684501 Replace Differential Pressure Regulator PCV-UTI-8022 on Boiler B-UTI-607 (emergent)
- Work Order Q02849701 Replace Fuel Oil Pressure Sensor on Fuel Oil Supply Line for B-UTI-607 (emergent)
- Work Order Q02449401 Install Vibration Analysis Contacts on EF-FV-283-01 and EF-FV-283-02
- Work Order Q02713801 Repair AC-WN-201
- IHR# INTEC-00-02 Solvent Extraction Testing in CPP-1634 Using the 3.3 cm Centrifugal Contractor Mockup
- IHR# INTEC-00-03 Removal of Mercury from Simulated NWCF Offgas
- List of INTEC specific Maintenance Related Tasks (MRTs)
- MRT INTEC 7
- MRT INTEC 12
- List of Procedures not completed through hazard review process(es) as of 6/1/00

- IAG-72 Interface Agreement Between INTEC Site Area Director and Project/Construction Management, Rev 0
- IAG-55, Interface Agreement Between Power Management and INTEC
- IAG-32 Authorization Agreement for the INTEC Airborne Waste Management Facilities, Rev 1
- INEEL Tenant Use Agreement for CPP-637 dated 6/1/00
- Subcontract No. S00-96445 INTEC CPP-606 Boiler Replacement, 3/28/00
- Qualification Records, Training Records, and Employee Training Plans
- Hazards Identification and Mitigation Checklist for W.O.#24632
- DOE/ID-10666(97) INEEL Pollution Prevention Plan, May 1997\
- Environmental Checklist INTEC-98-003 Rev 1, CPP-606 Upgrades
- Safety Assessment for H-3 Calcine Disposition Studies in the Remote Analytical Laboratory, Rev 0
- ICPP Safety Document Laboratory Facilities, Rev 0
- Auditable Safety Analysis for the Remote Analytical Facility, CPP-627, Rev 1a
- Final Safety Analysis Report for the Remote Analytical Laboratory, Rev 2a
- IAG-33 Authorization Agreement for the INTEC Experimental Facilities, Rev 1
- IAG-42 Authorization Agreement for the INTEC Laboratory Facilities, Rev 1
- Facility Hazard List (selected portions)
- Multi-Disciplinary Safety Inspection Findings
- Planner Qualification Training Courses QLF10023, QLF10024, and QLF10025
- MCP-8 , Self-Assessment Process for Continuous Improvement, rev 3, 31Aug99
- PDD-1004, INEEL Integrated Safety Management System, rev 4, 25 Feb 00
- PDD-1005, Site Operations Manual, rev 2, 16 Mar 00
- MCP-3571, Independent Hazard Review, rev 2, 02 Feb 00
- MCP-3562, Hazard Identification, Analysis and Control of Operational Activities, rev 2, 14 Mar 00
- STD-101, Integrated Work Control Process, rev 3, 14 Dec 99
- PDD-1012, Environmental Management System, rev 3, 09 May 00
- MCP-3480, Environmental Instructions for Facilities, Processes, Materials and Equipment, rev 2, 03 May 00
- MCP-3567, Authorization Agreement with Authorization Basis List, rev 1, 30 Aug 99
- MCP-3776, INTEC Roles and Responsibilities, rev 1, 05 Apr 00
- PLN-597, Applied Technology Implementation Plan for MCP-3571, rev 0, 12 May 00
- PLN-566, INTEC Project Plan for Implementation of MCP-3562, rev 0, 16 Nov 99
- PDD-1011, Facility Excellence Program, rev 0, 03/15/99
- TEM-2, Template for Authorization Agreement with Authorization Basis List, rev1, 08/30/99
- PDD 22 Safety Analysis, Rev 0
- PRD-164 Safety Analysis for Other Than Nuclear Facilities, Rev 1
- PRD-5042 Facility Hazard Identification, Rev 0

- LST-96 (INTEC portion)
- MCP-123 Unreviewed Safety Questions, Rev 2
- MCP-2450 Technical Safety Requirements, Rev 1
- MCP-3680 Environmental Aspects Evaluations and Maintenance, Rev 0
- MCP-2449 Nuclear Safety Analysis, Rev 2
- MCP-2006 Analytical Laboratories Department Training and Qualification Program, Rev 1
- ACLP 0.21 Work Control for Analysis of Nonroutine Samples, Rev 0
- Analytical Laboratories Department Spectrochemistry Group Pre-Job Checklist
- ACLP-0.40 Laboratory Practices Affecting Waste Generation
- PDD-1005 (have)
- PRD-5030 Environmental Requirements For Facilities, Processes, Materials And Equipment, Rev 0
- PLN –597 Applied Technology Implementation Plan for MCP-3571, Rev 0
- PLN-566 INTEC Project Plan for Implementation of MCP-3562, Rev 1
- MCP-3776 INTEC Roles and Responsibilities, Rev. 2

Interviews Conducted:

- Utilities Manager
- Manager of Tenant & Support Operations
- Analytical Laboratories Manager
- Applied Technologies Department Manager
- Maintenance Manager
- Manager of Facility Support Operations
- Maintenance Foreman
- Acting INTEC Power Operations Supervisor
- Industrial Hygienist
- Environmental Support Supervisor
- Environmental Engineer (2)
- Waste Generator Services Facility Representative
- Utility Foremen (2)
- Senior Utility Operator
- Utility Operator
- Utility Landlord Shift Maintenance Supervisor
- Utility Planner
- Utility Primary Owner
- Analytical Laboratories Inorganic Chemistry Supervisor
- Remote Analytical Laboratory Primary Owner/Planner
- Analytical Chemist (2)
- Analytical Laboratories HEG Leader
- Supervisor, Waste Treatment Technologies
- Principle Investigator

- Principle Technician
- IHRG Chairman
- Craft Supervisor
- Mechanic Foreman
- Mechanics (2)
- Inactive Sites Supervisor
- Pipefitters (2)
- Construction and Project Management Supervisor
- Construction Project Manager
- Construction Planner
- Lead Safety for Construction Management
- Construction Coordinator
- Environmental Restoration Site Operations Environmental Engineer
- ALARA Chairman
- ALARA Coordinator

Observations:

- Applied Technology Test Evolution, Leak Test of Equipment
- Analytical Laboratories Plan of the Day Meeting
- Analytical Laboratories Method Evolution, ACMM 7100
- Utilities Plan of the Day Meeting
- Work Planning Walkdown for Utility WO# 28656
- IHRG Committee Meeting, Evaluation of Test Plan
- Maintenance Workability Walkdown WO#24909
- Power Management Workplanning Walkdown WO#29275
- Maintenance Department Self-Assessment on Facility Hazards/Conditions
- Utility Operations Procedure Evolution, COM-UTI-616
- Hazard Evaluation of Analytical Laboratories Procedures
- CPP-606 Boiler Project

Discussion of Results:

This assessment form documents the ISMS verification of the "Balance of Plant" (BOP) at INTEC. BOP consists of all organizations and activities not associated with spent nuclear fuel or waste management. As such, the activities and personnel represent a wide range of facilities, operations, responsibilities, and competencies.

Procedures and mechanisms are in place and utilized to ensure hazards associated with work throughout the facility are identified and analyzed. National and local standards and requirements are identified and made contractual obligations through Lists A and B of the INEEL M&O contract. Company level programs provide requirement flowdown to procedures that implement the requirements to identify hazards associated with facilities. The BOP nuclear facilities have approved Authorization Agreements

identifying the appropriate safety basis and environmental boundaries a facility is required to operate within. These requirements are implemented in local procedures.

Hazard identification and mitigation for operational procedures is governed by MCP-3562. This process provides for an integrated team of knowledgeable professionals including operators, planners, engineers, safety basis experts, and environmental and safety personnel to perform a detailed hazard review. The hazards inherent to a facility are documented in the facility hazards list that was used by the team during the review process. MCP-3571, for research and development, and STD-101, for maintenance and construction, similarly use a defined process including a team of knowledgeable professionals to develop an integrated set of hazards and mitigations associated with a work activity. Not all work documents currently in use at INTEC have been through the appropriate process. However, each work document has had an initial screening to ensure that the hazards have been identified and INTEC has established a prioritized plan and schedule to complete the appropriate process on their existing operation procedures and research and development experimental plans.

Particular emphasis was made to verify environmental hazard identification, analysis, and mitigation was integrated into the INEEL ISMS. Environmental hazard identification, analysis, and mitigation is governed by MCP-3480. Requirements of MCP-3480 are implemented through the checklists of the work control procedures discussed previously. Environmental and waste management personnel are involved in the work planning processes through the integrated review teams. It is through their review and input that environmental hazards, including waste management and minimization, effluents, and pollution prevention, are addressed. Personnel interviewed generally have the appropriate level of knowledgeable regarding the environmental requirements pertinent to their position. The Senior Utility Operator and the Utility Operator, who were interviewed and observed during work respectively, demonstrated exceptional environmental knowledge and awareness (IHAZ1-3). In contrast, the Project Manager for the CPP-606 Boiler Project did not demonstrate a level of environmental knowledge and awareness commensurate with his responsibilities for the entire project and stated that he relies on the subject matter experts to take care of their area with very minimal oversight (IHAZ1-1).

The hazard identifications and mitigations achieved through these mechanisms were thorough and appropriate with one exception. The identification of waste generation in work documents was not sufficient (IHAZ1-2). The mechanisms integrate the appropriate knowledgeable personnel for the review of waste generation activities. However, the work documents reviewed did not provide the level of information needed to ensure proper handling and disposition of waste or allow the worker to understand the waste generation boundaries. INTEC took immediate action to enter this deficiency in ICARE to ensure appropriate correction actions are taken.

Analytical Laboratories Department has recognized that procedures developed for control of operational hazards company wide may not be sufficient to address situations that arise in a production laboratory setting. They have implemented additional mechanisms to

address hazard identification and mitigation to clearly address laboratory operations (HAZ1-4). An enhanced pre-job checklist was developed to clearly address hazards and concerns associated with laboratory operations and tailor the topics to the laboratory setting. The enhanced checklist had not been formalized, however, it had been made into an official form by the end of the review and will be further formalized by establishing a procedure governing its use. Analytical Laboratories also developed a process to identify and mitigate hazards associated with unique samples. The MCP-3562 process is applicable to the methods (analytical procedures) used to analyze samples, but cannot anticipate all the hazards associated with samples that are sent to the laboratory by various customers. ACLP 0.21, Work Control for Analysis of Nonroutine Samples, was developed and implemented to address those hazards. The process has some weaknesses in defining which hazards need to be addressed by ACLP 0.21 and in determining and documenting reviews by the appropriate knowledgeable personnel.

These mechanisms ensure direction and approval from line management because the procedures used to generate work documents are approved at the company level, the work documents are approved by the appropriate level at INTEC, and the work cannot proceed until scheduled on an approved plan-of-the-day.

Personnel interviewed understand their roles and responsibilities, are competent to accomplish those roles, and demonstrated an understanding of the mechanism that determines and documents their competence. INTEC Roles and Responsibilities, MCP-3776 proceduralizes the roles and responsibilities for personnel in key functional positions. MCP 3562, MCP-3571, and STD-101 describe the interfaces, roles, and responsibilities of the personnel involved in the process that identifies and analyzes the hazards of the scope of work. Individual roles and responsibilities are defined in job descriptions that are used to develop training plans to ensure competencies are maintained.

Roles and responsibilities between INTEC and other BWWI organizations are addressed through interface agreements. Two interface agreements were reviewed. Roles and responsibilities of INTEC Facility Managers and INTEC tenants are addressed in tenant agreements. These programs are not fully implemented. However, it appears that these mechanisms will be sufficient to address hazard identification, analysis, and control upon full implementation. Interface agreements are further addressed in an IOP.1 assessment form.

Authorization Basis Documentation is in place for the balance of plant nuclear facilities at INTEC. Facility level analysis mechanisms are in place to develop, review, approve and maintain all elements of the documentation. This process is further addressed in another IHAZ.1 assessment form.

The work document development processes, MCP-3562, MCP-3571, and STD-101, are the mechanism that identifies and implements appropriate controls for hazards mitigation. As discussed previously, the workers are involved in the team that identifies the hazards and reviews the mitigations that are designated in the work document. The work

document processes require management approval of the work document before the work can be scheduled and further controlled by the requirement to be on a plan-of-the-day approved by line management to allow work to proceed. The rolldown of requirements from Lists A and B and Authorization Agreements through company programs and procedures into work documents provide the mechanisms that ensure the procedures reflect the set of safety requirements agreed to by DOE.

The implementation of Standards and requirements are appropriately tailored to the hazards through the hazard identification, analysis, and mitigation processes. As discussed previously, the processes ensure all hazards are identified. The use of the checklists and integrated teams also provide the mechanism to tailor the implementation to the hazard since facility safety personnel and ES&H professionals are involved in the process with the planners and workers. Each work document is specifically reviewed to ensure the Standards and requirements related to those hazards are addressed.

Mechanisms are in place to effectively and accurately implement all aspects of the Authorization Basis. Authorization Agreements incorporate safety and environmental requirements for the covered facilities. Technical specifications for the balance of plant nuclear facilities were found to be rolled down into the facility procedures reviewed with a tie back to the technical specification to ensure the procedures can be maintained up to date with a change in the technical specification. Safety analysis and environmental personnel are part of the work document development process ensuring requirements are incorporated into the work document. A specific example is the MCP-3571 IHR process covering research and development activities. The Applied Technology Department performs research and development activities in a nuclear facility under the Tenant & Support Operations Department who is responsible for facility safety basis. The IHR provides the mechanism for Tenant & Support Operations facility safety personnel and environmental personnel involvement in the planning and review of the Applied Technology experimental plans to ensure the safety basis aspects and the environmental aspects of the authorization basis are accounted for respectively.

Workers actively participate in hazard identification, analysis, and mitigation processes. During the interviews, employees were able to describe their responsibilities for participation in hazard identification, analysis, and mitigation and enthusiastically described examples of participation. The observations confirmed this conclusion. It was not only evident during the formal hazard identification and mitigation processes such as the Hazard Evaluation Group reviews and the walkdowns, it was evident during accomplishment of work evolutions. Worker involvement in the hazard identification, analysis, and mitigation processes is a strength in the implementation of ISMS at INTEC. (IHAZ1-5)

Conclusion:

The objective has been met

INTEC balance of plant has implemented hazard identification, analysis, and mitigation mechanisms in an integrated manner.

Issue(s):

- The Project Manager for the CPP-606 Boiler Project did not demonstrate a level of environmental knowledge and awareness commensurate with his responsibilities. (IHAZ1-1)
- Waste generation is not sufficiently identified in work documents. (IHAZ1-2)

Strength(s):

- Utility Operators demonstrated exceptional environmental knowledge and awareness. (IHAZ1-3)
- Analytical Laboratories has implemented additional mechanisms to address hazard identification and mitigation to clearly address laboratory operations. (IHAZ1-4)
- Worker involvement in the hazard identification and mitigation processes at INTEC. (IHAZ1-5)

Inspector_____ Richard M. Kauffman	**Team Leader**_____ Terry W. Smith

Sub-Team: INTEC	FUNCTIONAL AREA: HAZ DATE: June 12, 2000

OBJECTIVE: HAZ.1 The full spectrum of hazards associated with the Scope of Work is identified, analyzed, and categorized. Those individuals responsible for the analysis of the environmental, health and safety, and worker protection hazards are integrated with personnel assigned to analyze the processes. 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 are used to ensure adequate protection of the public, worker, and the environment and are established as agreed upon by DOE. These mechanisms demonstrate integration, which merge together at the workplace. (CE II-2, CE II-3)

CRITERIA:

1. Procedures and/or mechanisms are in place and utilized by personnel to ensure hazards associated with the 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 environmental, health and safety concerns are integrated with those assigned to analyze the hazards for the facility or activity. The use of these mechanisms ensure direction and approval from line management and integration of the requirements.

2. Procedures and/or mechanisms are in place and utilized by personnel that describe the interfaces, 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.

3. Procedures and/or mechanisms are in place to develop, review, approve and maintain current all elements of the facility Authorization Basis Documentation with an integrated workforce.

4. Procedures and/or mechanisms that identify and implement appropriate controls for hazards mitigation within the facility or activity are developed and utilized by workers and approved by line managers. These procedures/mechanisms reflect the set of safety requirements agreed to by DOE.

5. The implementation of Standards and requirements is appropriately tailored to the hazards.

6. Procedures and/or mechanisms are in place to effectively and accurately implement all aspects of the Authorization Basis.

7. Workers actively participate in hazard identification, analysis, and mitigation processes.

APPROACH:

Record Review: Review the documents that govern the conduct, review, and approval of facility hazard analysis such as: Technical Safety Requirements MCP-2450 "Technical Safety Requirements", Fire Hazards Analysis (FHA) MCP-579 "Fire Hazards Analysis", Safety Analysis PDD-22 "Safety Analysis" and PRD-164 "Safety Analysis for Other than Nuclear Facilities", and MCP-3680 "Environmental Aspects and Evaluation" (EAE) to verify that these documents conform to the hazard analysis requirements.

Review a sample of hazard control documents 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, Safety Analysis Reports (SARs), Technical Safety Requirements (TSRs), Health and Safety Plans (HASPs), Auditable Safety Analysis (ASA), Fire Hazards Analysis (FHA), Criticality Safety Evaluation (CSE), etc.

Review procedures and documentation such as that pertaining to field verifications for activities/processes such as: STD-101 "Integrated Work Control Process," Radiological Work Permits (MCP-7 "Radiological Work Permit"), operations procedures (such as MCP-3480 "Environmental Instructions for Facilities, Processes, Materials, and Equipment), Hazards Identification and Control documents (MCP-3562 "Hazards Identification, Analysis & Control of Operational Activities" or MCP-3571 "Independent Hazard Review") to ensure accurate and effective implementation of Authorization Basis documentation requirements. In particular, note the integration of hazard identification and controls (i.e. chemical, radiological, waste streams, environmental) into the work planning process.

Where appropriate, review the process used to resolve Unreviewed Safety Questions (USQs) to ensure new tasks are being evaluated against the approved authorization basis as required by MCP-123, "Unreviewed Safety Questions." Review completed USQ or in progress USQ implementation documentation.

The primary focus of this section of the review (HAZ) is the identification of hazards, development of controls, the review, and approval of Authorization Basis documentation at the facility level. Implementation of controls for individual work items or activities will be evaluated using the Operations (OP) CRAD.

Interviews: Interview personnel responsible for the identification and analysis of work hazards including personnel responsible for ALARA review requirements. For example, this should include personnel responsible for USQ determination, procedure technical

reviews, etc. 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, FHA, CSE, and EAE preparations and implementation.

Observations: As possible, observe the actual preparation and field implementation of the hazard analysis. In nuclear facilities, this should include an Unreviewed Safety Question Determination (USQD), preparation of a Job Safety Analysis (JSA), and a job walk down.

As possible, observe the actual processes development, review, approval, and implementation of SAR/TSR, and other Authorization Basis Documents as available. Where appropriate, observe that new tasks are being evaluated to determine if the tasks fall within the safety envelope described in the approved authorization basis as required by MCP-123, "Unreviewed Safety Questions."

Record Review:

- MCP-3680 - Environmental Aspects and Evaluation, Rev 0, 9/3/99
- MCP-2811 - Design and Engineering Change Control, Rev
- MCP-3447 - Using Safe Work Permits, Rev 2, 7/27/99
- MCP-553 - Stop Work Authority, Rev 3, 4/12/00
- MCP-3450 - Performing Job Safety Analysis, Rev 1, 8/13/99
- MCP-3591 - Maintenance and Use of Facility Hazard Lists, Rev 0, 8/30/99
- MCP-3562 - Hazard Identification, Analysis and Control of Operational Activities, Rev 2, 3/17/00
- MCP-192 - Lessons Learned Program, Rev 4, 9/29/95
- MCP-3003 - Performing Pre job briefings and Post job Reviews, Rev 5, 8/9/99
- Numerous Procedures for Fuel operations (Fuel Handling/ Transfers/Receipts)
- 4 Work Packages per STD-101
- STD-101- Integrated Work Control Processes, Rev 3, 12/14/99
- MCP-7 - Radiological Work Permit, Rev 13, 1/3/00
- MCP-3776 – Roles and Responsibilities for INTEC, Rev 2, 5/31/00
- Individual Training Plans (5)
- PRD-5042 – Facility Hazard Identification, Rev 1, 8/30/99
- PDD-1012 - INEEL Environmental Management System, Rev 3, 5/9/00
- MCP-3651 and MCP-3650 – Level II and Level I LO/TO, each is Rev 0, 10/10/99
- PLN-566 – INTEC Project Plan for 3562 Implementation, Rev 0, 11/16/99
- JSA Form 442.17, Rev 06, 5/16/00
- MCP-3480 – Environmental Instructions for Facilities, Processes, Materials and Equipment, Rev 2, 5/3/00
- MCP-190 – Event Investigation and Occurrence Reporting, Rev 8, 9/13/99
- MCP-2447 – Requirements Management, Rev 2, 4/30/99
- PDD-1004 – INEEL Safety Management System Description, Rev 4, 2/25/00

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Interviews Conducted:

- Manager, SNF Ops
- Supervisor, INTEC 603/749
- Supervisor, SNF Shift Ops
- Work Window Specialist for SNF Ops (Scheduler)
- 651/666 Plant Engineer
- 651/666 Process Engineer
- Maintenance Supervisor
- 603/749 Process Engineer
- 603/749 Plant Engineer
- Certified Craftsman for SNF
- Maintenance Electrician/Craftsman
- Fuel Handlers For 666/651 and 603/749:
  (2) Day Shift
  (2) Split Shift
- Maintenance Foreman
- Facility Shift Supervisors
- Plant Shift Supervisor
- RCT
- RCT foreman
- Environmental Engineer
- Supervisor, Environmental Compliance
- Industrial Safety Engineer
- Training Coordinator for SNF operators/fuel handlers
- QA Engineer

Observations:

- Maintenance pre-job brief on replacing a broken coupling on a valve (WO# 26573)
- Pre-job for receipt and unloading of a Peachbottom Cask
- Work evolution of removal and de-con of Peachbottom Cask
- HEG for MCP-3562 walk-down (w/ identification of hazards, analysis of hazards and development of controls)
- STD 101 walk-down including discussion of the work package development for construction project on INTEC 651 Chevron doors/excavation
- SNF POD meeting
- Workability of an annual inspection of fuel canister lifting tools (WO# 25973)
- Pre-job brief of a construction project on INTEC 651 Chevron doors/excavation

Discussion of Results:

In the Spent Nuclear Fuel facilities, INTEC-666, -603, -651, -749, procedures are in place and utilized by personnel to ensure hazards are identified, analyzed, and appropriate mitigation controls are implemented. For operational tasks, MCP-3562, "Hazard Identification, Analysis and Control of Operational Activities," is followed to identify, analyze and develop mitigating controls. For construction and maintenance activities, STD-101, "Integrated Work Control Process," is followed to identify, analyze and develop mitigating controls. From the inception of the scope of work, whether it be maintenance, construction, or operational tasks, many disciplines of affected personnel are involved in the identification, analysis, development of mitigating controls, and feedback and improvement of the procedures and tasks per the applicable MCP or STD.

Both processes, MCP-3562 and STD-101, require the planner (primary owner) to develop a comprehensive hazard identification and mitigation profile for any work being performed. These hazard profiles link hazard types to appropriate review personnel (e.g., SMEs) as well as the applicable mitigation guidance. This linkage ensures that appropriate SMEs/personnel (i.e. safety, health, environment, engineering, project management, maintenance, QA, craftsmen, operators etc.) are actively involved in the hazards identification and analysis processes, as well as in the development and implementation of controls activities. The procedures provide mechanisms to ensure this is required beginning from review of the planning of the work all the way through the development of the work documentation (procedure or work package). In addition, all personnel involved in the performance of the job are required to participate in the pre-job brief, and from the evolutions observed by this reviewer, this was being implemented. In addition, all others involved in the review have an opportunity to also attend the pre-job briefs.

Each of these procedures also links to MCP-3480, Environmental Instructions for Facilities, Processes, Materials and Equipment, and MCP 3680, Environmental Aspects and Evaluation which incorporates environmental compliance, ALARA, waste minimization, and pollution prevention into the JSA and eventually into the work procedures/packages. It also lays out the responsibilities for these SMEs to participate in work planning and job execution. PDD-1012, Environmental Management System, links the 3562, 101 and 3480 processes together, and attempts to bridge the conceived gap between E and S&H along with work. In general, there was evidence of implementation of these procedures to incorporate environmental compliance, ALARA, waste minimization, and pollution prevention into the work being accomplished.

Another excellent stride towards integrating Environmental Compliance issues such as waste minimization and pollution prevention into work activities, was that crafts personnel, such as electricians and construction personnel, are trained in and/or are using waste minimization and pollution prevention techniques including recycling. (IHAZ1-8)

Evolutions observed during this review included the following: a maintenance pre-job brief for replacing a broken valve coupling (WO# 26573), an operations pre-job briefing for a Peachbottom Cask evolution, a workability walk-down for the annual inspection of CPP-749 fuel canister lifting tools (WO# 25973), and a pre-job brief for the INTEC 651 Chevron doors/excavation construction project. In all these evolutions, execution of the hazards identification/analysis/developing of controls and work activity were done in accordance with the referenced MCP or STD, with appropriate reviews, approvals and authorizations being accomplished by SMEs and line management, and received by the workers prior to start of work.

At the time of implementation of the work procedures, appropriate personnel were present in most every case. If someone was not present at the pre-job brief they were required to receive the pre-job briefing before they could enter the work zone area (this was specifically seen by the reviewer during the a construction job at INTEC-651). During the work evolution of the construction job, it came to this reviewer's attention that pre-job briefs occur daily, even if not required. (IHAZ1-9)

Implementation of MCP-3562 and STD-101 does ensure direction and approval from line management; however, there are some inconsistencies in the documentation of who is responsible for authorizing work. MCP-3562 and STD-101 lay out the responsibilities for the originator of the work, as well as all others involved in the work. However, STD-101 requires explicitly that the facility operations manager:

"Perform a conduct of operations review and give approval to commence work. The review must ensure the following:

- Facility initial conditions are established and confirmed
- Systems, Structures, or Components are in a condition to preclude violation of…
- LO/TO or clearance is properly…verified, as appropriate, prior to commencing work or the applicable work step
- All affected personnel have been notified
- WO evaluations are complete…" (Chap 4, section 3.5, pg 21 of 38)

In actuality, the facility manager for SNF has assigned these responsibilities to the shift supervisor. This same responsibility is documented in MCP-3776, INTEC Roles and Responsibilities, page 17 of 135 (under "Fuel Handling Shift Supervisor"). The inconsistency lies in the fact that the STD-101 requires explicitly that the Facility Manager perform all the things that, in actuality, the shift supervisor does before work is performed. Thus, as far as implementation is concerned, it is not a problem, as the shift supervisors are considered the responsible line management per MCP-3776. MCP-3776 gives authority to the shift supervisor to authorize work once the Daily Orders have been approved by the facility manager. An adjustment to STD-101 to delineate who actually implements these responsibilities would mitigate this inconsistency (e.g., "the facility manager or designee" per MCP-3776). (IHAZ1-6)

STD-9, section 8.6.3, “Standard for Technical Procedure Writing,” defines three acceptable methods for designating who, by personnel title or job function, performs which procedure steps. SNF procedures INTEC-TPR-P2.1-G1, INTEC-TPR-P2.1-G2, and INTEC-TPR-P2.1-G4 appeared to not clearly delineate the steps performed by Heavy Equipment Operators from steps performed by SNF Operators. In addition, other SNF technical procedures appeared to exhibit the same type issue. The SNF facility manager agreed that exact compliance with STD-9 could improve, but did inform the reviewer that all implementers of these procedures are very aware of their roles/responsibilities. He readily agreed to update these procedures to meet the intent of STD-9, and more clearly define the performers of the steps. RCTs, Supervisors, SNF Operators, and Equipment Operators knew and understood their responsibilities during the observed work performance. (IHAZ1-6)

Another area for procedural improvement would be to more clearly define post-job briefing methods for operational activities. MCP-3003 requires a post-job briefing for operational activities, but does not specify the documentation and closure requirements. SNF has developed a simple post-job review form, but space for comments, closure, and tracking is not provided. Evidence indicated follow-up was occurring and implementation of the intent was excellent. (IHAZ1-6)

One thing noted during this review was that the line management responsibility for development and maintenance of work procedures was different than the line management responsibility for actual performance of work. For maintenance and operational activities, the responsibility was split between the Facility Supervisor and the Shift Operations Supervisor, respectively. This split is delineated in the INTEC Roles and Responsibility procedure MCP-3776. On the BBWI organization chart, the Facility Supervisor is at the same level as the Shift Operations Supervisor, therefore good interface is needed between both parties to ensure ISMS requirements are satisfied throughout the life cycle of the work activity. This line management responsibility “split” was demonstrated as an effective methodology within SNF. It is not the experience of the auditor to see this “split” in line management responsibility within an organization; but, from all interviews and evolutions, employee/worker knowledge of who was responsible was extremely evident. The performance of assigned responsibility by each supervisor (or designee) was practiced consistently, and effectively.

Requirements are integrated into procedures and work packages via the system required by MCP-3562 and STD-101, as appropriate.

As stated earlier, MCP-3776 delineates INTEC Roles and Responsibilities, as well as interfaces between those personnel assigned to identify, analyze, and develop mitigating controls for hazards. In addition, each employee interviewed physically carried an abbreviated record of his/her training that basically listed the more important and relevant training for the employee, as well as expiration dates. These are updated monthly. (IHAZ1-8) A training coordinator has the responsibility to track training requirements via the TRAIN database, which includes the training records of every BBWI employee including subcontractors. This user-friendly database contains a description of the

training, renew dates, and outlines training requirements by work disciplines. Training, in general, was current and well defined. The training for various employees was discussed and evaluated, and evidence illustrated a consistency of appropriate training and competency. In addition, the system to alert employees of upcoming training was very adequate.

The training coordinator interviewed was very organized and understood the importance of such things as involving SMEs such as ES&H personnel in training development, especially for jobs requiring technical qualification. She was very active in considering lessons learned from across the complex when updating training courses. This activity is required by site-wide procedure MCP-73, "Incorporating Lessons Learned." This appeared to be consistently implemented by the interviewed training coordinator. In addition, her individual training record indicated appropriate training and education showing competency commensurate with her responsibilities. (IHAZ1-10) The interviewee illustrated a firm belief and commitment to all ISMS principles.

Management at INTEC has made great strides at accomplishing a culture change and continuous positive attitude of workers and management regarding ISMS. All management and workers interviewed and observed were extremely enthusiastic and supportive of implementing ISMS philosophy. In addition, all workers (operational, maintenance, construction, SMEs etc) exhibited competence, knowledge, and skill commensurate with their responsibilities. (IHAZ1-10)

Throughout every interview conducted, evolution observed, and document read, this reviewer sensed a common theme of extreme commitment to worker involvement. This was not only from management, but was exhibited by all workers. This apparent improvement in the culture and attitude of all SNF employees reflects well on the true intent behind ISMS, and the ownership that line management is accountable for safety. (IHAZ1-10)

The aspects of the Authorization Basis will be covered in the HAZ-WASTE CRAD.

Mechanisms that ensure the development and implementation of hazard mitigating controls are found within MCP-3562 and STD-101 for operations and maintenance/construction activities, respectively. These mechanisms are consistently utilized in the operational procedures that have undergone the MCP-3562 process, as well as the maintenance or construction activities that use STD-101. For the operational procedures that have not undergone the 3562 process, adequate controls such as pre and post job reviews are being implemented to implement the core functions of ISM. Of the approximate one hundred SNF technical procedures (TPRs) which are required to undergo the 3562 process, 13 are complete. There are approximately 300 SNF related procedures, all which have been reviewed for MCP-3562 applicability and appropriately prioritized for review. The INEEL milestone for completing MCP-3562 reviews is September 30, 2000. SNF management is committed to achieving that goal.

The work procedures and work packages require review and approval by line managers via MCP-3562 and/or STD-101. This approval includes approving the mitigating controls delineated in the work procedures/packages, and ensuring they are implemented. This was consistently observed.

Implementation of "standards and requirements being appropriately tailored" is being accomplished through different avenues. From maintenance, Maintenance Related Tasks (MRTs) are developed and approved for lower hazard tasks performed on a regular basis. Examples would include change out of fluorescent lighting and replacement of a ballast not containing PCBs. These activities have a Job Safety Analysis performed, but the level of review and pre-job brief/ post job review is significantly less. Approval of an MRT is in consult with SMEs and other personnel as appropriate. This is controlled by STD-101.

In this same spirit, INTEC management is developing Operational Related Tasks (ORTs) to follow this same thought process (i.e., lower hazard repetitive operations such as housekeeping and rounds and surveillance.) These activities require less rigorous review and approval.

In general, the level of implementation was appropriate. There was evidence that INTEC needs a settling period to re-calibrate the required implementation levels for some activities. For example, the PM on the inspection of canister tools appeared to have an extreme amount of rigor for doing a visual inspection. As the ISMS process matures, this reviewer believes that SNF management will gain a better understanding of appropriate tailored implementation of standards and requirements.

Again, all aspects of the Authorization Basis implementation will be covered in the HAZ-WASTE CRAD.

As a separate issue, beyond the scope of this CRAD, and more in line with the OP CRAD, there were three instances in the peach bottom fuel unloading evolution where attention to detail of contamination controls could be improved. The instances were individually minor in nature, but may indicate potential complacency. Specific observed instances were as follows: No PPE (glove) was worn by the RCT while surveying a masslinn mop that had been wiped across the potentially contaminated cask that was located in a contamination control area. The reviewer is not aware of the requirements of the RWP, but it seems that PPE should have been worn. Second, as the RCT was performing a secondary check to ensure no contamination dropped from the empty and dry cask as it passed from the decon pad into the decon room, he inadvertently stepped where he had swiped. Again, this appeared to be a poor practice even though the chance of contamination was minimal. Lastly, it appeared that a different RCT might have crossed from a personnel-frisking area to a clean area without an adequate personal survey. SNF management looked into the situation and determined the RCT had frisked, but perhaps not adequately. SNF management agreed that exact compliance with Radiation and Contamination Controls is important. (IHAZ1-7)

Conclusion:

The Objective has been met.

Issue(s):

- Through continuous improvement of work control documents such as MCP-3562 and STD-101, terms, titles, processes and delegations need to be clarified to more closely represent actual procedural implementation. In addition, SNF TPRs need to be evaluated against the criteria in STD 9, section 8.6.3 to ensure that clear work step roles and responsibilities are defined. (IHAZ1-6)

- Attention to detail for Radiation and Contamination Controls at INTEC needs to be strengthened. Several instances indicate the potential for complacency. (IHAZ1-7)

Strength(s):

- An abbreviated training record of the more important applicable training for an employee was physically carried by same employee. This is not a requirement. These abbreviated forms are updated monthly. In addition, all craftsmen are trained in waste minimization and pollution prevention techniques. (IHAZ1-8)

- The subcontractor for the INTEC-651 chevron door/excavation activity holds pre-job meetings EVERY day, even though at times they are not required. (IHAZ1-9)

- Management at INTEC has made great strides at accomplishing a culture change and continuous positive attitude of workers and management regarding ISMS. All workers (operational, maintenance, construction, SMEs etc) were knowledgeable and skilled commensurate with their responsibilities. Worker involvement, including subcontractors, is paramount to every aspect of the ISMS implementation, and is effectively achieved at INTEC. (IHAZ1-10)

Inspector_____ Colette Broussard	**Team Leader**_____ Terry W. Smith

Sub-Team: INTEC	**FUNCTIONAL AREA: HAZ** **DATE**: June 12, 2000

OBJECTIVE: HAZ.1 The full spectrum of hazards associated with the Scope of Work is identified, analyzed, and categorized. Those individuals responsible for the analysis of the environmental, health and safety, and worker protection hazards are integrated with personnel assigned to analyze the processes. 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 is used to ensure adequate protection of the public, worker, and the environment and are established as agreed upon by DOE. These mechanisms demonstrate integration, which merge together at the workplace. (CE II-2, CE II-3)

CRITERIA:

1. Procedures and/or mechanisms are in place and utilized by personnel to ensure hazards associated with the 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 environmental, health and safety concerns are integrated with those assigned to analyze the hazards for the facility or activity. The use of these mechanisms ensures direction and approval from line management and integration of the requirements.

2. Procedures and/or mechanisms are in place and utilized by personnel that describe the interfaces, 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.

3. Procedures and/or mechanisms are in place to develop, review, approve and maintain current all elements of the facility Authorization Basis Documentation with an integrated workforce.

4. Procedures and/or mechanisms that identify and implement appropriate controls for hazard mitigation within the facility or activity are developed and utilized by workers and approved by line managers. These procedures/mechanisms reflect the set of safety requirements agreed to by DOE.

5. Standards and requirements are appropriately tailored to the hazards.

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

7. Workers actively participate in hazard identification, analysis, and mitigation processes.

APPROACH:

Record Review: Review the documents that govern the conduct, review, and approval of facility hazard analysis such as: Technical Safety Requirements MCP-2450 "Technical Safety Requirements", Fire Hazards Analysis (FHA) MCP-579 "Fire Hazards Analysis", Safety Analysis PDD-22 "Safety Analysis" and PRD-164 "Safety Analysis for Other than Nuclear Facilities", and MCP-3680 "Environmental Aspects and Evaluation" (EAE) to verify that these documents conform to the hazard analysis requirements.

Review a sample of hazard control documents 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, Safety Analysis Reports (SARs), Technical Safety Requirements (TSRs), Health and Safety Plans (HASPs), Auditable Safety Analysis (ASA), Fire Hazards Analysis (FHA), Criticality Safety Evaluation (CSE), etc.

Review procedures and documentation such as that pertaining to field verifications for activities/processes such as: STD-101 "Integrated Work Control Process," Radiological Work Permits (MCP-7 "Radiological Work Permit"), operations procedures (such as MCP-3480 "Environmental Instructions for Facilities, Processes, Materials, and Equipment), Hazards Identification and Control documents (MCP-3562 "Hazards Identification, Analysis & Control of Operational Activities" or MCP-3571 "Independent Hazard Review") to ensure accurate and effective implementation of Authorization Basis documentation requirements.

Where appropriate, review the process used to resolve Unreviewed Safety Questions (USQs) to ensure new tasks are being evaluated against the approved authorization basis as required by MCP-123, "Unreviewed Safety Questions." Review completed USQ or in progress USQ implementation documentation.

The primary focus of this section of the review (HAZ) is the identification of hazards and development, review, and approval of Authorization Basis documentation at the facility level. Hazard identification and controls for individual work items or activities will be evaluated using the Operations (OP) CRAD.

Interviews: Interview personnel responsible for the identification and analysis of work hazards including personnel responsible for ALARA review requirements. For example, this should include personnel responsible for USQ determination, procedure technical reviews, etc. 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, FHA, CSE, and EAE preparations and implementation.

Observations: As 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 Job Safety Analysis (JSA), etc.

As possible, observe the actual processes development, review, approval, and implementation of SAR/TSR, and other Authorization Basis Documents as available. Where appropriate, observe that new tasks are being evaluated to determine if the tasks fall within the safety envelope described in the approved authorization basis as required by MCP-123, "Unreviewed Safety Questions."

Record Review:

- PDD-1004, INEEL Integrated Safety Management System, Rev. 4, dated 2/25/00
- PDD-1005, Site Operations, Rev. 3, Dated 6/2/00
- MCP-2811, Design and Engineering Change Control, Rev. 4, dated 8/27/99
- STD-101, Integrated Work Control Process, Rev. 3, Dated 12/14/99
- MCP-3562, Hazard Identification, Analysis and Control of Operational Activities, Rev. 2, dated 3/17/00
- EDF-796, Engineering Design File for Validating and Verifying Requirements for Authorization Agreement, Rev. 0, dated 7/2/99
- MCP-3567, Authorization Agreement with Authorization Basis List, Rev. 1, 8/30/99
- MCP-1135, INTEC Authorization Basis Control Implementation, Rev. 6. 4/27/00
- Implementation Planning and Verification Record (IPVR) for LCO 3.5.1.1, effective date 10/25/96
- Implementation Planning and Verification Record (IPVR) for LCO 3.5.1.2, effective date 10/25/96
- Implementation Planning and Verification Record (IPVR) SSC 007, approved 11/29/99
- Implementation Planning and Verification Record (IPVR) SSC 008, approved 11/29/99
- IAG-32, Authorization Agreement for the INTEC Airborne Waste Management Facilities, Rev. 1, dated 10/1/99
- IAG-33, Authorization Agreement for the INTEC Calcined Solids Storage Facilities, Rev. 1, dated 10/1/99
- IAG-39, Authorization Agreement for the INTEC Tank Farm Facilities, Rev. 1, dated 10/1/99
- IAG-43, Authorization Agreement for the INTEC New Waste Calcining Facility, Rev. 1, dated 10/1/99
- CTR-57, Charter for the INTEC HLW Operational Safety Board, Rev. 0, dated 5/31/00
- PLN-497, Management Plan for the INEEL Safety Analysis Program, Rev. 0, dated 6/21/99

- PLN-489, Revision 0, Lockheed Martin Idaho Technologies Company Plan for Department of Energy Orders 5480.23, Nuclear Safety Analysis Reports, and 5480.22, Technical Safety Requirements
- PLN-489, Revision 1, Implementation Plan for Department of Energy Orders 5480.23, "Nuclear Safety Analysis Reports," and 5480.22, " Technical Safety Requirements"
- PLN-560, Nuclear Safety Analysis Work Plan for FY-2000, Rev. 0, dated 12/13/99
- PDD-22, Safety Analysis, Rev. 0, dated 1/2/97
- MCP-2449, Nuclear Safety Analysis, Rev. 3, dated 7/27/99
- PRD-113, Unreviewed Safety Questions, Rev. 2, dated 8/26/99
- MCP-123, Unreviewed Safety Questions, Rev. 2, dated 8/26/99
- Form 431.19A, USQ Safety Evaluation Screening for Procedural Changes, Rev. 1
- Form 431.19B, USQ Safety Evaluation Screening for Facility Modifications, Rev. 1
- Form 431.19C, USQ Safety Evaluation Screening for Tests and Experiments, Rev. 1
- Form 431.19D, USQ Safety Evaluation Screening for SAR Revisions, Rev. 2
- Form 431.20, USQ Safety Evaluation, Rev. 3
- INTEC Interpretation Log Index, Used to track active interpretations of Technical Standard (TS) & Technical Safety Requirement (TSR) questions, dated 4/24/00
- TS Interpretation Log, TS 4.2.B3, TS 4.2B9, dated 5/9/94, 0600
- TSR/TS Interpretation Log, 8.6TRQ-3, Requirement 1, dated 10/30/96
- TSR/TS Interpretation Log, TS8.6B3, dated 10/30/96
- TSR/TS Interpretation Log, TS.8.6B2, Requirement: Table 1, dated 1/24/97
- TS/S or PSD Interpretation Log, TS 4.2B4, Specification 2, dated 9/7/1999
- TSR/TS Interpretation Log, TS 8.6B4, Requirements: All, dated 10/30/96
- MCP-1108, INTEC Independent Safety Review Committee, Rev. 2, dated 12/7/99
- MCP-579, Performing Fire Hazard Analysis, Rev. 3, 8/31/99
- INTEC-PLN-586, INTEC Project Plan for Implementation of Fire Hazard Analysis and Fire Assessments Nuclear/Non Nuclear Facilities and Structures, Rev. 1, 5/5/00
- HAD-74, Combined Fire Hazards Analysis/Fire Safety Assessment for CPP-659, New Waste Calcining Facility –Rev 3, DRAFT in review process
- HAD-77, INTEC Experimental Facilities, Rev. 0, DAR# 45991, Approved 5/31/00
- HAD-78, INTEC Airborne Waste Management Facility, Rev. 0, DAR# 45992, Approved 5/31/00
- MCP-1761, ESH&QA Department Roles and Responsibilities, Rev. 6, dated 9/9/99
- MCP-3776, INTEC Roles and Responsibilities, Rev. 2, dated 5/31/00
- MCP-135, Creating, Modifying, and Canceling Procedures and Other DMCS-Controlled Documents, Rev. 5, dated 8/24/99
- MCP-3570, INTEC Document Development and Review Process (Supplemental to MCP-135), Rev. 2, dated 3/20/00

- MCP-3571, Independent Hazard Review, Rev. 2, 2/2/00
- MCP-1108, INTEC Independent Safety Review Committee, Rev. 2, dated 12/7/99
- Form 412.13, Document Management Control System (DMCS) Review Comments and Resolutions for ICPP Waste Calcine Facility SAR, Document ID: ID-14620, DAR No: 45225, Reviewer accepting resolution of significant comments per telecon signature (K. B. Farmer) on 5/12/00, with numerous attachments
- Interoffice Memorandum from M. T. Lewis to D. F. Reeder, dated May 24, 2000, Subject: Independent Safety Review Committee (ISRC) Review of SAR II-5.2 First Calcined Solids Storage Facility and ORM 6.5.2.1, First CSSF Load Controls Meeting Minutes, ISRC-18-2000
- Interoffice Memorandum from E. E. Hochhalter to M. T. Lewis dated may 30, 2000, Responses to ISRC Comments on the First CSSF SAR and ORM 6.5.2.1, with attachments
- Letter from Arthur Clark, to E. J. Ziemainski, dated May 30, 2000, Responses to DOE Comments on INTEC SAR, Part II, Section 5.2, First Calcined Solids Storage Facility, with attachment
- MCP-2398, Developing and Maintaining Emergency Preparedness Hazards Assessments, Rev. 1, dated 2/21/00
- HAD-4, INEEL Hazards Assessment Document Report for INTEC, Rev. 3, dated 4/7/99
- PRD-112, Criticality Safety Program Requirements Manual, Rev. 1, 6/1/98
- PLN-561, Criticality Safety Work Plan for FY-2000, Rev. 0, Dated 12/17/99
- MCP-1770, Criticality Control, Rev. 7, dated 2/7/00
- MCP-2818, Establishing, Maintaining, and Deleting Criticality Control Areas, Rev. 2, dated 9/30/96
- INEEL/EXT-2000-00202, Idaho National Engineering and Environmental Laboratory Criticality Safety Assessment, dated February 2000
- INEL-95/113, Criticality Safety Evaluation for Calcine at the New Waste Calcining Facility, dated August 1995
- CSS-94-003, Evaluation of PEW Tank VES-WL-111, dated March 1994
- INTEC-EAR-P8.0-Y1, NWCF - Major Alarm Response, Rev. 12, dated 1/11/00
- MCP-7, Radiological Work Permit, Rev. 13, dated 1/3/00
- RWP# 31000308 01, 659 CMA-Remove/Replace Cell Hatch Covers and Equipment, dated 5/4/00, 10:09
- RWP#31000309 00, 659 Decon Cell – Repair Process Valves, Surveys and Support, dated 2/19/00, 19:19
- Work Order package # 00020848 01, Replace F-WILL-170-27, dated 5/17/00
- Work Order Package # 00027279 01, Troubleshoot Electrical Switchgear F, dated 5/17/00
- Interoffice Memorandum from M. T. Lewis to S. R. Bolton, ISRC Review of Unreviewed Safety Question (USQ) Safety Evaluation for, CPP-651 Engineered Safety Feature Discrepancy, dated March 7, 2000

- Letter from R. M. Stallman to Arthur Clark, DOE Approval of Compensatory Controls for the CPP-651 Facility as Outlines in the Determination of Facility Safety (INTEC-SNF-00-008), dated March 8, 2000
- Form 431.19D, USQ Safety Evaluation Screening for SAR Revisions, 6th Calcined Solids Storage Facility, USQ Determination # 00-USQ-5.3-002S, Rev. 0, dated 3/15/00
- Form 431.20, USQ Safety Evaluation, 6th Calcined Solids Storage Facility, Safety Evaluation # 00-USQ-5.3-002E, Rev. 0, ISRC Committee Chair concurrence dated 5/10/2000
- Independent Hazard Review # INTEC-00-11, (Appendix A of MCP-3571, Rev.2), Date Received: 5/22/00
- ACLP-7.44, RAL Remote Cleaning System Filling Procedure, Rev. 1, dated 2/7/00
- ACLP-7.45, Remote Analytical Laboratory Air Sampling Alarm Procedure, Rev. 1, dated 9/24/98
- ACLP-7.24, Safety Considerations for Operation of the Remote Analytical Laboratory, Rev. 1, dated 3/11/99
- ACLP-7.40, Requirements and Operation of the IN-Cell Fire Suppression System, Rev. 3, dated 2/7/00
- STD-1107, INEEL Safety Analyst Training Standard, Rev. 0, 11/30/99
- Training Records and Information Network (TRAIN) database, as accessed 6/7/00
- INTEC-TPR-P7.5-T1, Tank Farm Filling and Transfer Procedures, Rev. 3, dated 6/1/99
- LTS WM189-2, Liquid Transfer Sheet, Issue date 24-Feb-00
- Form 5893X, Tank Farm Transfer Sheet, Rev. 3, dated 3/31/99
- Form INTEC 8621X, TS Instrument Checks Category 2, Facility: CPP-601 and CPP-603, CAS Systems, Rev 7, dated 8/25/99
- Form INTEC 8607AX, TS Instrument Checks Document Category II, Facility CPP 659, 671, 673, Rev. 2, dated 1/1/00
- Form INTEC-8607X, TS Instrument Checks Document Category II, Rev. 4, dated 8/25/99
- Letter from E. L. Watkins to R. M. Stallman, Transmittal of the BBWI Implementation Plan for DOE Orders 5480.22, dated June 6, 2000, with attached Revision 1 to PLN-489

Interviews Conducted:

- Supervisor, Safety Analysis Special Projects
- Safety Analyst for Special Projects Group
- Chairman, Independent Safety Review Group
- Unreviewed Safety Question (USQ) Screener/Evaluator
- Environmental Supervisor
- Environmental Engineer
- Industrial Safety and Fire Protection Supervisor
- Supervisor, Criticality Safety

- Department Manager, High Level Waste
- Supervisor, High Level Waste Support
- Supervisor, New Waste Calcining Facility
- Shift Supervisor, New Waste Calcining Facility
- NWCF Operators - 2
- Shift Supervisor - High Level Waste
- HLW Operators - 2
- INTEC Site Area Director
- Analytical Laboratory Area Coordinator for Hazard Evaluation Group
- Team Lead, INTEC MCP-3562 Implementation
- Hazard Evaluation Group Team Coordinator
- INTEC ALARA Committee Chairman
- INTEC ALARA Committee Coordinator
- HLW Procedure Writer
- Supervisor, RadCon Operations
- NWCF RadCon Foreman
- RadCon Technical Support
- RadCon Technician
- HLW Maintenance Supervisor
- HLW Maintenance Foreman
- HLW Work Planner
- Director, Facility Hazards Identification and Control

Observations:

- Pre-job Briefing for INTEC-TPR-P7.5-T1, Tank Farm Filling and Transfer Procedures evolution.
- Implementation of INTEC-TPR-P7.5-T1, Tank Farm Filling and Transfer Procedures for the movement of radioactive liquid waste from NWCF NCC-101 to WM-189.
- Independent Hazard Review Group (IHRG) meeting for the Composition Variation Study test plan.
- Hazard Evaluation Group Meeting for Analytical Laboratory procedure review under MCP-3562
- High Level Waste Maintenance Walkdown for WO# 29397

Discussion of Results:

The review considered four major processes, which are instrumental in establishing and maintaining the operations of the facilities at the INTEC in a manner that assures adequate protection of the public and workers. These are the Safety Analysis process, Fire Hazard Analysis and Assessments, Emergency Preparedness Hazard Assessments, and Criticality Safety Evaluations. In each of these processes, procedures were found to be in place and are being used by the appropriate personnel to ensure the hazards

associated with the work throughout the facility have been identified and analyzed. The documents which result are complete and meet DOE expectations.

The contractor has established a Management Plan for the INEEL Safety Analysis Program (PLN-497) which provides the overall plan for performing hazard classifications and preparing safety analysis for other-than-nuclear facilities along with developing and maintaining Safety Analysis Reports (SARs) and Technical Safety Requirements (TSRs) to meet the requirements for DOE Orders 5480.23 and 5480.22. It forms an essential link in the Integrated Safety Management System by providing a platform for the consistency in the performance of safety analysis activities. It also defines very specific roles and responsibilities for key contractor personnel in the management and implementation of the INEEL Safety Analysis Program. Interviews conducted indicated that the responsibilities identified in PLN-497 were well understood.

The schedules for upgrades of INTEC SARs, which do not yet meet the requirements of DOE Order 5480.23, are contained in PLN-489. BBWI transmitted Revision 1 to the plan on June 6. The transmittal responses to comments made in the original DOE approval. Included in the revision is justification for refocusing resources toward those EM facilities with long term missions. The interviews with the INTEC Site Area Director and Nuclear Facility Managers indicated a clear understanding of the importance of establishing and maintaining a revised schedule for the upgrades. As a method to maintain an appropriate focus on the upgrade project, a significant re-organization of the Safety Analysis organization at INTEC has recently been implemented. Based on the interviews conducted, it appears that establishing the Safety Analysis Special Projects group to expedite the INTEC SAR upgrades will improve the possibility of their timely completion. However, continued senior management support by both the contractor and DOE in maintaining adequate funding for this effort will be essential to it's success.

From a process standpoint, MCP-2449, Nuclear Safety Analysis clearly defines the activities necessary to perform hazard analysis, determine hazard categories for nuclear facility and non-facility nuclear operations, establish implementation plan schedules for upgrading existing Safety Analysis Reports (SAR) to the requirements of DOE Order 5480.23. The end product of the Safety Analysis process is the documentation of the safe operating window (as compared to replacement of a pump) therefore two updated Facility-Specific Safety Analysis were reviewed to verify implementation. INEL-94/022, Section 5.1, Facility Specific Safety Analysis for the NWCF was issued April 2000, and INEL-94/022, Section 2.1, Facility-Specific Safety Analysis for the CPP-666 Fuel Storage Area, is currently in the review and approval process. The review found that the structural requirements were met and the content appears meet DOE expectations.

An assessment of the Fire Protection Program at INTEC last year identified inadequacies in the existing Fire Hazard Analysis and Fire Safety Assessments. As a result PLN-586 which is the INTEC Project Plan for Implementation of Fire Hazard Analysis and Fire Safety Assessments Nuclear/Nonnuclear Facilities and Structures was developed. The plan covers those facilities and structures at INTEC, which required upgraded fire hazard assessment and fire safety assessments. These are the Remote Analytical Laboratory, the

Experimental Facilities, Laboratory Facilities, the Airborne Waste Management Facility, and the TMI-2 Independent Spent Fuel Storage Facility. Working within this plan, the contractor is making progress in being able to demonstrate that they meet the fire protection requirements of DOE Order 420.1, Facility Safety.

The process for performing Fire Hazard Analysis is established in MCP-579, and the process for conducting Fire Safety Assessments is defined in MCP-583. Review of both procedures indicated that they have faithfully translated the existing source requirements into implementing procedures. A review of three recent INTEC Combination Fire Hazards Analysis and Fire Safety Assessments, HAD-74, CPP-659, New Waste Calcining Facility (currently in review), HAD-77, INTEC Experimental Facilities and HAD-78, INTEC Airborne Waste Management Facility found the requirements of the established process were being implemented.

MCP-2398, Developing and Maintaining Emergency Preparedness Hazard Assessments was established as a means to standardize the methodology for Hazard Assessments used for emergency planning and preparedness purposes. It provides guidance in the coordination of hazard identification and evaluation between the sometimes differing applications of the Safety Analysis and Emergency Preparedness programs. The procedure identifies requirements and methods for facility description and identification of facility boundaries, the conduct of hazard identification, screening and characterization, developing event scenarios and potential consequences. It also establishes methods for developing predetermined protective actions and emergency planning zones. As such it forms an important link to assure the INEEL workers and the public can be protected in the event of an emergency. HAD-4, INTEC Hazard Assessment was evaluated against the requirements established in MCP-2398 and no discrepancies were identified.

The Criticality Safety Program Requirements Manual (PDR-112) establishes the requirements, which apply to the design, construction, operation, maintenance and decommissioning of INEEL facilities which contain fissile material. The requirements were compared to those contained in DOE Order 5480.24, Nuclear Criticality Safety and 420.1, Section 4.3 Nuclear Safety to assure a complete roll-down of requirements from the contractually mandated directive. As with each of the other top level contractor implementing documents reviewed, all of the directive-established requirements were found to be included. In addition, PRD-112 identifies additional industry standards and best management practices, which are to be used for criticality safety at the INEEL. Although MCP-1770 was reviewed, it was not relevant to the evaluation of INTEC since it applies only to the Radioactive Waste Management Complex. MCP-2812, Establishing, Maintaining, and Deleting Criticality Control Areas has defined clear responsibilities to the Facility Manager, which ensures that direction and approval for establishing or changing a Criticality Control Area is a line management duty.

In February 2000, a self-assessment of the INEEL Criticality Safety Program was performed. The assessment was against the criteria presented at the August 1999 Nuclear Criticality Safety Self-Improvement Workshop “Review Plan for DOE Contractor

Criticality Safety Programs" which is based on the requirements of ANSI/ANS 8.19 "Administrative Practices for Nuclear Criticality Safety". As a result of the assessment two USQ evaluations were required to be performed, one of which was positive. Corrective actions have been implemented for that positive USQ. The review of the self-assessment found it to be comprehensive in scope and an important part of the continuing improvement element essential to effective Integrated Safety management implementation.

Roles and responsibilities have been clearly established for personnel at INTEC through MCP-3776, INTEC Roles and Responsibilities. This document applies to those INTEC individuals identified as being "Key Personnel" and includes management from the Site Area Director down through the first level supervisors. It includes those responsible for operations for spent nuclear fuels, high level waste, NRC activities, INTEC services, maintenance, engineering, quality assurance, environment safety & health, training, tenant & support, utility operations and the analytical laboratories. These roles and responsibilities are consistent with the requirements established in PDD-1004, INEEL Integrated Safety Management and PDD-1005, Site Operations. The review evaluated the training of Safety Analysts to determine the level of competence associated with the personnel assigned to that important area. In November of 1999 STD-1107, INEEL Safety Analysis Training Standard was implemented. The standard was prepared as a joint effort by INEEL Training and the INEEL Safety Analysis Committee. The training standard establishes important criteria for the program for meeting the requirements of DOE Order 5480.20A, Personnel Selection, Qualification, and Training Requirements for Nuclear Facilities by establishing specific training requirements, continuing training for safety analysts, and a five retraining cycle. It also established a process by which safety analysis personnel may perform assigned tasks under the guidance and supervision of a qualified safety analyst or supervisor until fully qualified and allows for appropriate levels of management to evaluate candidates education and experience as a basis for exempting them from certain elements of the training program. The review of STD-1107 found it to be both thorough and comprehensive.

The Authorization Basis List is an integral part of the Authorization Agreement and controlled through the process identified in MCP-3567. INTEC has further expanded the Authorization Basis process to ensure that new or revised controls which are specified in the nuclear facility authorization basis documents and the Operational Requirements Manual are identified, implemented and verified prior to work activities through the implementation of MCP-1135, INTEC Authorization Basis Control Implementation. The documents which contain controls for INTEC are identified and include: Plant Safety Documents, Technical Specifications and Standards, Safety Analysis Reports, Technical Safety Requirements, Auditable Safety Analysis, the Operational Requirements Manual, Unreviewed Safety Question (USQ) and USQ resolution plans, and Determinations of Facility Safety. MCP-1135 also establishes surveillance requirements to ensure compliance with the controls of the Authorization Basis and a process for planning and implementing Authorization Basis controls through the use of INTEC FORM-8128X, Implementation Planning and Verification Record (IPVR). Since the IPVR process was recently updated, the review conducted a spot check of two IPVRs under the previous

system and two IPVRs under the new system. The records reflected the expectations set forth in MCP-1135 and the process appears to be adequate to effectively control changes to Authorization Basis controls.

The contractor has recognized the importance of maintaining the operations of the nuclear facilities at the INTEC within the DOE approved Safety Analysis. In order to effectively preserve the authorization basis a process for the systematic review of proposed changes has been established. PRD-113, Unreviewed Safety Questions (USQ), identifies the program requirements and criteria for identification of an USQ. It also provides criteria for Categorical Exclusions and a process for USQ determinations which is consistent with DOE Order 5480.21, Unreviewed Safety Questions, Section 10, Program Requirements. The requirements identified in PRD-113 have been translated into MCP-123, which specifies the processes of screening proposed changes, preparing the evaluations, performance of independent reviews of the safety evaluations, establishing interim operating restrictions while completing safety evaluations as a result of new information. It also addresses the training requirements for USQ screeners and evaluators, and the process for obtaining DOE concurrence with USQ safety evaluations and USQ resolutions. To aid the performance and documentation of USQ screenings and evaluations standardized forms (431.19A through D for screening and 431.20 for evaluations) have been developed and instituted which exactly reflect the criteria identified in Appendixes A through E of MCP-123. A sample of USQ screenings and evaluations found no discrepancies in meeting the requirements established in MCP 123.

The Training Records and Information Network (TRAIN) database was reviewed to evaluate compliance with the training requirements for personnel conducting USQ Screening and USQ Evaluations identified in MCP-123, Section 4.1. A formal training program has been implemented for these personnel and a sample of 10 individuals authorized to conduct USQ screening and evaluations found satisfactory completion of the required training in each case.

The development and review of Authorization Agreements and the associated Authorization Basis documents (SARs, TSRs, etc.) is one of the most fundamental exercises in tailoring requirements to the specific, analyzed hazards of a facility. The success in that endeavor is the foundation upon which the demonstration of worker and public safety can be made. The review of documents and the results of the interviews and observations indicated that there is a well-developed process established for the identification of hazards associated with work at the INTEC. Upon identification of the hazards, appropriate mitigation and control mechanisms are being developed, documented, reviewed and approved in an appropriate manner.

The contractor has implemented a series of procedures, which address the various aspects of Authorization Agreement control. The company wide procedure MCP-3567, Authorization Agreement with Authorization Basis List assigns the responsibility for creation of Authorization Agreements to the nuclear facility manager and defines the responsibilities for the review and approval of the Authorization Agreement up through the Site Area Director and Site Operations Manager contractor line management chain.

Upon approval by the Site Operations Manager the Hazard Category 1 and 2 Facility Authorization Agreements are transmitted to the Idaho Operations Office for approval. The key elements of an Authorization Agreement are clearly defined in the procedure. These adequately reflect the recommendations set forth in DOE G-450.4-1A, Integrated Safety Management System Guide, Section 5.3, Sample Checklist for Authorization Agreements.

The review evaluated four Authorization Agreements approved by DOE Idaho for nuclear facilities at the INTEC. These included: the Airborne Waste Management Facilities (IAG-32), the Calcined Solids Storage Facilities (IAG-33), and the Tank Farm Facilities (IAG-39), IAG-43, Authorization Agreement for the INTEC New Waste Calcining Facility. In each agreement the requirements identified in MCP 3567 were fully met.

The processes put in place to assure that the work both within and upon the facility is conducted within the Authorization Agreement in general, requires the participation of a variety of technical experts and those most familiar with the facility. From the documentation products reviewed, and the interviews conducted that participation was clearly evident. One of the most obvious examples of work being conducted in accordance with the Authorization Agreement came during the observation of a radioactive liquid waste transfer from the NWCF Tank NCC-101 to Tank Farm WM-189. The pre-job briefing was thorough, and particular attention was paid to the current levels of the tank and how the anticipated transfer would change them in relation to the Technical Specification for tank level. The evolution was conducted with professionalism and with a demonstrated understanding of the hazards and the procedurally established mitigation process.

Conclusion:

The objective is met.

Issue(s):

- None

Strength(s):

- None

Inspector_____ W. Stephen Somers	**Team Leader**_____ Terry W. Smith

Sub-Team: DOE	**FUNCTIONAL AREA: DOE** **DATE**: 6/12/2000

OBJECTIVE: DOE.1 DOE procedures and mechanisms are established to help ensure that hazards are analyzed; controls are developed; work is formally and appropriately authorized and performed safely; and feedback and improvement programs are in place and effective. DOE line managers are using these processes effectively, consistent with FRAM and FRA requirements, and are involved in the review of safety issues and concerns and have an active role in authorizing and approving work and operations. (CE II-7, CE II-8)

CRITERIA:

1. DOE procedures and/or mechanisms are in place that establish a process for confirming readiness and authorizing operations.

2. DOE procedures and/or mechanisms are established to help 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.

3. DOE procedures and/or mechanisms require day-to-day operational oversight of contractor activities through Facility Representatives.

4. DOE procedures and/or mechanisms are established to help ensure the implementation of quality assurance programs and ensure that contractors implement quality assurance programs.

5. DOE procedures and/or mechanisms are in place to help ensure that the contractor's hazard analysis covers the hazards associated with the work and is sufficient for selecting standards.

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

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

8. DOE procedures and/or mechanisms are in place 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.

9. DOE procedures and/or mechanisms require that contractors develop a lessons-learned program and monitor its implementation. A process is established 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 in order to profit from prior experience and the lessons learned. DOE provides effective line oversight of the contractor's self-assessment programs.

APPROACH:

Record Review: Review ID documents pertaining to the implementation of ISM for DOE at INTEC, such as the "DOE Integrated Safety Management Functions, Responsibilities and Authorities" at INTEC to assess that line management is responsible for safety, and that their responsibility is clearly defined in roles and responsibilities.

Review ID documents relating to the implementation of DOE programs at INTEC related to "Environment, Safety, Health and Quality Assurance Oversight" and "Independent Assessment." As possible, sample select surveillance reports for INTEC to determine if mechanisms are established to help line management performs oversight of the contractor's ISMS. Review documentation pertaining to the ID Oversight, Review Schedules, and reported results to assess the adequacy of this oversight at INTEC. Review ID Facility Representative (FR) Position Descriptions, Performance Agreements, and FR reports and oversight documentation to determine if mechanisms are in place to require day to day operational oversight by FRs at INTEC.

Review documentation pertaining to the implementation of INTEC documentation on the "Quality Assurance Program" and Quality Program Plans (QPPs) to determine if they help the implementation of quality assurance program by ID and the Contractor. Review documents such as "Safety Basis Review and Approval Process" to determine if this mechanism is sufficient and tailored to facility work and hazards.

Review documentation related to the implementation at INTEC of activities such as "DOE-ID Performance Measure, Trend Analysis, and Communications" to determine if this mechanism assists contractors to develop a lessons-learned program and monitor its implementation. Review the documentation pertaining to the results of the implementation for INTEC, "DOE-ID INTEC Issue Management," to evaluate adequacy of implementation to continuously improve efficiency and quality of operations. Review documentation such as the "DOE-ID Self-Assessment" at INTEC to determine the adequacy of the implementation of the ID management self-assessment program at INTEC.

Interviews: Interview the INTEC Facility DOE Management and Site Area Directors and discuss work authorization and performance to determine if there are adequate mechanisms to ensure that work is properly authorized for INTEC.

Interview DOE and Contractor Line Management personnel at all levels and discuss the INTEC oversight programs. Discuss the Facility Representative (FR) programs with facility representatives and contractor personnel to determine if the FR program is effective at INTEC. Discuss oversight and assessment programs with DOE INTEC staff, to assess their understanding of line management responsibility for safety and clear roles and responsibilities.

As possible, interview DOE personnel such as other Division Directors to assess their review and approval of the results of the contractor's ISMS implementation, their understanding of the ISMS procedures and principles, their oversight of the contractor's self-assessment programs, and the DOE-ID management self-assessment program at INTEC.

Observations: As possible, observe INTEC facility representative and DOE staff oversight activities. These activities could include such activities as: "Environment, Safety, Health and Quality Assurance Oversight" activity, "walkdowns" of the facilities with the FRs, as possible, Facility Director Conference Calls, Facility Director staff meetings, and interface with the contractor to determine line management understanding and awareness of operations.

Record Review:

- DOE ID G450.E-1, DOE ID Operations Office Integrated Safety Management System Guide, Rev 1, 3/13/00
- INEEL PDD-1004, INEEL Integrated Safety Management System (ISMS) Program Description Document (PDD), Rev 4, 2/25/00
- INEEL PDD-1005, INEEL Site Operations Manual, Rev 2, 3/17/00
- DOE ID Notice 411.A-1, DOE Integrated Safety Management Functions, Responsibilities, and Authorities Manual, 4/21/00
- DOE ID INTEC Roles and Responsibilities, Draft dated 5/20/2000
- DOE ID Notice 425.A, Startup and Restart of Nuclear Facilities, 3/24/00
- DOE ID INTEC Operational Readiness Assessment, Startup of Utility Mobile Boiler, 12/15/99 – 2/28/00, dated 3/7/00
- DOE ID INTEC Operational Readiness Assessment, New Waste Calcining Facility (NWCF), 1/20-2/23/00, dated 3/6/00
- DOE ID Notice 450.A, Environment, Safety, Health, and Quality Assurance Oversight, 8/27/99
- DOE ID EM M410.G-1, Environmental Management (EM) Assistant Manager (AM) Manual, Rev 0, 3/3/00
- DOE ID Order 220.A, DOE ID Self-Assessment, 8/20/99
- DOE ID Order O 220.B, Independent Assessment, 9/10/99

- DOE ID Facility Representative (FR), Facility Engineer (FE), and Facility Director (FD) Position Descriptions and Performance Agreements for INTEC, 1999 - 2000 (series, 13)
- DOE ID letter of November 10, 1999 concurring in the INEEL INTEC Requirements Applicability Rolldown Matrix (OPE-INTEC-99-106)
- DOE ID letter of April 4, 2000 Transmittal of FY 2000 First and Second Quarter Self-Assessments (INTEC-WP-00-016), with attached Oversight Self-Assessment Reports (series)
- DOE ID letter of June 1, 2000 Transmittal of DOE Oversight Reports for the Period May 1 to May 31, 2000 (INTEC-00-019), with attached Oversight Surveillance Reports (series)
- DOE ID INTEC "OATS" Weekly Task Action Status Report of 6/5/00
- INTEC Occurrence Reports, with associated DOE-ID INTEC Reports and Contractor Investigation Reports for the last six months, 1999-2000 (series)
- DOE ID Order 414.1, Quality Assurance Program, 7/26/99
- DOE ID OPEM 410.C-1, DOE ID OPE Operational Excellence Manual, 4/7/99
- DOE ID Technology Programs and Operations (TPO) Draft AM Manual, 3/00
- DOE ID AM Organization Quality Program Plans (QPPs) for INTEC, (series)
- DOE ID INTECH EM-AM-410-G-1, INTEC Quality Program Plan Guide, 5/8/00
- DOE ID Notice 420.A1, Safety Basis Review and Approval Process, 5/11/98
- DOE ID Order 210.A, DOE-ID Performance Measures, Trend Analysis, and Communications, 8/27/99
- DOE ID Order 410.A, DOE-ID Issue Management, 5/10/99
- DOE ID Manual, ID M-410.A-1, Rev 0, Issue Management Manual, 5/10/99
- DOE ID M 440.A-1, DOE ID Federal Employee Operational Safety and Health Manual, 12/28/99
- DOE ID G230.A-1, Lessons Learned Program Management, 11/12/98
- DOE ID Order 120.A1, General Business Planning, 8/19/99
- DOE ID Notice 251.1, ID Directives System, 5/10/99
- DOE N ID 450.B, Imminent Danger Response Action and Stop Work, 6/16/97
- DOE ID-10671, INEEL/EX-98-01172, Rev 4, INEEL CO2 Accident Corrective Action Implementation Plan Report, 9/99
- DOE ID N 440.A, DOE ID Federal Employees Occupational Safety and Health Handbook, 11/10/98
- DOE-ID IDM 360.A-1, Technical Qualification Program Manual, 7/28/99
- Documents pertaining to the DOE implementation that supports the INEEL ISMS Implementation of PDD–1004 for INTEC, including supporting documents and information 1999-2000 (series)
- DOE ID INTEC Individual Development Plan (IDP) (sample)
- DOE ID INTEC Qualification and Training Records (series, samples)
- DOE ID INTEC ESH&QA Oversight Plan for 2QCY2000, undated
- DOE ID INTEC current Self-Assessment Schedule, undated
- DOE ID INTECH Oversight Scheduled Summary, dated 5/31/00
- DOE ID INTEC current Environment, Safety, Health, and Quality Assurance (ESH&QA) Oversight Plan, 4/23/00

- DOE ID INTEC Self-Assessment and Oversight Reports, 1999-2000, including (but not limited to) such topics as Lockout and Tagout, Configuration Management, Operations and Maintenance (series)
- DOE ID INTEC Safety Document Review Reports, 1999-2000 (series, 5)
- INTEC Program Overview for the ISMS Phase II Verification Team, 5/17/00 (series)
- INTEC sample Monthly Progress Reports of 1999-2000 (samples)
- INEEL ESH&QA INTECH Performance Measures and Tracking Reports and Graphs, of May 2000, (series)
- INEEL Overview Presentation by the Contractor, DOE ID, and INTEC for the ISMS Phase II Verification Team, 5/15-17/00 (series)
- Samples of DOE-ID Tracking of Corrective Actions through completion for items identified through Oversights and Self-Assessments at INTEC of 1999-2000 with notes, (series)
- DOE ID INTEC-2000-31, Assessment of Self-Assessments and Performance Measures, 5/8/00
- DOE ID I N450.F, Environmental Safety and Health (ES&H) Core Infrastructure Program, Rev 0, 4/10/00
- DOE ID – BBWI Authorization Agreements for INTEC, 1999-2000, (series)
- Bechtel BWXT Idaho, CCN-00-002362, INEEL Independent Assessment Annual Summary of 16 December 1999, re INTEC
- INTEC Quality Program Plan (QPP), Rev 2, 3/14/00
- DOE-ID CO2 Accident Corrective Action Project (CAP) Report for January 2000, CCN 00-004496, of 16 February 2000
- DOE-ID CO2 CAP Implementation Plan Report for January 2000 with Draft Forwarding Letter of February 2000
- DOE-ID INEEL CO2 CAP Implementation Plan, DOE/ID-10671, INEEL/EXT-98-01172, Revision 5, dated 24 March 2000
- DOE-ID Quality Assurance Division – Status Overview Presentation of June 2, 2000
- DOE-ID Performance Assessment Division Description of June 2000

Interviews Conducted:

- DOE-ID Assistant Manager (AM) for Environmental Management (EM)
- DOE-ID Deputy AM for EM Operations
- DOE-ID Director of the INEEL ISMS Project Office
- DOE-ID INTEC Program Manager
- DOE-ID INTEC Deputy Program Manager and Facility Director (FD)
- DOE-ID INTEC Facility Representatives (FRs) (3)
- DOE-ID INTEC Facility Engineers (FEs) (2)
- DOE ID Environmental Programs and Settlement Agreement Division Director
- DOE ID Performance Assurance Division Director
- DOE ID Quality Assurance Division Director
- DOE ID Engineers and Subject Matter Experts (SMEs) (2)

- DOE ID Issues Management and Lessons Learned Program Manager
- DOE-ID AM for EM Deputy for Operations
- DOE-ID AM for Technology Programs and Operations (TPO)
- DOE-ID AM for Technical Support
- DOE-ID EM Division Director
- BBWI Deputy Vice President for Operations
- BBWI Site Operations Director (SOD)
- BBWI INTEC Site Area Director (SAD)
- BBWI INTEC Deputy Site Area Director (SAD)
- BBWI INTEC Facility and Operations Managers (6)
- DOE- ID Project Manager for Implementation of DNFSB 98-1 for EH Legacy Issues at the INEEL

Observations:

- DOE- ID and BBWI INTEC ISMS Status Presentations (series)
- Walkdown and Tour of INTEC facilities with DOE-ID INTEC Facility Engineer (FE) and Deputy Program Manager, Facility and Buildings Familiarization
- Walkdown and Tour of INTEC facilities with DOE-ID INTEC Facility Representative (FR) and Deputy Program Manager
- Walkdown and Tour of INTEC facilities with DOE-ID INTEC FR and BBWI INTEC Assessment and Trending Analysis Manager
- DOE ID INTEC Facility Management Staff Meeting
- DOE ID Weekly Facility Directors/Managers Weekly Conference Call
- INEEL Occupational Safety and Health Committee Meeting
- INTEC ALARA Review Meeting
- INTEC High Level Waste (HLW) Maintenance Work Walkdown
- INTEC Utilities Projects Familiarization Tour
- INTEC Utilities Work and Projects Walkdown with BBWI Utilities Manager
- Walkdown and Tour of INTEC Maintenance Building and Shops, and the Analytical Laboratory (AL) with DOE-ID INTEC FR and BBWI INTEC Assessment and Trending Analysis Manager
- INTEC Independent Hazard Review Group (IHRG) Meeting
- INTEC Power Management Group Work Planning Walkdown
- INTEC Maintenance Self-Assessment Walkdown of a Maintenance Facility
- INTEC Corrective Action Review Board (CARB) Meeting
- DOE ID Demonstration of the INTEC Oversight Information Management System (OIMS)
- BBWI Demonstration of the INTEC Issues Management System
- INTEC Spent Nuclear Fuel (SNF) Plan of the Day (POD)
- Walkdown and Tour of INTEC Site yard and outside facilities with DOE-ID INTEC FR

Discussion of Results:

The INEEL Integrated Safety Management System Verification Phase II (ISMSV-II) for five pilot facilities, was completed in September 1999. It was followed by the ISMSV-II Part II for two additional areas at INEEL in March 2000. Both reviews assessed the overall DOE-ID mechanisms at the DOE-ID Site level, and found that DOE-ID had satisfactorily implemented ISMS to execute their responsibilities. These reviews identified some DOE-ID strengths, and opportunities for improvement in the DOE –ID efforts for INEEL ISMS implementation. This ISMSV-II Team Member also reviewed the DOE-ID for both of the previous ISMSV-IIs; this provided a consistent approach to assess the degree of DOE-ID ISMS implementation, continuity and improvement during the past year.

This ISMSV-II Part III continued the ISMSV efforts and focused specifically on the Idaho Nuclear and Technology Center (INTEC). As with some other organizations at INEEL, this organization is unique, since the INTEC facilities are varied in organization and tasking.

Since the earlier ISMSV-IIs (et al.) DOE-ID reorganized their office, and initiated procedural and process revisions to improve their operations. Some of these changes and revision are now completed, some are to be completed very soon, and some are in progress now. The changes and revisions completed to date will satisfactorily support the continued execution of the DOE-ID INTEC responsibilities and operations.

Overall, based on the observations from this ISMSV-II for INTEC and the previous ISMSV-II results, the DOE-ID procedures and mechanisms are adequately established to execute their ISMS responsibilities at INEEL. The DOE-ID INTEC management continue to use their processes satisfactorily, consistent with their requirements. They are adequately involved in reviewing safety issues and concerns, and they have a sufficiently active role in authorizing and approving work and operations at INEEL.

Overall, the DOE-ID INTEC organization has adequately implemented their ISMS to execute their responsibilities and provide oversight for the contractors' ISMS at INTEC. The DOE-ID organization provides adequate oversight for the five ISMS Core Functions: (1) Define Scope; (2) Identify Hazards; (3) Implement Controls; (4) Perform Work; and (5) Feedback and Improvement at INTEC.

The DOE-ID INTEC Facility Representatives (FRs), Facility Engineers (FEs), and Facility Staff and Management are knowledgeable, engaged in operations, and have established a good rapport with their facilities and the DOE-ID support personnel. This is consistent with the DOE-ID organizations assessed in the earlier ISMSV-IIs.

The positive spirit of the DOE-ID organization to ISMS, their demonstrated teamwork with contractor personnel, and their strong sense of line management responsibility for safety for INTEC are substantial strengths. (DOE 1-1) These strengths were also previously noted by both of the ISMSV-IIs in September 1999 and March 2000.

Additionally, based on the results of this ISMSV-II and the earlier results, it is evident that the INEEL Project Management approach, used by the both the DOE-ID and M&O Contractors, has worked for the INEEL ISMS implementation at INTEC. The DOE ID ISMS Project Manager has done an excellent job in coordinating the implementation of ISMS for the DOE-ID at INEEL, using this project management approach. (DOE1-2) Throughout, the DOE-ID approach has paralleled, complemented, and supported the M&O Contractors' ISMS project management efforts, and the synergy helped in the implementation of ISMS at INEEL.

Because of the scope and breadth of the previous ISMSV-II reviews, this review of records focused on documentation relating to the implementation and execution of the DOE-ID ISMS responsibilities for INTEC. This documentation included DOE-ID supporting documentation, INTEC project and program documentation, major DOE-ID INTEC documentation for the supporting assessment and oversight programs, and documentation associated with safety, hazards, maintenance, and operations at INTEC. Overall this documentation provides adequate and consistent guidance delineating the DOE-ID organization's roles and responsibilities for safety and oversight at INTEC.

The review of this documentation, combined with the results of the subsequent personnel interviews indicated that DOE-ID has sufficient processes in place to confirm readiness prior to authorizing operations for INTEC.

The review of records indicated that DOE-ID mechanisms are adequately established to provide oversight of the contractor and help ensure that the ISMS is satisfactorily implemented for INTEC. These line oversight mechanisms are executed through DOE-ID Program and Facility Management DOE-ID Facility Representatives (FRs), senior DOE-ID line management, and DOE-ID support personnel. Subsequent personnel interviews and observations, during this review, supported this conclusion.

The review of records, combined with interviews and observations of the INTEC FRs indicated that DOE-ID INTEC Facility Representatives' procedures and mechanisms are sufficiently implemented to provide day-to-day operational oversight of the contractor. A review of some of the FR Position Descriptions and Performance Agreements for INTEC indicated that this documentation adequately described their positions to execute their responsibilities. DOE-ID FR activities are done in accordance with the DOE-ID directives and processes, using approved plans, with sufficient formality and rigor at INTEC. This was consistent with the results seen at the other facilities at INEEL during the previous reviews, and indicated an adequate degree of continuity across the site. Overall, the DOE-ID INTEC documentation reviewed included the results of assessments, and DOE-ID operational and oversight documentation for INTEC over the last six to twelve months.

Samples of DOE-ID INTEC Oversight Activities Reports from 1999 to the present, other Self-Assessment Reports for the same period, and Planned Oversight Activities Schedules were reviewed. The results of these reviews indicated that the DOE-ID at

INTEC is providing adequate oversight in the execution of their responsibilities for these areas. These assessments included an adequate spectrum of operational requirements such as lockout and tagouts, issue management, configuration management, operations, procedures, maintenance, and the execution of the M&O Contractors' responsibilities.

The DOE-ID mechanisms are in place, and currently being revised and improved for the oversight of the contractors' quality assurance programs for INTEC. These mechanisms include implementation of DOE-ID Line Environmental, Safety, Health, and Quality Assurance Oversight to ensure that the contractors' Quality Assurance Plan is adequately implemented for INTEC. The DOE-ID reorganization and DOE-ID procedure/processes are also planned to improve the DOE-ID oversight in these areas. While all of these DOE-ID improvement efforts are not yet done, and their completion may require additional action by DOE-ID INTEC (and provide improvements), the existing mechanisms at are adequate for INTEC.

Documentation outlining the DOE-ID processes for oversight of the INTEC facility safety basis is sufficient. The results of the record review indicated that these processes have been adequately implemented. A review of a sample of documentation concerning the maintenance of the safety basis for INTEC indicated the active involvement of DOE-ID personnel in this area. The review of records, combined with the personnel interviews, indicated that the DOE-ID INTEC Program and Facility Management, Facility Representatives (FRs) and Facility Engineers (FEs) are adequately involved in their ISMS processes.

This review combined with subsequent personnel interviews indicated that DOE-ID INTEC has sufficiently implemented their processes to provide oversight of the contractor's ISMS processes. This includes the contractor's hazard analysis, tailored safety standards and requirements, the implementation of the contractor's hazard mitigation programs and controls, and oversight of the contractor's maintenance of the safety basis for INTEC.

The DOE-ID and DOE-ID INTEC documentation provides sufficient guidance for the implementation of feedback and continuous improvement processes at these facilities, and these processes are adequately implemented. Consistent with the results of the earlier reviews, a sampling of the results of assessments and self-assessments indicated that these processes are improving, but there is still additional room for improvement in the areas of discrepancy identification, correlation, tracking, corrective actions, and trending, as the contractor improves their self-assessment processes.

During this ISMSV-II, the personnel interviewed included DOE-ID and DOE-ID INTEC personnel at all levels, some INEEL contractor line management and support personnel at all levels, and line management and operational personnel at INTEC. These interviews, discussions, and seminars focused on the INTEC ISMS systems and supporting processes, DOE-ID systems and processes for assessment and oversight programs, and the processes directly associated with safety, hazards, maintenance, and operations at INTEC.

The results of these interviews supported the conclusions reached by the review of records. Overall the DOE-ID has adequate guidance and processes in place to execute their roles and responsibilities for ISMS safety and oversight at INTEC.

Throughout the DOE-ID and contractor personnel interviews the discussions indicated that the positive spirit of the DOE-ID organization to ISMS, their demonstrated teamwork with the contractor personnel, and their strong sense of line management responsibility for safety at INTEC are substantial strengths, as noted in the previous ISMSVs for the other facilities.

The observation of activities and evolutions during this ISMSV-II included: DOE-ID and DOE-ID INTEC meetings with INEEL contractor line management and support personnel; meetings with INTEC line management and operational personnel; tours and walkdowns with the Facility Representatives (FRs), Facility Engineers (FEs) and DOE-ID management at INTEC. As with the interviews of personnel, these observations, meetings, demonstrations, tours, and walkdowns focused specifically on the INTEC ISMS systems and supporting processes, DOE-ID systems and processes for assessment and oversight programs, and the processes directly associated with safety, hazards, maintenance, and operations at INTEC.

The results of these observations supported the conclusions reached by the record review and interviews. Overall the DOE-ID INTEC has adequate guidance and processes in place to execute their roles and responsibilities for ISMS safety and oversight at INTEC.

Conclusion:

The Objective has been met.

The DOE-ID INTEC organization has adequately implemented their ISMS to execute their responsibilities. DOE-ID can provide adequate oversight for the contractor's ISMS at INTEC and for all five of the ISMS Core Functions: (1) Define Scope; (2) Identify Hazards; (3) Implement Controls; (4) Perform Work; and (5) Feedback and Improvement.

Issue(s):

- None.

Strength(s):

- The continuing positive spirit of the DOE-ID organization to ISMS, their demonstrated teamwork with contractor personnel, and their strong sense of line management responsibility for safety at INEEL continue to be substantial strengths. (DOE 1-1)

- The DOE-ID ISMS Project Manager has done an excellent job in coordinating the implementation of ISMS for DOE-ID at INEEL, using a project management approach. (DOE 1-2)

Inspector_____ Robert Baeder	**Team Leader**_____ Terry Smith

Sub-Team: SME-ISSUES MANAGEMENT	**FUNCTIONAL AREA: SME-2** **DATE**: 6/12/2000

OBJECTIVE: SME.2 Within the issues management functional area, the planning of issues management includes an integrated analysis of issue, and development and specification of necessary corrective actions. There is an adequate process for the identification, tracking and resolution of the issue, and a process for identifying opportunities for feedback and continuous improvement. Within the issues management functional area, line managers are responsible for issues management; clear roles and responsibilities have been established; and there is a satisfactory level of competence. (CE II-4, CE II-5, CE II-6)

CRITERIA:

1. Procedures and/or mechanisms for issues management require adequate planning of individual work items to ensure that issues are analyzed and corrective actions are identified.

2. Procedures and/or mechanisms for issues management contain clear roles and responsibilities. The issues management subject area is effectively integrated with line support managers to ensure that line managers are responsible for safety.

3. Procedures and/or mechanisms for the issues management area require that fundamental causes are determined, that corrective actions be implemented, that these corrective actions are effectively integrated, and that the corrective action effectiveness is confirmed prior to closing the issue. Workers are involved in the correction of issues.

4. Procedures and/or mechanisms for the issues management area require that personnel who are assigned to the issues management subject area have a satisfactory level of competence.

5. Procedures and/or mechanisms for issues management area require that within the issues management area feedback and continuous improvement results.

APPROACH:

Record Review: Review INTEC company procedures and mechanisms to determine if management has implemented the reporting criteria for issues or problems, procedures or mechanisms for reporting issues, mechanisms for prioritizing issues, timeliness expectations for addressing corrective actions, and roles and responsibilities for performing these functions. Review INTEC company procedures and mechanisms

determine if a structured and consistent approach has been implemented for identifying root and contributing causes, and developing corrective actions.

Sample investigation reports developed in accordance Event Investigation and Occurrence Reporting. If possible, sample reports for different categories of events (emergency, unusual, off-normal, and non-reportable) to determine if they are entered into the ICARE tracking system.

Review INTEC facility self-assessment reports to determine if the Self-Assessment Coordinator is reviewing these reports and entering results into appropriate tracking systems. Review results of INTEC post-job reviews and determine if appropriate issues are being entered into the deficiency screening and resolution process. Review externally generated reports and surveillances (e.g., DOE-ID surveillance reports) to determine if issues are identified and entered into tracking systems.

Review INTEC company processes and mechanisms for reporting of performance measures, process indicators, performance goals and continuous improvement. Review INTEC reports to determine if feedback on appropriate performance measures and trending information is periodically and consistently provided to line management. Review INTEC company processes and mechanisms to determine if the issue management and associated trending activities are effectively integrated with the lessons learned program. Review INTEC processes for "rolling up" related issues, extending corrective action due dates, and then providing feedback (e.g. tracking and trending) of these activities.

Review the reports and minutes from the INTEC Corrective Action Review Board meetings to determine if they are adequate for prioritization, root cause determination, corrective action planning, timeliness of processing, and corrective action.

Review INTEC documentation of self-assessments of the Issue Management at INTEC to determine if the program is periodically monitored and assessed for effectiveness. Review documentation of any independent assessments of the effectiveness and performance of issue management program.

Interviews: Interview INTEC line managers to evaluate their involvement in the approval prioritization, timely completion, and closure verification of corrective actions. Determine if managers are receiving periodic feedback concerning issues management performance and trending results, and acting. Determine if issues management performance is addressed as part of the position descriptions and annual performance review. As possible, interview other individuals involved in the issue management process, such as the INTEC issue management coordinator, CARB coordinators, CARB members, and self-assessment coordinators to assess their understanding of roles and responsibilities. As possible, interview workers to determine their level of knowledge of the issue management program and their responsibilities for reporting at INTEC.

Observations: As possible, observe a Corrective Action Review Board meeting. As possible, observe the analysis of select issues, development of corrective actions, and/or closure of selected issues

Record Review:

- INEEL PDD-1004, INEEL Integrated Safety Management System (ISMS) Program Description Document (PDD), Rev 4, 2/25/00
- INEEL PDD-1005, INEEL Site Operations Manual, Rev 2, 3/17/00
- DOE ID INTEC Operational Readiness Assessment, Startup of Utility Mobile Boiler, 12/15/99 – 2/28/00, dated 3/7/00
- DOE ID INTEC Operational Readiness Assessment, New Waste Calcining Facility (NWCF), 1/20-2/23/00, dated 3/6/00
- DOE ID letter of November 10, 1999 concurring in the INEEL INTEC Requirements Applicability Rolldown Matrix (OPE-INTEC-99-106)
- DOE ID letter of April 4, 2000 Transmittal of FY 2000 First and Second Quarter Self-Assessments (INTEC-WP-00-016), with attached Oversight Self-Assessment Reports (series)
- DOE ID letter of June 1, 2000 Transmittal of DOE Oversight Reports for the Period May 1 to May 31, 2000 (INTEC-00-019), with attached Oversight Surveillance Reports (series)
- INTEC Occurrence Reports, with associated DOE-ID INTEC Reports and Contractor Investigation Reports for the last six months, 1999-2000 (series)
- DOE ID-10671, INEEL/EX-98-01172, Rev 4, INEEL CO2 Accident Corrective Action Implementation Plan Report, 9/99
- Documents pertaining to the DOE implementation that supports the INEEL ISMS Implementation of PDD–1004 for INTEC, including supporting documents and information 1999-2000 (series)
- DOE ID INTEC Self-Assessment and Oversight Reports, 1999-2000, including (but not limited to) such topics as Lockout and Tagout, Configuration Management, Operations and Maintenance (series)
- DOE ID INTEC Safety Document Review Reports, 1999-2000 (series, 5)
- INTEC Program Overview for the ISMS Phase II Verification Team, 5/17/00 (series)
- INTEC sample Monthly Progress Reports of 1999-2000 (samples)
- INEEL ESH&QA INTECH Performance Measures and Tracking Reports and Graphs, as of May 2000, (series)
- INEEL Overview Presentation by the Contractor, DOE ID, and INTEC for the ISMS Phase II Verification Team, 5/15-17/00 (series)
- Samples of DOE-ID Tracking of Corrective Actions through completion for items identified through Oversights and Self-Assessments at INTEC of 1999-2000 with notes, (series)
- DOE ID – BBWI Authorization Agreements for INTEC, 1999-2000, (series)
- Bechtel BWXT Idaho, CCN-00-002362, INEEL Independent Assessment Annual Summary of 16 December 1999, re INTEC

- INTEC Quality Program Plan (QPP), Rev 2, 3/14/00
- DOE-ID INEEL CO2 CAP Implementation Plan, DOE/ID-10671, INEEL/EXT-98-01172, Revision 5, dated 24 March 2000
- INTEC Self-Assessment reports and documentation, (samples, series 1999 – 2000)
- INTEC Lessons Learned Program documentation and reports, (samples, series 1999 – 2000)
- INTEC current Self-Assessment Schedule, undated
- INTEC sample Progress Reports of 1999-2000 (samples)
- INEEL Overview Presentation by the Contractor, DOE ID, and INTEC for the ISMS Phase II Verification Team, 5/15-17/00 (series)
- Bechtel BWXT Idaho, CCN-00-002362, INEEL Independent Assessment Annual Summary of 16 December 1999, re INTEC
- DOE-ID CO2 Accident Corrective Action Project (CAP) Report for January 2000, CCN 00-004496, of 16 February 2000
- DOE ID letter of November 10, 1999 concurring in the INEEL INTEC Requirements Applicability Rolldown Matrix (OPE-INTEC-99-106)
- DOE ID letter of April 4, 2000 Transmittal of FY 2000 First and Second Quarter Self-Assessments (INTEC-WP-00-016), with attached Oversight Self-Assessment Reports (series)
- INEEL Program Description Document (PDD)- 1, Quality Assurance Program Description, Rev 6, 8/2/99
- PDD-1007, Issues Management Program Description, Rev 0, 4/1/99
- INEEL Plan PLN-660, Issues Management Excellence Plan, Rev 0, 6/1/00
- PDD-1011, Facility Excellence Program, Rev 0, 3/15/99
- Program Requirements Document (PRD)-101, Quality Assurance Program, Rev 4, 8/12/99
- PRD-176, Management of Construction Projects, Rev 2, 11/10/99
- Management Control Procedure (MCP)-3776, INTEC Roles and Responsibilities, Rev 2, 5/31/00
- MCP-190, Event Investigation and Occurrence Reports, Rev 8, 9/13/99
- MCP-192, Lessons Learned Program, Rev 4, 6/10/99
- MCP-2723, Reporting and Resolving Employee Safety Concerns and Suggestions, Rev 3, 12/1/99
- MCP-3003, Performing Pre-Job Briefings and Post-Job Reviews, Rev 5, 8/9/99
- MCP-3449, Safety and Health Inspections, Rev 0, 3/31/98
- MCP-3521, Trending Center, Rev 0, 3/1/99
- MCP-3541, Self-Assessment Program, Rev 0, 3/29/99
- MCP-49, Accident Reporting and Follow-up, Rev 1, 10/26/99
- MCP-552, Conduct of Independent Oversight Assessments, Rev 9, 9/10/99
- MCP-553, Stop Work Authority, Rev 3, 4/12/00
- MCP-598, Deficiency Screening and Resolution, Rev 10, 11/3/99
- MCP-8, Self-Assessment Process for Continuous Improvement, Rev 3, 8/31/99
- INTEC Self Assessment Summary, First Half FY-2000, undated

- INTEC FY2000 Self-Assessment Schedule, 5/23/00
- INTEC FY2000, Self-Assessment Summary Report, 5/23/00
- INTEC CTR-10, Corrective Action Review Board (CARB) Charter, Rev 1, 6/1/00
- INTEC CARB Meeting Minutes, May 2000 (series)
- INTEC CARB Review, DR-7801/Action 11032, Corrective Action Plan Overview, 6/8/00
- INEEL Post Job Review Checklist Summary Report for INTEC, 6/1/00
- INTEC External Deficiency Reports (DRs), Summary Report for 5/1/99-5/30/00, 5/30/00
- INTEC Lessons Learned documentation (summaries and samples), 1999-2000 (series)
- INEEL "I Notes," samples 1999-2000 (series)
- INEEL "VPP Daily Constitutional," 2000 (series)
- INTEC Weekly Health and Safety Summary, 2000 (series)
- INTEC Trending Results and Graphical Displays, 1999-2000 (series, samples)
- INTEC Trending Implementation Plan Draft, May 2000
- INTEC ICARE System Reports, (series 1999-2000), as of 6/7/00
- INEEL ESH&QA Performance Measurement and Trending Report to March 2000, dated May 2000
- INTEC Walkdown Checklist for INTEC Work Control Process (IWCP)

Interviews Conducted:

- BBWI Deputy Vice President for Operations
- Site Operations Director (SOD)
- INTEC Site Area Director (SAD)
- INTEC Deputy Site Area Director
- INTEC Facility and Operations Managers (6)
- INEEL Safety Committee Members (2)
- INTEC Self-Assessment Coordinator
- INTEC Maintenance Manager
- INTEC Maintenance Supervisors (2)
- INTEC Independent Hazards Review Group (IHRG) Members (2)
- INTEC Applied Technology Manager
- INTEC CARB Coordinator
- INTEC Compliance Officer
- INTEC Trending and Lessons Learned Coordinator
- INTEC Power Management Manager
- INTEC Plant Shift Supervisor (PSS)
- INEEL Construction Manager
- INEEL Construction Supervisor
- DOE-ID Assistant Manager (AM) for Environmental Management (EM)
- DOE-ID Deputy AM for EM Operations
- DOE-ID Director of the INEEL ISMS Project Office

- DOE-ID INTEC Program Manager
- DOE-ID INTEC Deputy Program Manager and Facility Director (FD)
- DOE-ID INTEC Facility Representatives (FRs) (3)
- DOE-ID INTEC Facility Engineers (FEs) (2)
- DOE ID Environmental Programs and Settlement Agreement Division Director
- DOE ID Performance Assurance Division Director
- DOE ID Quality Assurance Division Director
- DOE ID Engineers and Subject Matter Experts (SMEs) (2)
- DOE ID Issues Management and Lessons Learned Program Manager
- DOE-ID AM for EM Deputy for Operations
- DOE-ID AM for Technology Programs and Operations (TPO)
- DOE-ID AM for Technical Support
- DOE-ID EM Division Director

Observations:

- DOE- ID and BBWI INTEC ISMS Status Presentations (series)
- Walkdown and Tour of INTEC facilities with DOE-ID INTEC Facility Engineer (FE) and Deputy Program Manager, Facility and Buildings Familiarization
- Walkdown and Tour of INTEC facilities with DOE-ID INTEC Facility Representative (FR) and Deputy Program Manager
- Walkdown and Tour of INTEC facilities with DOE-ID INTEC FR and BBWI INTEC Assessment and Trending Analysis Manager
- INEEL Occupational Safety and Health Committee Meeting
- INTEC ALARA Review Meeting
- INTEC High Level Waste (HLW) Maintenance Work Walkdown
- INTEC Utilities Projects Familiarization Tour
- INTEC Utilities Work and Projects Walkdown with BBWI Utilities Manager
- Walkdown and Tour of INTEC Maintenance Building and Shops, and the Analytical Laboratory (AL) with DOE-ID INTEC FR and BBWI INTEC Trending and Lessons Learned Coordinator
- INTEC Independent Hazard Review Group (IHRG) Meeting
- INTEC Power Management Group Work Planning Walkdown
- INTEC Maintenance Self-Assessment Walkdown of a Maintenance Facility
- INTEC Corrective Action Review Board (CARB) Meeting
- DOE ID Demonstration of the INTEC Oversight Information Management System (OIMS)
- BBWI Demonstration of the INTEC Issues Management System
- INTEC Spent Nuclear Fuel (SNF) Plan of the Day (POD)
- Walkdown and Tour of INTEC Site yard and outside facilities with DOE-ID INTEC FR

Discussion of Results:

Two major factors have affected the Issues Management System at INTEC. First, there has been a major change in the INTEC Leadership combined with the corresponding change in the INTEC management style and processes within the last few months. Second, the INEEL Issues Management System is in flux. The M&O Contractor identified Issues Management problems are described in the INEEL Issues Management Excellence Plan (PLN-660, Rev 0, and effective 6/1/00).

This Plan was distributed on the very first day of this ISMSV-II. This plan outlines the M&O's identified weaknesses, causal factors, and then outlines their planned approach for improvement in this area. Overall, this review concurs that the identified weaknesses and indications of problems within the INEEL Issues Management System. Additionally, our review indicated that the timeliness of Issues Management actions is a factor that should be addressed.

The INEEL M&O Contractor changed on October 1, 1999. Since that change of the INEEL M&O, the DOE-ID and the current M&O Contractor have agreed that there were identified needs to further improve the issues management program in three specific areas: performance, process, and processing system.

Specifically, the M&O Contractor analysis of their Issues Management System identified three major weaknesses and five contributing factors in their Issues Management Excellence Plan. The three major weaknesses identified problems in: the consistency of entering problems into the ICARE Issues Management System for resolution and tracking; the determination of root causes to identify site-wide causal factors; and actions taken to prevent recurrence have been ineffective. The M&O identified contributing factors include: roles and responsibilities are not clearly identified; procedures are not well integrated; the management oversight of the corrective action lacks depth; management and employees are not held accountable for the quality, timeliness or effectiveness of their corrective actions; and the ICARE electronic data processing system is not reliable for issue tracking, screening, and reporting. In the aggregate these are major deficiencies that affect not only the INEEL System, but obviously affect the INTEC Issues Management System at a time when a new INTEC Leadership/Management is implementing their own improvements for the operations and maintenance at INTEC.

Given these conditions, this review was tasked to assess the current status of the systems that will support the INTEC operations, the INTEC changes in leadership and management, and the continuing INTEC initiatives to complete the implementation of ISMS at INTEC.

Overall from this ISMSV-II review, it appears that the M&O Contractor's Assessment of the Issues Management system correctly identified a set of problems and causal factors to address. Now is the time for the honed DOE-ID and M&O Contractor teamwork (that was demonstrated though the INEEL ISMS Implementation) to develop, refine, and

implement a truly sound Issues Management system that works for the INEEL (site-wide) and fully supports INEEL operations and continuous improvement for the DOE –ID and the M&O Contractor. (SME 2-1) It is recommended that the DOE-ID and M&O Contractor Operations Organizations have the major input into the development of the new and improved INEEL Issues Management System (of the Plan).

Given the above, and knowing that the new INTEC Leadership is aggressively and rapidly working to improve their management systems, and that there were major M&O weaknesses identified in the INEEL Issues Management System, this ISMSV-II assessment was conducted using the existing systems. These management and Issues Management systems are far from maturation at INTEC due to the management change, while the INEEL site-wide Issues Management system will soon undergo major changes in accordance with their new Plan.

Thus, this ISMSV-II Part III continued the ISMSV efforts and focused specifically on the Idaho Nuclear and Technology Center (INTEC). As with some other organizations at INEEL, this organization is unique, since the INTEC facilities are varied in organization and tasking.

Overall, based on the observations from this ISMSV-II for INTEC and the previous ISMSV-II results, the current (and recent, within the past three months) procedures and mechanisms are adequately established to execute their ISMS at INEEL in the near term as they work to improve their processes. INTEC uses their current processes satisfactorily, consistent with their requirements, within the issue management functional area. This was evident from the results of the reviews for their system over the past few months.

The current and recent INTEC planning of issue management adequately includes an integrated analysis of issue, and development and specification of necessary corrective actions. There is an adequate process at INTEC for the identification, tracking and resolution of the issue, and a process for identifying opportunities for feedback and continuous improvement, although these areas have been identified for significant improvements under the recent M&O Contractor Plan. Within the INTEC issue management functional area, line managers are responsible for issue management; roles and responsibilities have been established; and there is a satisfactory level of competence.

The review of records included INTEC Contractors' and DOE-ID documentation germane to the implementation of the issue management process at INTEC.

The review of the recent INTEC company procedures and mechanisms indicated that management has implemented the reporting criteria for issues or problems, procedures or mechanisms for reporting issues, mechanisms for prioritizing issues, timeliness expectations for addressing corrective actions, and roles and responsibilities for performing these functions.

There are many recent administrative, organizational, and operational changes at INTEC. Some of those changes are complete, some are in progress now and expected to be completed soon, and some are long term changes that are still being developed and implemented. Overall, the INTEC procedures and mechanisms are adequately structured and consistent for identifying root and contributing causes, and developing corrective actions.

The record review included a sample of documentation and reports developed in accordance with Event Investigation and Occurrence Reporting, in different categories of events (emergency, unusual, off-normal, and non-reportable). They are being adequately administered and entered into the ICARE tracking system.

The review of INTEC facility self-assessment reports indicated that the INTEC management team is currently reviewing these reports and entering results into tracking systems satisfactorily. The documentation reviewed included samples of INTEC post-job reviews, issues, deficiency screening, resolution processes, externally generated reports, and DOE-ID surveillance reports.

The review of INTEC processes and mechanisms for reporting of performance measures, process indicators, performance goals, continuous improvement and feedback indicated that the appropriate performance measures and trending information is being periodically and consistently provided to line management. The INTEC processes and mechanisms for issue management and associated trending activities are adequately integrated with the lessons learned program. These INTEC processes include the "rolling up" related issues, extending corrective action due dates, and then providing feedback (e.g. tracking and trending) of these activities.

Reports and minutes from the recent INTEC Corrective Action Review Board meetings indicate that the INTEC CARB is adequate in their implementation for prioritization, root cause determination, corrective action planning, timely of processing, and corrective action.

The review of the INTEC documentation of self-assessments of the Issue Management indicated that their program is periodically monitored and assessed for effectiveness. This includes the documentation of independent assessments of the effectiveness and performance of issue management program. This area is an area that should be improved under the new M&O Plan.

Specifically, the review of records and documentation indicated that the current and recent INTEC procedures and mechanisms for issue management currently implement an adequate degree of planning of individual work items. This adequately ensures that issues are analyzed and corrective actions are identified, and the issue management contains sufficiently clear roles and responsibilities.

Overall, the INTEC organization has adequately implemented their ISMS to establish an adequate process for the identification, tracking and resolution of the issue, and a process

for identifying opportunities for feedback and continuous at INTEC, under the current systems.

Interviews were conducted with INTEC line and staff managers, workers, and DOE-ID INTEC personnel at all levels to evaluate their respective involvement in the identification, tracking, approval, prioritization, corrective actions, timely completion, and closure verification of corrective actions. Overall, the results of these interviews supported the conclusions of the review of records and documentation indicating that the INTEC managers are adequately executing their responsibilities in receiving periodic feedback concerning issues management performance and trending results, and acting in accordance with the current systems.

The managers indicated that currently their issue management performance would be addressed as part of the position descriptions and annual performance review, although this has not been consistently done in the past. The results of interviews with other individuals involved in the issue management process, such as the INTEC issues management coordinator, CARB members, and self-assessment coordinators indicated that overall they have an adequate understanding of roles and responsibilities. Corrective actions are sufficiently integrated and confirmed prior to closing the issue within their current systems, but they indicated that there was room for improvement within their Issues Management processes.

These interviews included some supervisors and workers. They also have an adequate level of knowledge of the issue management program and their responsibilities for reporting problems and completing corrective actions at INTEC. The workers are adequately involved in the correction of issues.

Specifically, during the interviews, INTEC personnel indicated that the recent issues management subject area is sufficiently integrated with line support managers to ensure that line managers are responsible for safety. Personnel who are assigned to the issues management subject area have a satisfactory level of competence.

Observations of meetings and activities at INTEC supported the conclusions resulting from the review of records and interviews indicating that the INTEC organization has adequately implemented their issues management system to support their ISMS.

This Subject Matter Expert (SME) CRAD focuses on the Issues Management System at INTEC and is supplemental to the Management (MG) CRAD that includes the assessment of the INTEC Feedback and Continuous Improvement efforts at INTEC.

Throughout the DOE-ID and contractor personnel interviews the discussions indicated the positive spirit of the INTEC AND DOE-ID organization to ISMS, teamwork with the contractor and DOE-ID personnel, and their sense of line management responsibility for safety. As identified in the previous ISMSV-II assessments, this is strength to foster and develop.

Conclusion:

The Objective has been met.

Overall, the INTEC organization has adequately implemented their current and recent management to adequately execute their processes for the identification, tracking and resolution of the issue, and a process for identifying opportunities for feedback and continuous improvement at INTEC. The M&O Contractor has developed a Plan to improve these processes based on their own assessments of the weaknesses of the present system.

Issue(s):

- Overall, from this ISMSV-II review, it appears that the M&O Contractor's Assessment of the Issues Management system correctly identified a set of problems and causal factors to address. It is time for the DOE-ID and M&O Contractor teamwork to develop, refine, and implement a sound Issues Management system that works for the INEEL (site-wide) and fully supports INEEL operations and continuous improvement for the DOE –ID and the M&O Contractor. (SME 2-1)

Strength(s):

- None.

Inspector_____ Robert Baeder	**Team Leader**_____ Terry Smith

Sub-Team TRA/TAN	**FUNCTIONAL AREA: MG.1** **DATE**: June, 2000

OBJECTIVE: MG.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. An integrated process has been established 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-1, CE II-5)

CRITERIA:

1. 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.

2. Procedures and/or mechanisms are in place and utilized by personnel to 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.

3. 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 these roles are competent to execute these responsibilities.

4. Procedures and/or mechanisms are in place that develops 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. Corrective actions include identifying the causes and working to prevent recurrence.

5. 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.

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

7. Procedures and/or mechanisms are in place, which include a process for oversight that ensures that regulatory compliance is maintained.

8. The contractor has mechanisms in place to direct, monitor, and verify the integrated implementation of ISMS as described in the ISMS Description. Implementation and integration expectations and mechanisms are evident throughout all institutional line and support organizational functions.

APPROACH:

Record Review: Review the facility or activity long-range planning documentation. This should include such items as summary schedules, plan of the week schedules, long-range schedules, modification schedules, etc.

Review the implementation of the mechanisms that line managers utilize to identify and prioritize mission-related tasks and processes, modifications, and work items. All direct funded work is controlled by procedures found in MCP-14, "Graded Approach to Defining Project Controls."

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. Standards and requirements are rolled down to the facility level for implementation utilizing the process described in MCP-2447, "Requirements Management." Review facility processes for ensuring standards and requirements promulgated by the MCP-2447 process are reflected in activities at the facility.

Review the implementation of INEEL Configuration Management Program described in PLN-485, "Project Plan for the Configuration Management Project," PRD-115, "Configuration Management" and STD-107, "Configuration Management Program." Review MCP-2811, "Design and Engineering Change Control," MCP-3630, "Computer System Change Control," MCP-3572, "System Design Descriptions," MCP-3573, "Validating, Controlling, Using, and Revising Vendor Data" and MCP-2377, "Development, Assessment and Maintenance of Drawings," to establish the facility/activity level configuration management processes at the INEEL. Review training records of personnel in the configuration management subject area to determine that they meet competency standards.

Review the performance monitoring documentation for the feedback and continuous improvement process. This should include such documents as occurrence reports, deficiency reports, results of post-job reviews, safety observer reports, Issue Communication and Resolution Environment (ICARE) reports and reports of self-assessments and independent assessments. Ensure occurrence reports and ICARE entries are being completed in accordance with the requirements specified in MCP-190, "Event Investigation and Occurrence Reporting" and MCP-2723, "Reporting and Resolving Employee Safety Concerns & Suggestions," respectively. Process deficiencies should be addressed by following the process described in MCP-598, "Deficiency Screening and Resolution."

Lessons learned are managed and processed in accordance with the requirements described in MCP-192, "Lessons Learned Program." Management self-assessments are conducted in accordance with MCP-8, "Self-Assessment Process for Continuous Improvement." The process of independent assessment of facilities and activities is described in MCP-552, "Conduct of Independent Oversight Assessments." The FY-00 schedule of independent oversight assessment activities can be found on the QA and Conduct of Operations internal homepage at URL: http://home.inel.gov/qa&coo/ipa.html. The Facility Excellence Program, described in PDD-1011, is a structured means of regularly assessing facilities for compliance in any of these areas.

Review procedures and documentation for work control to determine that adequate feedback and improvement mechanisms are in place at the individual maintenance or activity level. This should include documentation pertaining to the implementation of MCP-3003, “Performing Pre-Job Briefings and Post-Job Reviews,” as the activity-level requirements document.

Review actual reports, results, schedules, and available data from these processes, as well as corporate processes and procedures, to evaluate the effectiveness of the implementation of these mechanisms. Additionally review charters and output documentation from any corporate/site wide ISMS coordinating committees.

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

Interview personnel responsible for administering the feedback and continuous improvement process. This should include personnel such as those responsible for occurrence reporting, lessons learned preparation, ICARE entries, self-assessment, and oversight. Interview personnel responsible for capturing and utilizing feedback and improvement information during individual maintenance or other work activities. Interview line management to determine level of knowledge and involvement in the implementation of programs and activities such as the ICARE process.

Interview personnel and responsible managers in the configuration management subject area. Interview line managers to assess the establishment of clear roles and responsibilities and the understanding of the configuration management support provided to line managers. Interview chairman and key members of ISMS coordinating committees.

Observations: Observe work definition and planning activities to ensure that requirements specified by documents such as the Requirements Management process (MCP-2447) are considered and implemented at the activity level.

As possible, observe an Operational Safety Board (OSB) meeting. If possible, observe a program or project Change Control Board meeting. Observe a Pre-Job Briefing and a

Post-Job Review. Observe any critiques, which may arise throughout the course of the observation process.

Observe events such as the development of an Engineering Change Form (ECF), Computer System Change Form (CSCF), or Document Action Request (DAR) for a technical document.

Observe any site-level ISMS committee meetings.

Record Review:

- STD-101 Integrated Work Control Process, Rev. 3, 12/14/99
- STD-107 Configuration Management Program, Rev. 0, 8/27/99
- PDD-1004 INEEL Integrated Safety Management System, Rev. 4, 2/25/00
- PDD-1005 Site Operations Manual Rev. 2, 3/7/00
- PDD-1012 Environmental Management System PDD-1012, 5/9/00
- MCP-8 Self-Assessment Process for Continuous Improvement, Rev. 3, 8/31/99
- MCP-190 Event Investigation and Occurrence Reporting, Rev. 2, 8/26/99
- MCP-192 Lessons Learned Program, Rev. 4, 06/10/99
- MCP-552 Conduct of Independent Oversight Assessments, Rev. 9, 9/10/99
- MCP-598 Deficiency Screening and Resolution, Rev. 4, 10/06/99
- MCP-1636, Rev.5, 2/16/00
- MCP-2377 Development, Assessment and Maintenance of Drawings, Rev. 3, 08/26/99
- MCP-2447 Requirements Management, Rev. 2, 4/30/99
- MCP-2723 Reporting and Resolving Employee Safety Concerns and Suggestions, Rev. 4, 10/06/99
- MCP-2811 Design and Engineering Change Control, Rev. 4, 8/27/99
- MCP-1636 TAN Site Area Roles and Responsibilities, Rev. 0, 5/10/00
- MCP-3003 Performing Pre-Job Briefings and Post-Job Reviews, Rev. 5, 08/08/99
- MCP-3562 Hazard identification, Analysis and Control of Operational Activities, Rev. 5, 2/16/00
- MCP-3572 System Design Descriptions, Rev. 1, 10/05/99
- MCP-9152 TRA Tenant Manual, Rev. 0, Draft
- PRD-115 Configuration Management, Rev. 2, 8/27/00
- PLN-485 Project Plan for The Configuration Management Project, Rev. 1, 9/15/99
- PLN-645 Test Area North Self-Assessment Plan for Continuous Improvement Rev. 5, 2/16/00
- IAG-58 Interface Agreement Between Power Management & TAN, Rev. 5, 2/16/00
- INEEL/INT-99-00360 Interface Agreement for Decontamination and Dismantlement Projects Performed at the Test Reactor Area, Rev. 0, 8/99

- Modification No. 01 to Commercial Use Subcontract No. C96-175950 (I-4 Subcontract) 04/05/99
- SD 23.1.1 TRA ESH&QA Roles and Responsibilities, Rev. 0, 6/5/00
- SD 24.1.1TRA Landlord Operations Department Roles and Responsibilities, Rev. 0, 6/1/00
- SP 10.1.1.2 TRA Site Area Director and Reactor Programs Department Manager Roles and Responsibilities, Rev. 2, 5/25/00
- I4 Employee Handbook: Company Roles and Responsibilities Rev. 4, 4/99
- TRA Self-Assessment Summaries (Radiological Control, Training, Document Management, Environmental, Safety and Health, Emergency Preparedness, Landlord, Engineering and Project Management) 6/99
- TRA ES&H Information Booklet, Rev. 2, 6/99

Interviews Conducted:

- Site Area Director (TAN and TRA)
- Issues Management Coordinator (TRA)
- Self-Assessment Coordinator (TRA and TAN)
- TRA Landlord Facility Operations Manager (TRA)
- Analytical Laboratory Manager (TRA)
- I-4 Operations Manager (TRAHC)
- ESH&QA Manager (TRA and TAN)
- Training and Document Manager (TRA)
- TRA Maintenance Manager (TRA and TAN)
- Planning and Scheduling Supervisor (TRA)
- Engineering and Projects Supervisor (TRA)
- Program Coordination Manager (TRA)
- Document Management Manager (TRA)
- Engineering and Support Services manager (TAN)
- Nuclear Facility Manager (TAN)
- Procedures/Requirements Lead (TAN)
- Support Services Manager (TAN)
- Project Manager, Inactive Sites (Sitewide)
- Environmental Restoration Director

Observations:

- R&D Laboratory Walk-Through Assessment (TRA)
- Field Assessment Observation at TRA Hot Cells
- Assessment Training at TRA
- CARB Meeting (TRA)
- POD Meeting (TAN)
- Employee Safety Team Meeting (TAN)
- Field Assessment at TAN

- Building Access Controls at WRRTF (TAN)

Discussion of Results:

Mission-related work is identified, described and scheduled in programmatic baselines. Baselines are controlled documents that cannot be changed without appropriate authorization. Depending on the nature and magnitude of a proposed change, the approval authority may reside BBWI, DOE-ID, or DOE-HQ. These levels are described in programmatic documents. Beginning in FY 2001, direct-funded work will be identified and scheduled through the "Detailed Work Plan" that represents a three-year planning window. Maintenance needs are prioritized and both facilities carry a backlog of maintenance items, and work these, on a priority basis, using the seven work priorities in Chapter 2 of Std-101.

Both TAN and TRA utilize the "Daily Meeting" (PDD-1005) that represents The identification and prioritization of work activities which are to be performed that day. With the approval of the Plan of the Day (POD) by the Site Area Director, the work described in the POD is authorized to proceed. A potential area of improvement in the POD was observed at TAN. The POD includes a table entitled "TAN Nuclear Facilities Out of Service List". Equipment is listed as out of service, and a brief reason is given. However, no dates for return to service are given, and there was no discussion on this Table during the POD.

The flow-down of requirements starts from Lists A and List B of the contract and BBWI corporate policies. Examples of List A requirements are federal Laws, and environmental regulations. List B contains DOE directives that apply to INEEL activities that are described in the contract. These requirements flow to facility authorization agreements, facility authorization bases, to facility procedures. At TRA, and example of flow-down of requirements was verified in the Integrated Assessment Schedule where source requirements are documented to determine need, frequency, and type of assessment. At TAN, using ABIR (Authorization Basis Implementation Report), an environmental permit requirement (maximum amount of fuel that could be used during one year) was able to be traced down to the procedure that detailed how to collect the data, and report it. (TMG1-4).

TRA utilizes an approach for procedure review that is particularly effective. On the cover sheet of every procedure, there is a box titled "Procedure Review Requirements per SP102.2.3. Each discipline is listed (e.g., ATR operations, TRAMO, RADCON, Landlord, etc. Then a "qualified reviewer" determines which disciplines are needed for either review or change of the procedure. This ensures that the right disciplines are always involved, and streamlines the change process. (TMG1-5)

Both facilities have self-assessment programs that address the requirements set forth in MCP-8, "Self-Assessment Process for Continuous Improvement". Additionally, both self-assessment coordinators exceed the requirement for semi-annual Integrated Assessment Program review. TAN tries to do this monthly, and TRA reviews on a

bimonthly basis. Both coordinators and facility managers stressed the importance of timely trending and tracking information. The TRA self-assessment program is very mature, and clearly is a tool that line management uses. Review of self-assessment summaries, for the months and March, April, and May showed summary information on "Items Requiring Action" as well as including the self-assessment report forms. The TAN self-assessment program is, in itself, an example of continuous improvement. As recently as five months ago, records showed that some assessments were documented with a single statement, "Audit conducted on a specific date". PLN-645 "Test Area North Self-Assessment Plan for Continuous Improvement", effective date April 26, 2000 supplements the requirements of MCP-8.

TRA is piloting an assessment method called "Monitor Watch Program". Performance of an assessment was observed. ("General Assessment for ISMS of Labs 109, 118, and RML") (TMG1-6). The observer had prepared a very brief assessment criteria, and walked down the three laboratories with the laboratory manager. The period of observation was about forty-five minutes, and the written results of his review were given to the manager the next morning, for his action. This is a very effective kind of assessment, in that feedback was immediate and useful for the laboratory manager. Additionally, the results will be rolled up and analyzed for trends. TAN is also developing a similar approach. A training assessment exercise was observed at TRA. A mock-up of a work area was "assessed" by three staff member of the self-assessment organization. Their observations were shared with each other and the Self-Assessment Team Leader. This approach is effective, in that it allows others to benefit from others' experiences and perspectives, and reinforces expectations for effective assessment. Personnel assigned these roles are competent to carry out their roles, based on experience, professional qualifications, and training on the procedures.

Both facilities actively use the pre- and post-job review mechanism as described in MCP-3003 "Performing Pre-Job Briefings and Post-Job Reviews." At TAN a copy of a post-job review of WO-15479-01, "Decontaminate SES Room Dismantling Enclosure of Asbestos", along with the Lessons Learned form was submitted as an example of how feedback is utilized. In the case of this example, a tailgate training session was implemented to reinforce the need to check permit expiration dates, when there are delays in performing the work evolutions. All workers at TRA are given a copy of the "TRA ES&H Information Booklet". This booklet is small (3 by 5 inches) and among other gives the instructions for accessing the INEEL Lessons Learned Data Base.

At both facilities, Issue Communication and Resolution Environment (ICARE) reports are carefully monitored for timely closure. During interviews with Management, it was clear that they were aware of the issues in ICARE that pertained to facilities and were committed to appropriate resolution.

One area of concern is noted at TAN, where operators under subcontract are employed. Subcontracted employees aren't necessarily given access to Lotus Notes. This makes it difficult for them to access Lessons Learned. It should be noted that the Nuclear Operations Supervisor was aware of this situation, and was taking steps to get the

subcontracted employees into the system. This reviewer believes that this is a sitewide issue, and not just a TAN-specific concern. (TMG1-3)

As discussed previously, both facilities actively use the post-job review process as a method to identify improvement opportunities. Additionally, any employee can generate and submit a work control form, which is another way that an improvement opportunity can be translated into reality. With regards to utilization of Lessons Learned, both TAN and TRA had taken the Sodium-Potassium Explosion at Oak Ridge and used it as a training aid for teaching ISM core functions. Developing goals for organizations is another way to identify improvement opportunities. Of particular interest were the TAN environmental goals. These were developed by the workers themselves and reflect not only a commitment to achieving and maintaining regulatory compliance, but to process improvements. One of the goals deals with establishing "a long term path forward for the removal of a radioactive sump pump at LOFT." As long as this sump is in existence, then water collects from precipitation, and become radioactively contaminated. Disposal of this liquid waste stream is costly. If this goal is achieved, then not only will pollution prevention have been practiced, but there will be a reduction of a contamination area.

Both facilities use Employee Safety Teams to implement the Voluntary Protection Program. Based on observing an EST Meeting at TAN, meeting minutes were taken, action items tracked, and issues were assigned for resolution. Management was not only in attendance, but an active participant. Worker suggestions were acted upon, (e.g., direction was given to prepare a Work Control Form to address a suggestion).

Procedures have been established at both TAN and TRA that ensure that Regulatory compliance is maintained. Procedures have been established for the requirements flow-down process, which facilitates appropriate implementation of these requirements and controls into work activities at TRA and TAN.

The contractor has mechanisms in place to direct, monitor, and verify the integrated implementation of ISMS as described in the ISMS Description. Implementation and integration expectations and mechanisms are evident throughout all institutional line and support organizational functions.

Some of the mechanisms that were observed during the review of TAN and SMC are as follows:

Use of matrix organization to provide the infrastructure for achieving INEEL critical outcomes. Individuals from the Home Organizations are assigned to the facility that they are supporting, and are physically located there. This helps to ensure that certain functions, such as ESH&QA, records management, and document control, will all be executed to the same company standards, with the same expectation for the degree of rigor, at every facility.

Delineation of roles and responsibilities and the use of interface agreements to further define how specific work will be conducted. An example of this is the interface agreement at TRA for D&D which allows TRA D&D projects to have craft support provided by the CFA maintenance organizations utilizing the union functional team approach.

Required training which supports all aspects of the integrated work control process and the use of qualification cards (updated monthly, color coded by month and hard copy is carried with the employee).

Worker involvement is championed by management, but is given structure, to ensure that it is useful. (e.g., Employee Safety Teams have a process for documentation so that actions can be assigned, completed and closed).

Attention to work planning, so that hazards are identified and mitigated before start of work (Hazards Screening Checklist, etc.) A unique example of this is the approach that is used at WRRTF to ensure that R&D projects can be conducted safely in severely degraded buildings. Based on building assessment the WRRTF buildings are color coded Red, Yellow and Green depending on the physical condition. Access requirements and work controls are clearly defined and enforced for each condition. (TMG1-7).

Plans for activities after Phase II are somewhat evident. In a training aid for ISM that was used at TRA, material was included that briefly mentions the performance of an "annual ISMS review using performance measures and feedback and improvement processes. Interviews with management consistently surfaced the issue of maintaining and strengthening ISM after Phase II verification. However, the reviewer has two concerns regarding the future of ISM. At TRA, there is a problem of retaining crafts people. The union agreement allows crafts to bid on jobs at other areas on site, if they have seniority. TRA cannot use "loaners" unless they are supervised with a fully qualified TRA crafts person. This means that it may become increasingly difficult to get work done at TRA, and heavy use of overtime could result. (TMG1-1) At TAN, the TMI spent fuel program has caused a major ramp-up in personnel and activities. The program has grown from eighty to 220 people in about a year, with equally impressive budget growth. However, the program is planned to decrease about as rapidly, once the TMI fuel is shipped to INTEC and the West Valley fuel is received. TAN has spent a great deal of resources to develop and implement ISM processes in a very short amount of time. It will be a challenge to maintain these processes appropriately and effectively during and after the work and budget ramp-down. (TMG1-2)

Conclusion:

The objective has been met.

Issue(s):

- Maintaining an appropriate level of fully qualified crafts people to support TRA operations. (TMG1-1)

- Maintaining a robust ISM implementation at TAN as the budget decreases. (TMG1- 2)

- Lack of a corporate process to identify which subcontracted personnel should have access to company electronic systems (e.g., Lotus Notes) and then getting this access in a timely manner (TMG1- 3).

Strength(s):

- Use of the ABIR system to define and track both safety and environmental compliance requirements at TAN. It is noteworthy that this approach was first exported to Tan from INTEC, and then expanded at TAN to include the environmental requirements. (TMG1- 4).

- Use of the "Procedure Review Requirements" process at TRA to ensure that appropriate document reviews are achieved in an expeditious manner. (TMG1-5)

- Use of the Monitor Watch Program at TRA, which facilitates continuous improvement and feedback through a streamlined assessment process. (TMG1-6)

- A risk-based approach for building access and work control in old and degraded structures (TMG1-7)

Inspector_____ Alice C. Williams	**Team Leader**_____ Terry W. Smith

Sub-Team: TRA/TAN	**FUNCTIONAL AREA: MG.2** **DATE**: June 12, 2000

OBJECTIVE: MG.2 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:

1. 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.

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

3. Facility or activity procedures specify that line management is responsible for safety.

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

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

6. The contractor is using a process to establish, document and implement safety performance objectives, performance measures, and commitments in response to DOE program and budget execution guidance.

APPROACH:

Record Review: Review contractor organization charts and documents describing the contractor matrix management concept. Review organizational documentation such as PDD-1015 "Research and Development Operations,", PRD-5060, “Occupational Safety Functions, Roles, Responsibilities, and Interfaces,” MCP-3680, “Central Facilities Area Operations Information, Roles and Responsibilities,” and MCP-3776, “INTEC Roles and Responsibilities,” and other similar documents. Ensure roles and responsibilities for personnel responsible for safety are clearly defined and understood and properly executed. This review could include position descriptions, Form-325.01 “Employee Position Description (EPD)” and other applicable MCPs that describe roles and responsibilities related to ensuring safety are 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 such as PDD-13 "Conduct of Training," MCP-27 "Preparation and Administration of Individual Training Plans," and MCP-33 "Personnel Qualification and Certification" to ensure that managers and workers are competent to safely perform work. Review the personnel records which should include the "Training and Implementation Matrix" (TIM), "Individual Training Plans" and "Employee Training History," to identify the individual qualifications that meet the elements of the position descriptions. Review the applicable records of qualification and certification. Review any training or qualification material, including training and qualification manuals such as Manual 12 and the associated processes that support gaining or verifying competence to fill the positions.

Review the process to establish, document and implement safety performance objectives that support DOE program and budget execution guidance.

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 to determine their understanding of competency requirements and their commitment to performing work safely. Interview senior contractor management at the facility to determine their knowledge of the ISM process and their commitment and participation in the process. Interview contractor line managers who are responsible for the establishment and implementation of the safety performance measures and safety objectives.

Observations: As possible, observe training being delivered for key programs such as hazards identification and analysis. 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.

As possible, observe activities such as weekly planning meetings, plans of the day, event critiques, safety training, OSB meetings, Pre-job briefs, Site Operations Council (SOC) meetings, Corrective Action Review Boards (CARBS) and safety meetings that may provide good examples of the safety training and decision making process. Activities such as facility/process operations, testing, and maintenance also provide opportunities to observe personnel in the execution of roles and responsibilities, their understanding of procedures, awareness of hazards and management commitment to safety.

Record Review:

- ISMS Phase I Verification Report for INEEL
- Manual 12 , Training and Qualification – Rev 35, 03/16/00
- PDD-13, Conduct of Training – Rev 2, 10/04/99

- PDD-17, Project Cost and Schedule Controls – Rev 2, 06/09/99
- PDD-18, Document Management Control System – Rev 1, 08/24/99
- PDD-19, Integrated Requirements Management Program – Rev 1, 04/30/99
- PDD-1004, INEEL Integrated Safety Management System – Rev 4, 02/25/00
- PDD-1005, Site Operations – Rev 3, 06/02/00
- PDD-1007, Issues management Program – Rev 1, 04/01/99
- PDD-1012, INEEL Environmental Management System – Rev 3, 05/09/00
- PDD-1013, Chemical Management Program – Rev 5, 04/06/00
- PDD-1015, Research and Development Programs – Rev 4, 03/17/00
- PDD-1054, ES&H Infrastructure Program – Rev 0, 01/13/00
- PDD-1058, TAN Operations Training – Rev 2, 05/01/00
- PDD-1064, Integrated Assessment Program – Rev 0, Final Draft
- PDD-1071, TRA Landlord Facility Operations Training Program Manual – Rev 0, 06/05/00
- PDD-1072, TRA Hot Cells Training Program – Rev 0, Final Draft
- STD-101, Integrated Work Control Process – Rev 3, 12/14/99
- PRD-185, Conduct of Operations – Rev 1, 08/24/99
- PRD-5043, Operational Safety Boards – Rev 0, 08/02/99
- MCP-8, Self-Assessments – Rev 3, 08/31/99
- MCP-27, Preparation and Administration of Individual Training Plans – Rev 3, 02/03/00
- MCP-29, Training Staff Qualification – Rev 2, 07/09/98
- MCP-32, Training Exceptions, Exemptions, and Extensions – Rev 1, 05/04/00
- MCP-33, Personnel Qualification and Certification – Rev 05, 03/16/00
- MCP-35, Training Needs Analysis – Rev 02, 02/03/00
- MCP-36, Job Analysis – Rev 02, 09/22/99
- MCP-135, Creating, Modifying, and Canceling Procedures and Other DMCS-Controlled Documents – Rev 5, 08/24/99
- MCP-192, Lessons Learned Program – Rev 4, 06/10/99
- MCP-598, Deficiency Screening and Resolution – Rev 10, 11/03/99
- MCP-1636, TAN Roles and Responsibilities – Rev 0, 05/10/00
- MCP-2446, Controlling Lists of Nuclear Facilities and Nuclear Facility Managers – Rev 6, 01/04/00
- MCP-2447, Requirements Management – Rev 2, 04/30/99
- MCP-2813, Creating a Position, Internal Job Posting, Transfer, and Promotion Process – Rev 1, 01/15/98
- MCP-3003, Performing Pre-Job and Post-Job Reviews – Rev 5, 08/09/99
- MCP-3562, Hazard Identification, Analysis and Control of Operational Activities – Rev 2, 03/17/00
- MCP-3567, Authorization Agreement with Authorization Basis List – Rev 2, 05/25/00
- TRA SP 10.1.1.2, TRA Roles and Responsibilities and Supporting Department SDs – Rev 2

- CTR-2, Facility Operations Review and Implementation Board (FORIB) Charter – Rev 1, 12/09/99
- CTR-3, Senior Operations Review Board (SORB) Charter – Rev 1, 03/18/99
- CTR-4, TRA Corrective Action Review Board (CARB) Charter – Rev 2, 10/28/99
- CTR-11, TAN, Corrective Action Review Board (CARB) Charter – Rev 1, 04/30/99
- CTR-15, Executive Council (EC) Charter – Rev 3, 03/06/00
- CTR-16, Facility Training Review and Implementation Board (FTRIB) Charter – Rev 1, 01/28/00
- CTR-18, Program Document Review Board Charter – Rev 0, 02/09/99
- CTR-54, TAN Facility Operations Safety Board (FSOB) Charter – Rev 2, Final Draft
- CTR-55, TAN ALARA Committee Charter – Rev 1, Final Draft
- CTR-61, TRA Facility Operations Safety Board (FOSB) Charter – Rev 0, 05/24/00
- PEMP, U.S. DOE Performance Evaluation Measurement Plan for BBWI, LLC – 04/01/00
- PLN-552, TAN Operations Training Implementation Matrix – Rev 0, 01/24/00
- TRA Training Record Notebooks for Utility Area operators, Landlord, TRA Technical Staff, TRA Hot Cells, TRA RADCON, and MTR Canal
- BBWI ESH&QA Performance Measurement & Trending Report for May 2000
- TAN Memorandum of June 5, 2000, TAN Monthly Feedback Trends – April 2000
- Position Descriptions – Representative Selection from TRA and TAN
- International Isotopes of Idaho Incorporated Employees Handbook
- BBWI Memorandum of December 17, 1999, Matrix Management
- DOE Order 5480.20A, Personnel Selection, Qualification and Training Requirements for DOE Nuclear Facilities
- DOE G 450.4-1A, Volumes 1 and 2, Integrated Safety Management System Guide
- DOE Type A Accident Investigation Board Report of the July 28, 1998, Fatality and Multiple Injuries from the Release of Carbon Dioxide at Building 648, Test Reactor Area, INEEL

Interviews Conducted:

- BBWI Site Operations Training manager
- TRA Site Area Director
- TRA Manager of Training and Document Control
- TRA Maintenance Operations Manager
- TRA Landlord Operations Manager
- TRA Hot Cells Operation Manager
- TAN Site Area Director
- TAN Self-Assessments/Lessons Learned Coordinator

- TAN ESH&QA Manager
- TAN Nuclear Facility Manager
- TAN Lead Trainer

Observations:

- TRA Plan of the Day Meeting
- TRA Maintenance Job Pre-Brief
- TRA Facility Operations Safety Board (FSOB) Meeting
- TRA Corrective Action Review Board (CARB) Meeting
- TAN Plan of the Day Meeting
- TAN Facility Operations Safety Board (FSOB) Meeting
- TAN Corrective Action Review Board (CARB) Meeting
- TAN Work Planning Meeting
- TAN Work Planning Walkdown
- Discussed Completed Pre-Job Brief Package with TAN Work Planning Supervisor

Discussion of Results:

The senior managers at TRA and TAN are committed to all aspects of the safety management program. They demonstrated an aggressive, positive attitude towards implementing the Core Functions and Guiding principles of the ISMS. (TMG2-1)

PDD-1004, INEEL Integrated Safety Management System states that the INEEL organization satisfies the principle that line management is responsible and accountable for integrating safety into the performance of work. This principle is embedded in the supporting company documentation that implements the ISMS. It further states that the ISMS is focused on providing the line manager with the technical resources necessary to fulfill this responsibility.

The company level documents listed in PDD-1004 form the foundation of implementation of ISMS at INEEL. Throughout these documents, specific roles and responsibilities are defined at the company wide level for the identification and prioritization of mission-related tasks and processes, facility or process modification, and other related work items.

Within TRA and TAN, facility specific program descriptions, procedures, charters, standard practices, and other documents have been prepared as necessary to implement company wide directives and program descriptions at the facility level. Specific roles and responsibilities are clearly established within these facility specific documents. These documents emphasize line management responsibility for safety.

TRA and TAN have developed a facility specific directive to clearly summarize roles and responsibilities from both company level and facility specific documents by facility

position. These directives extend down to the worker level. Review of these documents shows that they are specific and comprehensive.

At TRA and TAN, position descriptions follow the company directive. They list specific roles and responsibilities. Qualification requirements for the various positions reviewed are clear and specific and should, if followed, ensure that managers and workers have the basic competence level necessary to perform their duties. They also emphasize responsibility for safety and environmental compliance.

Observation of various activities such as plan-of-the-day meetings, a pre-job brief, various board meetings, and a maintenance planning/walkdown meeting demonstrated that clear roles and responsibilities are established at both TRA and TAN and that line managers are actively involved with decisions affecting safety. During the review, one instance was noted at TRA where a formal clarification of roles and responsibilities was an action item following a critique of an occurrence which indicates that roles and responsibilities are included in feedback and improvement.

PDD-1004 describes the INEEL process for ensuring competence commensurate with responsibilities. This process is comprehensive and employs numerous supporting procedures, program descriptions and manuals to accomplish this goal. The process integrates preparation of position descriptions with creation of position training/qualification requirements in Individual Training Plans (ITP) and then with work planning in order to ensure that anyone assigned to perform any task is qualified and trained to perform that task. Line managers are directly responsible for creating and maintaining ITPs. ITPs incorporate three elements; facility specific training, position/task specific training, and core/site-wide training. A company-wide Training Records and information Network (TRAIN) tracks training requirements and training completed for each individual and is immediately available to all levels of management for ensuring that workers assigned to a task are trained and qualified to perform that task.

The Site Operations Training Manager and his staff are proactively involved with monitoring and assisting the TRA and TAN training organizations to fully meet the training goals and objectives established in PDD-1004 and supporting documents. A network of company-wide and facility specific boards as described in PDD-1004 is in place and functioning to ensure that emerging training requirements are identified and flow down to the ITPs. (TMG2-2)

At TRA and TAN, the procedures and mechanisms described in PDD-1004 and supporting documents are in place and are being utilized effectively to ensure that personnel who supervise work have competence commensurate with their responsibilities and that personnel performing work are competent to safely perform their work assignments. Positive comments from workers about the training programs at TRA and TAN were noted. (TMG2-3)

The process for the contractor to establish, document and implement safety performance objectives, performance measures, and commitments in response to DOE program and

budget execution guidance was reviewed. Based on interviews with Site Area Directors and senior management at TRA and TAN, such a process is considered in place and includes such things as the following. The ISMS implementation process itself is a commitment to safety performance objectives and creation of safety performance measures within DOE program and budget guidance. The performance Evaluation Measurement Plan (PEMP) approved by the Manager, Idaho Operations Office and concurred in by the President and General Manager of BBWI establishes goals and objectives for administration of award fee in response to DOE program and budget guidance. Included within the PEMP are broad, site-wide safety performance objectives and commitments by the contractor. Authorization agreements prepared in accordance with MCP-3567 establish safety performance objectives and commitments for Hazard Category 1 and 2 facilities. A site-wide self-assessment program under MCP 8, INEEL Self-Assessment Process for Continuous Improvement, includes monitoring and documenting safety performance at all levels. Environmental, safety, health and QA performance is monitored for each facility and reported monthly in a site-wide ESH&QA Performance Measurement & Trending Report. The contractor is committed to and is developing a plan to maintain ISMS after the implementation process is complete, both on a company wide and facility specific basis.

Conclusion:

The objective has been met at TRA and TAN.

Issue(s):

- None.

Strength(s):

- The senior managers at TRA and TAN are committed to all aspects of the safety management program. They demonstrated an aggressive, positive attitude towards implementing the Core Functions and Guiding Principles of the ISMS. (TMG2-1)

- The BBWI Site Operations Training Manager and his staff are proactively involved with monitoring and assisting the TRA and TAN training organizations to fully meet the goals and objectives established in PDD-1004 and supporting documents. A network of company-wide and facility specific boards as described in PDD-1004 is in place and functioning to ensure that emerging training requirements are identified and flow down to the ITPs. (TMG2-2)

- At TRA and TAN, the procedures and mechanisms described in PDD-1004 and supporting documents are in place and are being utilized effectively to ensure that personnel who supervise work have competence commensurate with their responsibilities and that personnel performing work are competent to safely perform their work assignments. Positive comments from workers about the training programs at TRA and TAN were noted. (TMG2-3)

Inspector_____ Lawrence E. Miller	**Team Leader**_____ Terry W. Smith

Sub-Team: TRA/TAN	FUNCTIONAL AREA: OP DATE: June 12, 2000

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

CRITERIA:

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

2. 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.

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

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

5. Procedures and/or mechanisms are in place and utilized which ensure those adequate performance measures and indicators, including safety performance measures are established for the work, and the controls to mitigate hazards are observed while work is being performed.

6. Workers actively participate in the work planning process.

APPROACH:

Record Review: As applicable, review documentation and/or mechanisms that govern the work control process for planning, authorizing, and conducting work such as STD-101 "Integrated Work Control Process," MCP-3562 "Hazard Identification, Analysis & Control of Operational Activities," PRD-5043 "Operational Safety Boards", PDD 1012 "INEEL Environmental Management System" and MCP-3480 "Environmental Instructions for Facilities, Processes, Materials and Equipment." This review should assess the adequacy of the documents and the status of their implementation, to meet the requirements listed above and determine that the maintenance and work control process is effectively integrated into the facility/activity procedures. Review documentation that describes roles and responsibilities for the work control process, worker involvement in all aspects of the activity, and the work authorization process. Controls for individual

work items or activities such as Job Safety Analysis (JSA), Radiation Work Permits (RWP), Hazard Profile Screen Checklist (HPSC), Work Control Forms (WCF), Confined Space Entry Permit, and operating procedures should also be evaluated.

As applicable, review the ALARA process to ensure the basic concepts of ALARA as well as any ALARA Committee recommendations are incorporated into the work control documentation.

Review the integration of subcontractor work control into the facility work control process. Evaluate the review of subcontractor work control documentation, the approval of the documentation, work authorization, and the oversight of subcontractor work in the facility.

Review the performance measures and performance indicators using the "INEEL Performance Measures and Trending Report," MCP-3521 "Trending Center," self - assessments conducted in accordance with MCP-8 "Self-Assessment Process for Continuous Improvement," or the Facility Excellence Program PDD-1011 "Facility Excellence Program." Determine if these tools provide information that is truly a direct indicator of how safely the work is being performed.

Review the process used to prepare Authorization Agreements, MCP-3567 "Authorization Agreements with Authorization Basis List" and TEM-2, "Template for Authorization Agreement with Authorization Basis List." As applicable, review the Authorization Agreements for the selected facilities 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 preparing, authorizing, performing, and measuring the performance of the work. This should include personnel such as those responsible for preparing and maintaining work control documents, hazard identification and control documents, the Plan of the Day (POD), equipment status files, pre-job briefings, and the conduct of facility or activity operations.

Interview personnel responsible for individual activity procedures and controls (e.g. JSAs, RWPs, HPSCs, WCFs, etc.) Verify adequate worker involvement at each step of the process.

Interview personnel responsible for the development and implementation of the self-assessment program including individuals who participate in self-assessments. As applicable, interview those individuals responsible for development, maintenance, and approval of the Authorization Agreement. Interview members of the management team charged with adherence to the requirements listed within the Authorization Agreement.

Observations: Observe the actual authorization and performance of work activities. Observe a plan of the day or plan-of-the-week meeting. As possible, attend an Operational Safety Board (OSB) meeting or an Independent Hazard Review Group

(IHRG) meeting with field verification that hazard controls specified by the hazards control documents are being implemented. As possible, team members should observe the development of a maintenance work package as well as the field execution of a maintenance work package. Observation could include the pre-job brief, authorization by the managers to proceed, command and control of the work, review of safety requirements, post-job review, etc.

As possible, observe work hazard identification activities (e.g. JSAs, RWPs, etc.) and the application of MCP-3562 during an operational procedure walk-down and review. Observe worker involvement in these processes.

Record Review:

- Radiation Work Permit 31000142 00 (ALARA Task 29000618 01 01), Load and Unload the White Elephant #3, 1/6/00
- DOP 9.2, White Elephant Cask Loading and Unloading at TRA Hot Cells, Revision 7, 4/13/00
- DOP 9.32, IR Cask Annual PM, Revision 2, 4/13/00
- DOP 9.32 JSA, 3/28/00, and HPSC
- TRA Configuration Management Recovery Phased Approach (as presented to the OSB 6/6/00)
- TRA Daily Schedule, 6/5/00
- TPR-5122, Fire Pump Inspection and Functional Tests, Weekly, TAN-614 (CTF), Revision 7, 12/14/98
- Electric Fire Pump P-3 (TPR-5122) Weekly Test Checklist, 11/5/98
- MCP-3628, Managing Special Wastes, Revision 0, 8/23/99
- TAN-JSA-TEK-020-R02, Operate Fluorescent Bulb Crusher, 11/30/99
- Maintenance Work Review & Approval Form TRA-0119
- TAN Operations Expectations (not dated, posted at TAN week of 6/5/00)
- Management Safety Performance Report Card (TAN) (distributed at TAN EST Meeting, 6/8/00)
- Minutes From TAN Safety Team Meeting Held on May 30, 2000
- Form 434.14, Pre-Job Briefing Checklist, Revision 5, 5/10/2000
- Form 433.24, Post-Job Review Checklist, Revision 3, 2/3/00
- TAN Operations Plan of the Day Schedule, 6/6/00
- TAN Operations Plan of the Week Schedule, 6/5/00 – 7/4/00
- Work Order 00028113 01, Install Isolation Gate & Locking Mechanism, 3/27/00
- Work Order 00029772 01, Repair HVDS Skid, 6/6/00
- RWP 31000046 00 (ALARA Task 29000343 01 02), TMI Miscellaneous Support Work, 1/11/00
- TRA Integrated Safety Management Status Report for Activity Based Procedures, 5/31/00
- CTR-61, Charter for the TRA Facility Operations Safety Board, Revision 0, 5/24/00

- DOP-9.31, Irradiated Strontium 89 Carbonate/Solution Processing, Revision 3, 3/23/00
- DOP-9.31 JSA, 3/2/00, and associated HPSC
- ACMM-3600, Flux Monitoring, Revision 0, 5/18/00
- ACMM-3600 JSA, 5/16/00, and associated HPSC
- OMM 7.11.13.5.2, Operation of the Ion Exchange System, Revision 1, 6/1/00
- OMM 7.11.13.5.2 JSA, 3/2/00, and associated HPSC
- OMM 6.1.13.1.2.2, Returning a Sprinkler System to Service, Revision 2, 5/1/00
- OMM 6.1.13.1.2.2 JSA, 3/29/00, and associated HPSC
- Facility Hazards Lists for various TRA Facilities (printout date 6/1/00)
- Facility Hazards Lists for various TAN Facilities (printout date 6/1/00)
- MTR Canal Surveillance Checklists for January through April 2000.
- LL-M-01, Monthly Inspection of Outdoor RMSA East of TRA-605 and South of TRA-644 Self-Assessment, 5/31/00
- LL-A-10, Records Management Self-Assessment, 5/331/00
- TPR-1034, HEPA Filter DOP Testing, Revision 5, 5/31/00
- TPR-1034 JSA, 6/6/00
- TPR-1224, Transport Trailer Parking Instructions, Revision 1, not issued
- TPR-1224 JSA, 6/2/00
- SPC-197, TAN-733 Water Tank Replacement, Revision 0, 8/25/99
- TAN Self-Assessment Schedule – April 2000 – March 2001, 5/23/00
- E-8, Traceability of Round Sheets Self-Assessment, 5/31/00
- O-23, Turnover Checklists for TAN Operations Self-Assessment, 5/30/00
- CCN # 00-009318, Performance Indicator Reports (PIR) for TAN Operations, G. O. Hayner to R. A Taft letter, with attachment, dated May 22, 2000
- TPR-1154, TANO Summer Facility Log Sheets for week of May 30, 2000
- TPR-1154, TANO Winter Facility Log Sheets for week of March 5, 2000
- TAN SSW Checklist and Report for WP-TAN-2000-11 dated 5/25/00, 21044 dated 5/24/00, and 26675 dated 5/25/00
- PDD-1012, Environmental Management System, Revision 3, 5/9/00
- IAG-48, Authorization Agreement for the Materials Test Reactor (MTR) Canal & Plug Storage Holes 1 & 2 Facility, Revision 1, 10/1/99
- LST –117, Authorization Basis for Material Test Reactor (MTR) Canal and Plug Storage Holes 1 & 2, Revision 0, 10/1/99
- IAG-51, Authorization Agreement for the Test Area North Operations (TANO), Revision 1, 10/1/99
- LST-120, Authorization Basis for Test Area North Operations, Revision 0, 10/1/99
- MCP-3567, Authorization Agreements with Authorization Basis List, Revision 2, 5/25/00
- TEM-2, Template for Authorization Agreement with Authorization Basis List, Revision 2, 5/25/00
- PDD-1004, INEEL Integrated Safety Management System, Revision 4, 2/25/2000

- STD-101, Integrated Work Control Process, Revision 3, 122/14/99
- MCP-3003, Performing Pre-Job Briefings and Post-Job Reviews, Revision 5, 8/9/99
- MCP-1636, TAN Site Area Roles and Responsibilities, Revision 0, 5/10/00
- MCP-3571, Independent Hazard Review, Revision 2, 2/2/00
- MCP-3562, Hazard Identification, Analysis and Control of Operational Activities, Revision 2, 3/17/00
- PDD-1005, Site Operations Manual, Revision 2, 3/17/00

Interviews Conducted:

- TRA Senior Supervisory Watch
- TAN Senior Supervisory Watch
- TRA/I^4 Hot Cell Technician (2)
- TRA/ I^4 Hot Cell Operations Manager
- TRA Radiological Control Technician (2)
- TRA Radiological Control Supervisor
- TRA Landlord
- TRA Nuclear Facility Manager
- TRA Electrician (5)
- TRA Laborer (2)
- TRA Fitter
- TRA Waste Generator Services Representative
- TRA Environmental Supervisor
- TRA Planner (4)
- TRA Planning Supervisor
- TRA Construction Superintendent (sub-contractor – L&L Mechanical)
- TRA Construction Project Manager
- TRA Construction Supervisor
- TRA Construction Department Manager
- TRA Site Area Director
- TRA Shift Supervisor
- TRA Self Assessment Coordinator
- TRA Craft Foreman
- TRA Preventative Maintenance Coordinator
- TRA Radiochemistry Technical Lab Tech Lead
- TRA Self Assessment Coordinator
- MTR Canal Operator (2)
- TRA R&D Engineering Principal Investigator
- TRA Industrial Hygienist
- TRA Safety Supervisor
- TAN Site Area Director
- TAN Nuclear Facility Manager
- TAN Nuclear Facility Manager in Training

- TAN Operations Supervisor
- TAN Shift Supervisor
- TAN Fuel Handlers (1 BBWI, 1 Contract)
- TAN Craft Foreman (2)
- TAN Industrial Hygienist (2)
- TAN ESH&Q Manager
- TAN Waste Generator Services Technical Specialist
- TAN Waste Generator Services Facility Representative
- TAN Planners (2)
- TAN Planning Supervisor
- TAN Custodian
- TAN Pipe Fitter
- TAN Laborer
- TAN Mechanic
- TAN Electrician (3)
- TAN Maintenance Manager
- TAN Employee Safety Team Chairperson
- TAN D&D Field Team Leader
- TAN D&D Safety Engineer
- TAN D&D Heavy Equipment Operator/Lead Man
- TAN Utilities/Building Manager
- TAN Quality Engineer
- TAN Radiological Controls Technician
- TAN Preventative Maintenance Coordinator
- TAN Systems, Structures & Components Engineer
- TAN/SMC Fire Protection Engineer
- TAN Environmental Specialist
- TAN Utility Operators (3)
- TAN Industrial Safety Engineer
- TAN Employee Safety Team (in total)
- BBWI RadCon Operations Manager
- TRA RadCon Supervisor
- BBWI Consulting Technical Specialist

Observations:

- TRA White Elephant Cask Loading/Unloading Pre-job Brief.
- TRA White Elephant Cask Loading/Unloading job execution.
- TRA Corrective Maintenance Planning Walkdown (electrical component replacement)
- TRA Operations Safety Board Meeting
- TRA Plan of the Day
- TAN Plan of the Day
- TAN Preventative Maintenance Planning Walkdown (Steam Kettle)

- TAN Hazards Evaluation Group Review
- TAN Corrective Maintenance Pre-Job Brief
- TAN Operations Safety Board
- Employee Qualification check on TRAIN

Discussion of Results:

The work control processes implemented at TRA and TAN apply the elements of enhanced work planning for operations and maintenance activities. Crafts/operators, line management, and ESH&Q professionals (including the Waste Management Authority (WMA) at TRA and the Waste Generator Services (WGS) at both) actively participate in the work scope definition, hazards identification and hazards mitigation. There is clear understanding for the application of the roles and responsibilities of the WGS and the TRA WMA at all levels. Waste stream disposition is addressed in procedures, as necessary.

Personnel at TAN and TRA are familiar with the Hazards Profile Screening Checklist (HPSC), and they find it a very useful tool. Their use of the HPSC clearly identified which safety disciplines must be included to ensure adequate hazard mitigation is included in the work documents. Areas of potential conflict are rectified in the planning stage, with worker and safety professional involvement, to ensure the work activity can not only be performed safely, but also efficiently. Examples of the integration and involvement at all level follow. During a work planning meeting at TAN (Annual PM for TAN-674 Steam Kettle Jacket), crafts personnel were able, based on their previous experience performing this PM, to add additional hazard mitigation actions to the package that the safety and SSC engineer had not considered. At the pre-job briefing for the replacing HVDS Skid at TAN, crafts and the RCT addressed additional concerns due to the loss of CAMs while electrical power was secured for the job. At TRA, electricians and the SSC engineer devised a method to perform the pre-job walkdown to replace a component in a cabinet that eliminated the potential exposure to electrical hazards (480 VAC).

TAN has implemented Hazard Mapping system. This system is a computer based, interactive, pictorial database that takes the FHL one step further in that it provides not only what hazards are in a building, but also shows where the hazards are. (TOP1-4)

It is noted that all personnel interviewed at TAN had a very clear understanding of the integration and relationships between ISMS, VPP, WASP, the multitude of specific discipline programs (e.g., Radiological Safety, Industrial Hygiene, Quality, Hoisting and Rigging, etc.). A TRA, however, though there was good understanding by management (all levels) and operations personnel, some crafts questioned why all these programs were necessary. There was not a clear understanding at TRA of the interrelationship between and amongst these programs. (TOP1-1)

TRA and TAN personnel perform pre-job walkdowns prior to the conduct operations and maintenance activities to ensure plant conditions will support the activity. Pre-job briefs

at TRA and TAN are performed in accordance with MCP-3003, Performing Pre-Job Briefings and Post-Job Reviews. Pre-job briefs are held prior to these evolutions, utilizing Form 434.12, Pre-Job Briefing Checklist. The manner in which this checklist was applied at both TRA and TAN ensured readiness of personnel, plant and procedures for work execution. The TRA pre-job brief witnessed (White Elephant Cask) was held in the immediate vicinity of the job to be performed. The TAN pre-job brief witnessed was not held in the immediate area of the job due to radiological concerns, a good application of the ALARA principles. The issuance of qualification cards is an efficient and effective means to verify an individual's training to perform her/his prescribed functions for the job. Should there be a question on an individual's qualifications (i.e., a particular qualification is not listed on the qualification card), the foreman/operations lead has the ability to access the TRAIN system for a real-time qualification check. The foreman at TAN on the HVDS job had an opportunity to exercise this ability because an electrician's qualification card did not include his radiological worker training, for which the electrician was current. The TAN POD includes an Out of Service (OOS) List. The status of the equipment in the TAN OOS List is questionable. The TAN OOS List for the June 7, 2000, TAN POD (POD approved 6/6/00) was dated May 25, 2000. Additionally, there were no discussions at the TAN POD concerning progress for returning this equipment to service. It is recognized that some of the OOS equipment will not be placed back into service in the near future. (TOP1-2)

TAN and TRA have approved Authorization Agreements established. The Authorization Agreements and their associated Authorization Basis Lists were prepared and approved in accordance with MCP-3567 and TEM-2. It is noted TRA and TAN Authorization Agreements include environmental elements as well as the safety basis elements.

TRA and TAN conduct daily Plan of the Day (POD) meetings. The TRA POD meetings review the TRA Daily Schedule. The TAN POD meetings review the TAN Operations POD Schedule. All participants in attendance at both facilities were given the opportunity to provide input regarding status checks, add-ons, drops, exceptions, and special conditions to what was planned. Emergent, mission/safety critical work was added appropriately. Issues and conflicts were quickly resolved. The respective SADs approve the PODs, thus formally authorizing the work to be performed. As part of the pre-job briefings, the craft foreman/operations leads ensured that the procedures to be used were current and that the activities were identified on the PODs. TAN, TRA, I^4, R&D, D&D and construction sub-contractors clearly expressed their understanding that though work may be authorized, if the plant, procedural and personnel conditions exist that are contrary to the work authorized, the job does not go forward until the discrepancies are rectified. There is a clear understanding by all personnel interviewed at TRA and TAN of the Stop Work Policy, with no reluctance to exercise this obligation, as the workers referred to it, when it is deemed necessary to do so.

Operations Safety Boards (OSB) are scheduled and held at TRA and TAN. The OSBs perform reviews and assessments for, and provide technical support and advisement to the respective SADs. OSB actions assist the SADs in their operations authorization decisions. The conduct of the OSBs at TRA and TAN was efficient and effective.

Job Safety Analyses (JSA), Safety Analysis Report (SAR), Technical Safety Requirements (TSRs), and Permit Conditions (CAA, RCRA, etc.), as applicable, are integrated into the body of the work procedures at TRA and TAN. Authorization basis requirements, special conditions, hold points (e.g., RadCon), precautions, limitations, and hazard mitigation actions are clearly identified work procedures. In addition, these elements are key points of discussion during the performance of the pre-job briefing, with double checks with the personnel performing the job to ensure understanding. Radiological and Safe Work Permits (RWP and SWP, respectively) are utilized to address job condition specific actions and requirements. The RWPs and SWPs, as applicable, are discussed in detail during the pre-job brief. For the White Elephant Cask job, the RWP was readily available should questions arise during the evolution. Signage, postings, rope barriers and other tools are actively used at TAN and TRA to warn/inform workers of area specific conditions. A discrepancy was noted between two radiological postings in the Materials Test Reactor (MTR) basement. This is discrepancy is discussed in detail in the RadCon SME portion of the report.

Both TRA and TAN have a number of performance indicators (PIs). Some of these PIs roll into INEEL wide reports and some are used locally. These measures and indicators provide TAN and TRA management early warnings of performance and safety issues. TRA has taken the self-assessment program a step further by implementing the Monitor Watch Program. The Monitor Watch Program utilizes additional sources of data. These sources include, but are not limited to, the SSW Log, preliminary trending results, and Facility Excellence Program results. The information gathered is analyzed for focused, unplanned self-assessments to quick-fix small issues before there can be escalation. (TOP1-3) All personnel interviewed at TRA and TAN know their ALARA goals and individual exposures, and they work to maintain as low a dose as possible. Regarding exposure, I^4 not only tracks radiation exposure but exposure per curie of isotope produced. Utilizing this PI and having active worker involvement, I^4 has improved their processes in such a manner that production has increased and dose per curie has been reduced by a factor of approximately 2.5. TAN Operations is closely monitoring their performance in the Facility Excellence Program, and has improved performance from scores of 4 – 5 to in the 8's. TAN also has had no lost time accidents/injuries in eight years.

Conclusions:

The Objective has been met at the Test Reactor Area and at the Test Area North.

TRA and TAN have effectively implemented processes to ensure work planning is integrated at the activity level, it fully analyses hazards, develops appropriate controls, and incorporates the safety requirements into the work documents. Processes have been implemented to confirm facility and personnel are in an adequate state of readiness to perform work. Processes have been implemented to gain authorization to conduct work. Finally, TRA and TAN utilize performance measures and indicators to mitigate hazards and improve operations.

Issue(s):

- At TRA, there is a varying degree of understanding of how the ISMS, VPP, ALARA, WASP and other ESH&Q programs interrelate. (TOP1-1)
- TAN POD OOS List is not current and equipment status is not discussed at the TAN POD. (TOP1-2)

Strength(s):

- The TRA Monitor Watch Program is effective in making note of operational excellence and quickly addressing performance issues. (TOP1-3)
- The TAN Hazard Mapping System is an excellent extension of the FHLs. (TOP1-4)

Inspector_____ Geoffrey L Beausoleil	**Team Leader**_____ Terry W. Smith

Sub-Team: TRA/TAN	**FUNCTIONAL AREA: HAZ** **DATE**: 6/12/2000

OBJECTIVE: HAZ.1: The full spectrum of hazards associated with the Scope of Work is identified, analyzed, and categorized. Those individuals responsible for the analysis of the environmental, health and safety, and worker protection hazards are integrated with personnel assigned to analyze the processes. 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 is used to ensure adequate protection of the public, worker, and the environment and are established as agreed upon by DOE. These mechanisms demonstrate integration, which merge together at the workplace. (CE II-2, CE II-3)

CRITERIA:

1. Procedures and/or mechanisms are in place and utilized by personnel to ensure hazards associated with the 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 environmental, health and safety concerns are integrated with those assigned to analyze the hazards for the facility or activity. The use of these mechanisms ensure direction and approval from line management and integration of the requirements.

2. Procedures and/or mechanisms are in place and utilized by personnel that describe the interfaces, 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.

3. Procedures and/or mechanisms are in place to develop, review, approve and maintain current all elements of the facility Authorization Basis Documentation with an integrated workforce.

4. Procedures and/or mechanisms that identify and implement appropriate controls for hazard mitigation within the facility or activity are developed and utilized by workers and approved by line managers. These procedures/mechanisms reflect the set of safety requirements agreed to by DOE.

5. The implementation of Standards and requirements is appropriately tailored to the hazards.

6. Procedures and/or mechanisms are in place to effectively and accurately implement all aspects of the Authorization Basis.

7. Workers actively participate in hazard identification, analysis, and mitigation processes.

APPROACH:

Record Review: The following approach will be used to verify that both TAN and TRA have met the requirements of this CRAD: A record review of the documents identified in the Records Section of this CRAD will be performed to verify that these documents conform to the hazard analysis requirements. Numerous interviews with personnel at all levels will be used to detail each process for the reviewer's benefit. The reviewer will then ask questions on each step of the process to ensure that ISM Processes/systems were institutionalized and are working as required by the CRAD.

A review of procedures and documentation such as that pertaining to field verifications for activities/processes such as: STD-101 "Integrated Work Control Process," Radiological Work Permits (MCP-7 "Radiological Work Permit"), operations procedures will be performed. A sample review of hazard control documents 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 will be performed. Typical documents include Safety Analysis Reports (SARs), Technical Safety Requirements (TSRs), Health and Safety Plans (HASPs), Auditable Safety Analysis (ASA), Fire Hazards Analysis (FHA), Criticality Safety Evaluation (CSE), etc.

A review of MCP-3480 "Environmental Instructions for Facilities, Processes, Materials, and Equipment" and MCP-3680 "Environmental Aspects Evaluation and Maintenance" will be performed to ensure that Environmental Safety and Health (including pollution prevention) is integrated into the three main Hazards Identification and Control documents for Operations, R&D and Maintenance activities. (MCP-3562 "Hazards Identification, Analysis & Control of Operational Activities" or MCP-3571 "Independent Hazard Review") to ensure accurate and effective implementation of Authorization Basis documentation requirements. In particular, integration of hazard identification and controls (i.e. chemical, radiological, waste streams, environmental) into the work planning process will be noted.

Where appropriate, a review of the process used to resolve Unreviewed Safety Questions (USQs) to ensure new tasks are being evaluated against the approved authorization basis as required by MCP-123, "Unreviewed Safety Questions" will be performed. Review completed USQ or in progress USQ implementation documentation.

The primary focus of this section of the review (HAZ) is the identification of hazards, development of controls, the review, and approval of Authorization Basis documentation at the facility level. Implementation of controls for individual work items or activities will be evaluated using the Operations (OP) CRAD.

Interviews: Interview personnel responsible for the identification and analysis of work hazards including personnel responsible for ALARA review requirements. For example, this should include personnel responsible for USQ determination, procedure technical reviews, etc. 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, FHA, CSE, and EAE preparations and implementation.

Record Review:

- STD-107, *Configuration Management Program, Revision 0, 8/27/99*
- STD-101, *Integrated Work Control Process, revision 3, dated 12/14/99*
- PDD-22, *Safety Analysis, Revision 2, 1/2/97*
- PDD-1004 *INEEL Integrated Safety Management System, revision 4, dated 2/25/00*
- PDD-1005 *Site operations Manual, revision 2, dated 3/16/00*
- PRD-25, *Activity Level Hazard Identification, Analysis and Control for Work Planning and Execution, Revision 2, 6/30/99*
- PRD-112, *Criticality Safety Analysis, Revision 1, 6/1/98*
- PRD-113, *Unreviewed Safety Question, Revision 2, 8/26/99*
- PRD-115, *Program Requirements Document for Configuration Management, Revision 2, 8/27/99*
- PRD-164, *Safety Analysis for Other than Nuclear Facilities, revision 1, dated 7/27/99*
- PRD-5030, *Environmental Requirement for Facilities, Processes, Materials and Equipment, Revision 0, 8/19/99*
- PRD-5042, *Facility Hazards Identification, revision 0, dated 1/28/00*
- MCP-7, *Radiological Work Permits, Revision 13, 1/3/00*
- MCP-33, *Personnel Qualification and Certification, Rev 5, 3/16/00*
- MCP-123, *Unreviewed Safety Questions, Rev 2, 8/26/99*
- MCP-153, *Industrial Hygiene Exposure Assessment, Rev 2, 5/15/00*
- MCP-540, *Graded Approach and Quality Level, Rev 9, dated 3/3/00*
- MCP-579, *Fire Hazard Analysis, Revision 3, dated 8/31/99*
- MCP-2398, *Emergency Preparedness Hazards, Revision 1, 2/21/00*
- MCP-2451, *Safety Analysis for Non-Nuclear, Radiological and Other Industrial Facilities, Revision 1, dated 9/1/99*
- MCP-2450, *Technical Safety Requirements, Revision 1, dated 10/27/97*
- MCP-2811, *Design and Engineering Change Control, Revision 4, 8/27/99*
- MCP-3003, *Performing Pre-Job Briefings and Post-job reviews, rev 5, dated 8/9/99*
- MCP-3447, Developing and Using *Safe Work Permits, Revision 2/7/27/99*
- MCP-3450, *Job Safety Analysis, Revision 1, dated 8/13/99*
- MCP-3480, *Environmental Instructions for Facilities, Process Materials and Equipment, Revision 2, 5/3/00*

- MCP-3680, *Environmental Aspects Evaluation and Maintenance, Revision 0, 9/3/99*
- MCP-3562, *Hazard Identification, Analysis and Control of Operational Activities Revision 2, dated 3/14/00*
- MCP-3571, *Independent Hazard Review , Revision 2, dated 2/2/00*
- MCO-553, *Stop Work Authority, Rev 3, dated 4/2/00*
- SMC-MCP-1.7704, *Hazardous Materials Management, Revision 2, 8/2/1999*

Interviews Conducted:

- TAN**:**
  - Planner
  - Nuclear Operators (2)
  - Utility Operator
  - TAN SAR/TSR Manager
  - Inactive Facilities Manager
  - Construction Manager
  - Operations Manager
  - Industrial Hygienist
  - Radiological Control (Rad Con) Technician
  - ES&H and QA Manager
  - Water Research Reactor Test Facility (WRRTF) Manager

- TRA:
  - I^4 Operations Manager
  - I^4 Operations Supervisor
  - Equipment Operators (2)
  - I^4 Hot Cell Technician
  - Planners (2)
  - BBWI Hot Cell Facility Manager
  - R&D Manager and IHRG Team
  - TRA Construction Supervisor
  - TRA Construction Coordinator
  - INEEL Construction Supervisor
  - SAR/TSR Safety Analysis Manager
  - TRA Landlord Operations Facilities Manager
  - TRA ESH&QA Manager
  - TRA HEG – Hazard Evaluation Group
  - TRA (MTR) Nuclear Facility Manager
  - TRA Engineering Manager
  - Radiological Control Technicians (2)

- TRA Maintenance Manager
- TRA Maintenance Planning Supervisor

Observations:

- TAN
  - Hazard Evaluation Team (HEG) Review for a procedure Titled Fuel Oil Unloading Process at TAN TSF-611
  - Prejob Brief on a work order to replace a Coupler Link for the Heated Vacuum Drying System (HVDS).
  - Work planning meeting and walkdown for a preventive maintenance activity.
  - Daily DOE/BBWI Debrief

- TRA SPECIFIC ACTIVITIES
  - TRA Plan of Day (POD) Meeting
  - Prejob brief on a Criticality Alarm Monitor (CAM) repair
  - I^4 Operation for a White Elephant Transfer
  - OSB
  - Daily Managers Meeting
  - Daily DOE/BBWI Debrief
  - Attended I^4 POD & Prejob brief for a White Elephant Transfer
  - Observed Operations Safety Board Meeting for TRA Landlord
  - Attended Landlord Status Update Managers Meeting

Discussion of Results:

This contractor demonstrated successful implementation and the utilization of the procedures and mechanisms for Maintenance and Construction, R&D and Operational activities. Environmental, Safety and Health hazards have been identified, analyzed and controlled at both facilities and are incorporated directly into the work processes at both facilities. TAN has developed SMC-MCP-1.7704, "Hazards Materials Management" procedure which specifically incorporates Pollution Prevention (PP) requirements into the TAN facility for chemical and hazardous materials procurement. (THAZ1-4)

An integrated flow-down of hazards-related requirements to the worker level is clear. Participation in the identification, analysis and mitigation of hazards is institutionalized at every level. Workers are heavily involved in the identification of potential hazards and the development of controls (which are tailored specifically to the hazards associated with each activity). Procedures are in place, approved by line management, and utilized by the workforce. The procedures define the work, state the hazards, define the controls and identify the areas of responsibilities. All personnel interviewed at both facilities demonstrated extensive knowledge in their line of work and job requirements and are competent to execute their work. Through the interview process it was evident that

employee morale at TAN is running at a very high level. High morale, while instituting a new program, is a clear indication that people are voluntarily utilizing the ISM Process and believe in its benefits. (THAZ1-5)

During the interview process, employees at every level for both facilities stated that they believed that: communications are good both horizontally and vertically; that management listens and reacts to employee issues/concerns and suggestions; and that every person involved in an activity has a part in development of the Authorization basis. The following two strengths support these statements:

- Upon a suggestion from an Equipment Operator at TRA, I^4 installed rails allowing for quick and exact alignment of the white elephant cask for unloading cask contents allowing them to significantly lower their ALARA goals. (THAZ1-6)
- At TAN, an employee has developed an electronic hazards identification and controls database (Hazards Mapping Process), that allows for that allows for real-time worker input. This database has much potential in that it allows employees performing work in a specific area to go to the database and identify all hazards associated with that facility. It also allows for employees to provide feedback back to the database owner of all hazard and configuration changes to the facility that resulted from a specific activity that was performed in that facility. Although the database is not complete and therefore has not been institutionalized, it has incredible potential, when complete, as a hazard identification and control, and facility configuration tool. (THAZ1-2)

Procedures and mechanisms are in place to effectively and accurately implement all aspects of the authorization basis. The HEG group at TRA has performed a momentous achievement by taking more than 800 operating procedures and incorporating ISM requirements and controls into those procedures over the past year. (THAZ1-7)

The final work control packages/procedures are clearly defined, complete and meet DOE expectations. However, the Passport Software that is utilized to produce the work order packages is not as efficient as it needs to be…especially in order to support priority one activities. Multiple employees at both facilities mentioned this concern. (THAZ1-1)

Checks and balances within the procedures ensure that each facilities Safety Authorization Basis is not exceeded. Trigger points in many of the mechanisms/procedures ensure that the appropriate people are utilized in the development of work control development and documentation. The implementation of standards and requirements is tailored to the hazards utilizing a risk-based graded-approach. An excellent example of application of the risk-based graded-approach was found at the WRRTF facility. WRRTF, an old facility that has many code and building deficiencies as a whole, has ensured that the areas that house the four R&D experiments meet ISM requirements. BBWI developed the WRRTF Recovery Plan, which identifies the hazards and controls for the work being performed at WRRTF. The costs associated with developing this plan were minimal. Although this plan is not a long-term solution

for future work at WRRFT, it was a logical and efficient means to implement ISM requirements into the work being performed at that facility. (THAZ1-3)

Conclusion:

This objective has been met.

Issue(s):

- The Passport Software that is utilized to produce the work order packages is not as efficient as it needs to be, especially in order to support priority one activities. **Note**: This item was been identified by multiple people in multiple areas including TAN Management and is being worked. (THAZ1-1)

Strength(s):

- At TAN, the Hazards Mapping Process allows for real-time worker input. (THAZ1-2)
- The risk-based graded-approach used for the WRRTF facility, as described in the WRRTF Recovery Plan is an efficient and excellent approach to Institute ISM into the activities being performed at that facility until a decision can be made on the final disposition of that facility. The benefit/cost ratio for that effort is extremely high. (THAZ1-3)
- The Hazards Materials Management Procedure SMC-MCP-1.7704 specifically incorporates Pollution Prevention (PP) requirements into the TAN facility for chemical and hazardous materials procurement. (THAZ1-4)
- Employee morale and worker involvement at TAN is extremely high. (THAZ1-5)
- At TRA, a suggestion from an Equipment Operator resulted in a modification to the TRA Hot Cells cask alignment installation which resulted in allowing lower ALARA goals for cask loading/unloading operations. (THAZ1-6)
- The TRA HEGs (Hazard Evaluation Group) review and upgrade of over 800 procedures to institute ISM requirements into the existing procedures in a short period of time is extremely impressive. (THAZ1-7)

Inspector_____ Matea McCray	**Team Leader**_____ Terry W. Smith

Sub-Team: SME – Radiation Protection	**FUNCTIONAL AREA: SME1** **DATE**: 6/9/2000

OBJECTIVE: SME.1 Within the radiological control 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 the radiological controls subject area, 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:

1. Procedures and/or mechanisms for the radiological control area require adequate planning of individual work items to ensure that hazards are analyzed and corrective actions are identified.

2. Procedures and/or mechanisms for radiological control area contain clear roles and responsibilities. The radiological controls subject area is effectively integrated with line support managers to ensure that line managers are responsible for safety.

3. Procedures and/or mechanisms for the radiological control area require controls to be implemented that these controls are effectively integrated, and readiness is confirmed prior to performing work. Workers are involved in planning of radiological controls.

4. Procedures and/or mechanisms for the radiological control area require that personnel who are assigned to the radiological controls subject area have a satisfactory level of competence.

5. Procedures and/or mechanisms for the radiological control area require that within the radiological control area feedback and continuous improvement results.

APPROACH:

Record Review: The INEEL Radiological Control Program is described by PLN-26 "INEEL Radiation Protection Program and implemented by PRD-183, Company Manual 15A Radiological Protection "INEL Radiological Control Manual." Additional implementing procedures (MCPs) are located in Manuals 15B and 15C. Review Manuals 15A, 15B, & 15C and selected records that define the procedures and interactions required for the radiological controls at the facility or activity level. Assess the adequacy

of the documents, such as Manual 15A, Chapter 3 "Conduct Of Radiological Work," effectiveness in integrating radiological controls into the facility work control process. Review requirements of MCP-91 "ALARA Program and Implementation." Evaluate the program's success in reducing individual and collective radiation exposure of the worker. Review ALARA Committee documents such as ALARA reviews for radiological work, Radiological Performance Goals, and recommendations for exposure reduction. Review the facility's success in maintaining exposure below established goals. (The inability to maintain radiation exposure at or below established goals may indicate a serious weakness in the hazards identification and control area.) Evaluate if adequate consideration has been given to ALARA reviews and recommendations during the development of work control documents. Review work control documents noted in the Operations CRAD to ensure proper integration of radiological controls in the work control documentation. Review radiological work control documents to assess whether lessons learned have been effectively used within the radiological control area. Review training records of personnel in the Radiological Control organization and the site work force to determine if they meet competency standards listed in Chapter 6 of Manual 15A. Review the worker involvement in the ALARA processes.

Interviews: Interview personnel and responsible managers in the Radiological Control Organization to assess the establishment of clear roles and responsibilities within the radiological control organization, and the understanding of the radiological controls support provided to line managers. Conduct additional interviews with other safety professionals (i.e. Industrial Hygiene, Safety Engineers), Facility Support Personnel (Planners, Electricians, Fitters) to assess the effectiveness of Line Management's implementation of the Radiological Control program. Interview personnel assigned to the Radiological Control Organization and the general site work force to assess the level of understanding and compliance with the ALARA program and to determine the level of understanding of the hazards identification and controls process and the workforces input to this process. Interview Rad-Con managers, technicians and general site work force to determine their level of competency commensurate with assigned responsibilities. Interview the facility line management to assess the establishment of clear roles and responsibilities.

Observations: Observe events such as the development of work control documents, development of a radiological hazards analysis such as a radiological work permit or job safety analysis. Observe the review and approval process for radiological work control documents and individual work activities. Review the interactions between radiological control personnel and other facility personnel such as operations or maintenance during the execution of work activities. Attend any ALARA reviews or committee meetings, pre-job briefs, post-job reviews etc and observe work activities to ensure the controls specified by the hazards control documents are being implemented and complied with as the work occurs.

Record Review:

- Title 10, United States Code of Federal Regulations Part 835, Occupational Radiation Protection
- PLN-260, Plan, INEEL Radiation Protection Program, 1/11/00
- PLN-260, Plan, INEEL Radiation Protection Program, DRAFT
- PRD-183, Company Manual 15A, Radiation Protection – INEL Radiological Control Manual; 9/16/96
- PRD-1004, Program Requirements Document, Stop Work Authority, 11/05/97
- PRD-5060, Program Requirements Document, Occupational Safety Functions, Roles, Responsibilities, and Interfaces, 1/28/00
- PRD-186, Program Requirements Document, Occupational Safety Program, 5/31/99
- PDD-1022, Program Description Document, Radiological Control Organization Functions, Roles, Responsibilities, and Interfaces, 8/13/99
- PDD-1022, Program Description Document, Radiological Control Organization Functions, Roles, Responsibilities, and Interfaces, DRAFT
- PDD-1040, Program Description Document, Radiological Safety Training program, 10/12/99
- PDD-16, Program Description Document, Overview of the LMITCO Safety and Health Program, 4/30/98
- PDD-1004, INEEL Integrated Safety Management, 2/25/00
- MCP-91, ALARA Program Implementation, 11/10/99
- MCP-7, Radiological Work Permit, 1/3/00
- MCP-542, Radiological Control Surveillance Plan, 8/28/98
- MCP-432, Radiological Personnel Protective Equipment, 8/14/98
- MCP-187, Posting Radiological Control Areas, 10/15/99
- MCP-2716, Personal Protective Equipment, 10/05/99
- MCP-2723, Reporting and Resolving Employee Safety Concerns & Suggestions, 12/1/99
- MCP-2973, Chapter I-Operations Organization and Administration, 8/24/99
- MCP-3730, Supplemental Procedure to MCP-2973 Operations Organization and Administration, 3/13/00
- MCP-3823, Supplemental Procedure to MCP-2973 Operations Organization and Administration, 4/26/00
- MCP-3003, Pre-Job Briefings and Post-Job Reviews, 8/9/99
- MCP-27, Preparation and Administration of Individual Training Plans, 2/3/00
- MCP-35, Training Needs Analysis, 2/3/00
- MCP-73, Incorporating Lessons Learned, 9/29/95
- Interdepartmental Communication from D.W. Suthers to ATR Shift Supervisors, 24 Hour Molybdenum Oxidation Experiment, DWS-182-99, 11/9/99
- RCIMS Report on Individual Exposures by Facility and Organization for TRA Facility, 1/1/00 to 1/31/00
- RCIMS Report on Individual Exposures by Facility and Organization for TRA Facility, 2/1/00 to 2/29/00

- RCIMS Report on Individual Exposures by Facility and Organization for TRA Facility, 3/1/00 to 3/31/00
- RCIMS Report on Individual Exposures by Facility and Organization for TRA Facility, 4/1/00 to 4/30/00
- RCIMS Report on Individual Exposures by Facility and Organization for TRA Facility, 5/1/00 to 5/31/00
- INEEL Employee Training History reports from INEEL TRAIN System for RadCon Supervisor, Radiological Engineers, RadCon Foreman, and selected Radiological Control Technicians.
- Email from Kevin E. Hungate to RC Management, 1st Quarter Continuing Training Schedule, 2/2/00
- Email from Kevin E. Hungate to RC Management, Training Coordinators 2nd Quarter RC Training Classes, 4/17/00
- TRA RadCon Surveillance Schedule
- TRA RadCon Self Assessment – Dated -3/31/00, 3/29/00, 4/5/00, 5/24/00, AYF-17-00 (RPAG-M-6)
- TRA RadCon Surveillance Report Nos. RC-01-M1(March 00), RC-01-M1 (April 00), RC-04-Q4, RC-01-Q1, INEEL-2000-13 (RC-02-Q2)
- TRA Employee Individual Training Plan (Total Plan) Report for 1 RadCon Foreman and 3 Radiological Control Technicians
- Train Course Report, TRA ALARA Committee Member Training
- Employee Position Description, Form 325.01 (position description for TRA RadCon Supervisor, 1 TRA Rad Engineer, 1 RadCon Foreman, and 4 Radiological Control Technicians)
- SP 10.1.2.23 Reactor Programs Facility ALARA Committee Charter, 4/10/96
- International Isotopes Idaho Inc. Letter from S. Laflin to L. Powell, Revision 2 to the International Isotopes Idaho Inc. ALARA Policy and Charter – STL-75-99, 10/21/99
- Test Reactor Area Performance Indicator Reports 4th Quarter 1999 and 1st Quarter 2000
- Radiation Work Permit #31000201-01 “MTR and Outer Area Routine Surveys”
- Work Order Package 00025597-01 “Replace Belt on ETR CAM E-3”
- Interoffice Memorandum, INEEL ALARA Committee Meeting Minutes, 1/18/00
- Interoffice Memorandum, INEEL ALARA Committee Meeting Minutes, 3/7/00
- Interoffice Memorandum, INEEL ALARA Committee Meeting Minutes, 5/11/00
- Interoffice Memorandum, Documentation of Test Reactor Area (TRA) As Low As Reasonably Achievable (ALARA) Activities, 6/1/00
- Interoffice Memorandum, G. E. McDannel to W. R. Gay III, TAN ALARA Committee Minutes, 3/21/00
- List of TAN ALARA Committee Members
- Interoffice Memorandum, R. Sorensen to F. Hinckley, Test Area Notrh ALARA Goals _CY2000 – DJS-xx-99, 11/30/99
- INEEL Employee Training History reports from INEEL TRAIN System for selected TAN personnel

- LST-99 Facility Hazards Identification and Control Information List for TAN Facility, 8/30/99
- RCIMS Report on Individual Exposures by Facility and Organization for TAN Facility, 5/22/00
- TAN Employee Individual Training Plan (Total Plan) Report for 1 RadCon Foreman and 3 Radiological Control Technicians
- List of Active TAN RWP's
- List of TAN Process Deficiency Reports
- CTR-55, TAN ALARA Committee Charter, 1/24/00
- Train Course Report, TAN ALARA Committee Member Training
- List of TAN Radiological Issues on ICARE System
- Employee Position Description, Form 325.01 (position description for TAN RadCon Supervisor, 1 TAN Rad Engineer, 1 RadCon Foreman, and 3 Radiological Control Technicians)
- TAN Work Package No. 28113 "Determine location and build lockable gates/doors to isolate corridor 107 during remote…"

Interviews Conducted:

- TRA Site Area Director
- TRA Craft Foreman
- TRA Scientist
- TRA Industrial Hygienist
- TRA Electrical Planner
- Mechanical Planners (2)
- TRA Shift Supervisor
- TRA Radioanalytical Chemist
- TRA Self Assessment Coordinator
- MTR Canal Operator/Laboratory Technician
- TRA RadCon Supervisor
- TRA Radiological Control Technician Foreman
- TRA Radiological Control Technicians (2)
- TRA Electrician
- TRA Laborer
- TRA Electrician
- I^4 Hot Cell Technician
- TRA Environmental Supervisor
- TRA Waste Generator Services Lead
- TRA Safety Supervisor
- TRA Safety Engineer
- TAN Training Personnel
- TAN ES&H Manager
- TAN Waste Generator Services Facility Representative
- TAN Waste Generator Services Technician

- TAN Industrial Hygienist
- TAN Craft Foremen
- TAN Radiological Control Technician Foreman
- TAN Radiological Control Technician
- Tan Shift Supervisor (2)
- TAN Fuel Handlers (2)
- TAN Advisory Scientist
- TAN Support Services Coordinator
- TAN D&D Program Field Staff (3)
- TAN Utility Operator
- TAN Safety Engineer
- TAN Craft Personnel (3)

Observations:

- TRA Plan of the Day Meeting
- Pre-Job Brief for Work Order 00025597-01 "Replace Belt on ETR CAM E-3"
- TRA Job "Replace Belt on ETR CAM E-3"
- TRA Job Planning Walkdown – Replace electrical Component in MTR Switch Gear
- TRA Operation Safety Board Meeting
- TAN Pre-Job Brief for WO# 29772 "Replace the Link Coupler Module on the HVDS Skid"
- TAN Post-Job Review for WO# 29772 "Replace the Link Coupler Module on the HVDS Skid"
- TAN Plan of the Day Meeting
- Rad Worker RWP access into the RCIMS System
- TAN Corrective Action Review Board Meeting
- Demonstration of the TAN Computerized Facilities Hazards Identification Program

Discussion of Results:

INEEL Standard 101 "Integrated Work Control Process," is required to perform or support maintenance; construction; environmental restoration (ER); and decontamination, decommissioning, and demolition (D&D&D) work at the TRA Facility. Facility operations procedures are developed in accordance with MCP-3562 "Hazard Identification, Analysis and Control of Operational Activities" and TRA research activities are developed in accordance with the requirements contained in MCP-3571"Independent Hazard Review."

In STD-101, the hazard identification process begins with the generation of a Work Control Form (WCF) for maintenance related work. The WCF describes the proposed work activity, which is screened using the Hazard Identification and Mitigation (HIM) process. The HIM process allows the use of a pre-approved hazards analysis matrix or a "Walkdown Checklist" to identify job hazards. Operational procedures and work activities which are covered under MCP-3562, require the manager or primary owner to conduct the hazard screening and analysis using the "Facility Hazards List," safety program Subject Matter Experts, and facility personnel. MCP-3571 requires the use of hazard analysis techniques similar to STD-101 and MCP-3562 to identify job hazards associated with proposed research activities. All processes include a provision for evaluating and mitigating the proposed work activity for radiological hazards.

When a radiological hazard is identified during the screening process, Radiological Control personnel are provided a detailed description of the work activity to begin the process of hazard mitigation. Radiological hazards are mitigated using the requirements, procedures and processes contained in the INEEL Radiological Control Manual and Radiological Control Procedures manual. MCP-7 "Radiological Work Permit," and MCP-91 "ALARA Program and Implementation," are the primary radcon procedure for identifying and controlling radiological hazards. MCP-91 establishes the program requirements to reduce, control, and maintain radiation exposures ALARA. MCP-7 implements the ALARA program through the creation of the Radiological Work Permit (RWP). The RWP establishes necessary radiological controls, Personal Protective Equipment, Stay Times etc, for the job activity and is used to inform

radiological workers of the radiological hazards and the requirements necessary to safely mitigate radiological hazards at the job site. Lastly, the RWP requires the worker to understand the job site radiological conditions and acknowledge they have read and will comply with the requirements in the RWP. Implementation of MCP-7 is fundamental to integration of ISMS in the INEEL Radiological Controls Program. MCP-7 is implemented at the INEEL as verified by personnel interviews, procedure and record reviews.

The roles and responsibilities for training radiation workers and radiological control personnel are clearly identified in Company Program Documents (PLN-260 INEEL Radiation Protection Program"), program description documents (PDD-1005 "Site Operations Manual," PDD-1040 "Radiological Safety Program," PDD-1022 "Radiological Control Organization Functions, Roles, Responsibilities, and Interfaces," PDD-16 "Overview of the LMITCO Safety and Health Program"), program requirements documents (PRD-183 "INEEL Radiological Control Manual"), and management control procedures (STD-101, MCP-3562, MCP-91, MCP-7). The INEEL Radiological Control Manual establishes the radiological control organization's responsibility to provide a compliant and integrated radiological control program. The INEEL RCM clearly establishes line management's responsibility to implement the radiological control program and their responsibility for safety. Personnel interviews verify personnel understand their roles and responsibilities

10 CFR 835 "Occupational Radiation Protection," mandates the high-level requirements to ensure radiological work is implemented safely at Department of Energy sites. The INEEL has developed and DOE has approved the INEEL Radiation Protection Program to insure radiological operations are performed in a manner to protect the health and safety of its employees, members of the public, and the environment. The INEEL Radiological Control manual and lower tier radcon implementing procedures (MCPs) are responsible for identifying radiological hazards and establishing the necessary controls to mitigate INEEL radiation hazards. MCP-91 and MCP-7 are the principal procedures for implementing the radiological control program.

MCP-91 establishes the INEEL ALARA program and provides the general framework for identifying and directing necessary work controls into INEEL work control documents. The INEEL has established Sitewide and Facility ALARA Committees using personnel from Site and Facility Line Management as the direct member, supported by members of the radiological control program. ALARA committees are tasked with establishing sitewide and personnel ALARA goals, reviewing high risk/profile radiological work, reviewing lessons and coordinating activities which promote actions which will reduce radiation exposures and minimize the spread of contamination.

TAN/TRA personnel are aware of their current ALARA exposure goals and their current radiation exposure. However, many employees were not aware of the basis for their goal and in some cases had not been involved in the process when the individual's exposure goal was changed. (SME1-1)

The INEEL Radiological work-planning process is integrates the requirements contained within PRD-183, MCP-7 with the requirements contained in STD-101 and MCP-3562. These

procedures require facility workers, other safety personnel, and radiological subject matter experts to participate in job planning walk downs. As part of the job hazard analysis and mitigation process, PRD-183 and MCP-91 require the radiological engineer to perform a formal documented ALARA review. This ALARA review is to review the proposed work activity and the results of the job planning walkdown to consider the need for additional radiological controls such as engineered barriers, shielding, mock-ups, specialized training prior to performing work. Radiological work with higher potential consequences is presented to the facility ALARA committee for additional review. The TRA ALARA committee has been meeting regularly. Meeting minutes indicate the committee is actively reviewing several high-risk radiological work activities at the facility. The TAN ALARA committee was reconstituted in January 2000, and last met on March 9, 2000. Meeting minutes indicate the TAN ALARA committee is actively involved with the TMI spent fuel project. Personnel interviews with safety personnel and general facility employees indicate the TAN ALARA committee has been involved in dose control issues.

Radiological work is authorized and controlled by Radiological Work Permit (RWP), per the requirements of MCP-7. The INEEL uses the Radiological Control Information Management System (RCIMS) to control radiological work. The RCIMS system requires the employee to read and then acknowledge they understand and will comply with the RWP requirements. During the RWP login process the employee's ALARA goal and year to date exposure is displayed on the computer screen. Additionally, during the login process the RCIMS system checks employee training history, checks for administrative holds, and verifies the employee had attended the pre-job brief, before authorizing the employee access to the job-site. Interviews indicate INEEL employees consider the RCIMS system a valuable tool for implementing the ISMS process.

ALARA program implementation and worker involvement in the radiological work at TRA and TAN were identified at each facility. Pre-Job briefs were conducted in accordance with MCP-3003, at each facility. Both briefings were held away from the job site due to ALARA considerations. During the conduct of each pre-job brief, workers were actively engaged in the briefing.

A job planning walkdown was observed at the TRA MTR building. The walkdown required workers to enter a radiological buffer area (RBA) for contamination, which requires a personal survey upon exiting the area. The workers obtained a radiation survey instrument from the TRA radcon office, where they were informed of the radiological exit requirements from the job site. The job site radiological boundary was posted with the appropriate RBA warning signs and two special instruction signs, which indicated the area exit requirements. It was noted the requirements on the two signs were different and conflicted with the verbal requirements given to the workers in the radcon office. The workers elected to continue with the job rather than stop and have the conflicting information resolved.(SME1-2) Additionally, a training issue was identified when one worker indicated they did not believe the contamination survey instrument was capable of performing a whole body frisk. The worker was counseled at the job site and allowed to proceed with the job as well.

Radiological control roles and responsibilities and training requirements are identified in PDD-1022. Additional training requirements are identified in the Employee Position Description (Form 325.01). Employee Position Description (PD), Individual Training Plans, and employee training histories for Radiological Control Foreman and Radiological Technicians were reviewed. The position description documents identified roles and responsibilities for radiological control personnel and the individual training programs include required training necessary for job performance. Personnel interviews verify personnel understand their roles and responsibilities

A craft foreman was identified as requiring only General Employee Radiological Training (GERT). This employee was responsible for walking down radiological jobs and assigning craft personnel (Rad I and Rad II qualified) to work radiological jobs. (SME1-3)

As described earlier, the RCIM system verifies worker training during the RWP login process. Workers without the proper training are denied access to the RWP and referred to the facility radcon access. (SME1-4)

The radiological control program internal assessment program is implemented by MCP-542. This program is designed to review the functional elements of the INEEL radiation safety program every three years. In addition to the MCP-542 process for assessments, various contractor assessment groups audit the INEEL Radiation Safety program. TRA and TAN Facilities perform internal assessments as part of the MCP-542 process.

The Corrective Action Review Board process provides a good forum to review issues, assign personnel responsible for corrective actions and then review and approve the corrective actions.

Conclusion:

The objective has been met.

The identification and mitigation of radiological hazards is integrated into the work planning and implementation process. The RCIMS generated Radiological Work Permit effectively authorizes and controls radiological work. Workers interviewed consider the dose reporting portion of the RCIMS program valuable in maintain individual radiation exposures ALARA. The post-job review process provides a good opportunity for worker feedback into radiological work. The INEEL radcon organization has implemented a self-assessment program to identify and correct radiological issues on a continuing basis. Radiological control program personnel have been provided with clear roles and responsibilities. Radiological, Line Management, and general workforce personnel displayed a satisfactory level of knowledge of the radcon program and the process to reduce radiation hazards.

Issue(s): .

- TAN/TRA employees are not aware of the basis for their ALARA goal. Efforts to inform workers of changes to their ALARA Goal were not always effective. (SME1-1)

- Workers at one job site did not stop the job when conflicting radiological exit requirements were identified. (SME1-2)
- A GERT trained employee was assigned to perform job planning walk downs of radiological areas and assigned job tasks to Rad Worker I and II trained employee. (SME1-3)

Strength(s): .

- The RCIMS Access control system is a valuable tool for controlling access to radiological areas. (SME1-4)

Inspector_____ Kenneth R. Whitham	**Team Leader**_____ Terry W. Smith

Sub-Team CFA/PBF-WROC	**FUNCTIONAL AREA: MG.1** **DATE**: June 12, 2000

OBJECTIVE: MG.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. An integrated process has been established 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-1, CE II-5)

CRITERIA:

1. 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.

2. Procedures and/or mechanisms are in place and utilized by personnel to 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.

3. 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 these roles are competent to execute these responsibilities.

4. Procedures and/or mechanisms are in place that develops 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. Corrective actions include identifying the causes and working to prevent recurrence.

5. 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.

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

7. Procedures and/or mechanisms are in place, which include a process for oversight that ensures that regulatory compliance is maintained.

8. The contractor has mechanisms in place to direct, monitor, and verify the integrated implementation of ISMS as described in the ISMS Description. Implementation and integration expectations and mechanisms are evident throughout all institutional line and support organizational functions.

APPROACH:

Record Review: Review the facility or activity long-range planning documentation. This should include such items as summary schedules, plan of the week schedules, long-range schedules, modification schedules, etc.

Review the implementation of the mechanisms that line managers utilize to identify and prioritize mission-related tasks and processes, modifications, and work items. All direct funded work is controlled by procedures found in MCP-14, "Graded Approach to Defining Project Controls."

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. Standards and requirements are rolled down to the facility level for implementation utilizing the process described in MCP-2447, "Requirements Management." Review facility processes for ensuring standards and requirements promulgated by the MCP-2447 process are reflected in activities at the facility.

Review the implementation of INEEL Configuration Management Program described in PLN-485, "Project Plan for the Configuration Management Project," PRD-115, "Configuration Management" and STD-107, "Configuration Management Program." Review MCP-2811, "Design and Engineering Change Control," MCP-3630, "Computer System Change Control," MCP-3572, "System Design Descriptions," MCP-3573, "Validating, Controlling, Using, and Revising Vendor Data" and MCP-2377, "Development, Assessment and Maintenance of Drawings," to establish the facility/activity level configuration management processes at the INEEL. Review training records of personnel in the configuration management subject area to determine that they meet competency standards.

Review the performance monitoring documentation for the feedback and continuous improvement process. This should include such documents as occurrence reports, deficiency reports, results of post-job reviews, safety observer reports, Issue Communication and Resolution Environment (ICARE) reports and reports of self-assessments and independent assessments. Ensure occurrence reports and ICARE entries are being completed in accordance with the requirements specified in MCP-190, "Event Investigation and Occurrence Reporting" and MCP-2723, "Reporting and Resolving Employee Safety Concerns & Suggestions," respectively. Process deficiencies should be addressed by following the process described in MCP-598, "Deficiency Screening and Resolution."

Lessons learned are managed and processed in accordance with the requirements described in MCP-192, "Lessons Learned Program." Management self-assessments are conducted in accordance with MCP-8, "Self-Assessment Process for Continuous Improvement." The process

of independent assessment of facilities and activities is described in MCP-552, "Conduct of Independent Oversight Assessments." The FY-00 schedule of independent oversight assessment activities can be found on the QA and Conduct of Operations internal homepage at URL: http://home.inel.gov/qa&coo/ipa.html. The Facility Excellence Program, described in PDD-1011, is a structured means of regularly assessing facilities for compliance in any of these areas.

Review procedures and documentation for work control to determine that adequate feedback and improvement mechanisms are in place at the individual maintenance or activity level. This should include documentation pertaining to the implementation of MCP-3003, “Performing Pre-Job Briefings and Post-Job Reviews,” as the activity-level requirements document.

Review actual reports, results, schedules, and available data from these processes, as well as corporate processes and procedures, to evaluate the effectiveness of the implementation of these mechanisms. Additionally review charters and output documentation from any corporate/site wide ISMS coordinating committees.

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

Interview personnel responsible for administering the feedback and continuous improvement process. This should include personnel such as those responsible for occurrence reporting, lessons learned preparation, ICARE entries, self-assessment, and oversight. Interview personnel responsible for capturing and utilizing feedback and improvement information during individual maintenance or other work activities. Interview line management to determine level of knowledge and involvement in the implementation of programs and activities such as the ICARE process.

Interview personnel and responsible managers in the configuration management subject area. Interview line managers to assess the establishment of clear roles and responsibilities and the understanding of the configuration management support provided to line managers. Interview chairman and key members of ISMS coordinating committees.

Observations: Observe work definition and planning activities to ensure that requirements specified by documents such as the Requirements Management process (MCP-2447) are considered and implemented at the activity level.

As possible, observe an Operational Safety Board (OSB) meeting. If possible, observe a program or project Change Control Board meeting. Observe a Pre-Job Briefing and a Post-Job Review. Observe any critiques, which may arise throughout the course of the observation process.

Observe events such as the development of an Engineering Change Form (ECF), Computer System Change Form (CSCF), or Document Action Request (DAR) for a technical document.

Observe any site-level ISMS committee meetings.

Record Review:

- MCP-8, Self-Assessment Process for Continuous Improvement, Revision 3, dated 8/31/99
- MCP-27, Preparation and Administration of Individual Training Plans, Revision 3, dated 2/3/00
- MCP-33, Training Qualification and Certification, Revision 5, dated 3/15/00
- MCP-91, ALARA Program and Implementation, Revision 10, dated 11/10/99
- MCP-138, Control and Registration of Radiation Generating Devices, Revision 4, dated 2/16/00
- MCP-190, Event Investigation and Occurrence Reporting, Revision 8, dated 9/13/99
- MCP-192, Lessons Learned Program, Revision 4, dated 6/9/99
- MCP-552, Conduct of Independent Oversight Assessments, Revision 9, dated 9/9/99
- MCP-553, Stop Work Authority, Revision 3, dated 2/3/00
- MCP-598, Deficiency Screening and Resolution, Revision 3, dated 4/12/00
- MCP-2377, Development, Assessment and Maintenance of Drawings, Revision 3, dated 8/26/99
- MCP 2403, Emergency Preparedness Self-Assessment Program, Revision 0, dated 3/16/00
- MCP-2447, Requirements Management, Revision 2, dated 3/12/99
- MCP-2668, Financial Planning, Administration, and Control of Indirect Activities/Work, Revision 5, dated 4/12/00
- MCP-2723, Reporting and Resolving Employee Safety Concerns and Suggestions, Revision 3, dated 12/1/99
- MCP-2811, Design and Engineering Change Control , Revision 4, dated 8/26/99
- MCP-3003, Performing Pre-job and Post-Job Reviews, Revision 5, dated 8/9/99
- MCP-3449, Safety and Health Inspections, Revision 0, dated 3/31/98
- MCP-3480, Environmental Instructions for Facilities, Processes, Materials, and Equipment, Revision 2, dated 5/3/00
- MCP-3562, Hazard Identification, Analysis and Control of Operational Activities, Revision 2, dated 3/14/00
- MCP-3571, Independent Hazard Review, Revision 2, dated 2/2/00
- MCP-3572, System Design Descriptions, Revision 1, dated 10/5/99
- MCP-3573, Validating, Controlling, Using and Revising Vendor Data, Revision 0, dated 8/26/99
- MCP-3630, Computer System Change Control, Revision 0, dated 8/26/99
- MCP-3675, Environmental Requirements Flowdown, Revision 0, dated 3/15/00
- PDD-13, Conduct of Training and Qualification Program, Revision 2, dated 10/4/99
- PDD-1004, INEEL Integrated Safety Management System, Revision 2, dated 2/25/00,
- PDD-1005, Site Operations, Revision 2, dated 3/16/00
- PDD-1011, Facility Excellence Program, Revision 0, dated 3/10/99
- PDD-1012, Environmental Management System, Revision 3, dated 5/9/00
- PLN-485, Project Plan for the Configuration Management Project, Revision 1, dated 9/15/99

- PRD-115, Configuration Management, Revision 2, dated 8/27/99
- PRD-5043, Operational Safety Boards, Revision, 0, dated 8/2/99
- PRD-5060, Occupational Safety Functions, Roles, Responsibilities, and Interfaces, Revision 0, dated 1/28/00
- STD-101, Integrated Work Control, Revision 3, dated 12/14/99
- STD 107 Configuration Management Program, Revision 0, dated 8/26/99
- VPP Monthly ICARE Summary Report, May 2000
- CFA Self-Assessment Revisions to FY-2000 Schedule, DRAFT, dated March 14, 2000
- INEEL/INT-99-01288, CFA Integrated Plan, dated March, 2000
- DAR 45880 (Draft), CTR-038, CFA Site Area Director Operations Safety Board, dated about 5/30/00
- Memo, W. A. Baxter to V. R. Catania, Power Management Department Monthly Performance Indicators, dated March 20, 2000
- FY-00 Emergency Preparedness Self-AssessmentSchedule and Assignment Table, undated
- CFA POD, dated June 5, 2000 to June 6, 2000
- Idaho Occupational Safety and Health Committee June 6, 2000 Agenda
- INEEL Contractors Injury/Illness Trending Report, dated 6/6/00
- Overdue ORPS/ICARE Issues for CFA, dated 6/5/00
- CFA Site Area Director Operations Safety Board Agenda, dated 6/6/00
- Self-Assessment Report Form, #5750, dated 2/23/2000
- Self-Assessment Report Form, #478, dated 2/23/2000
- Memo, K. K. Clark to V. R. Catania, Periodic Assessment of the Directorate Self-Assessment Program, dated March 23, 2000
- CFA Employee Safety Team Meeting Minutes, dated May 2, 2000
- CFA Employee Safety Team Meeting Agenda, June 6, 2000
- CFA Employee Safety Team Goals and Objectives Trending Analysis, 6/6/00
- CFA Employee Safety Team Charter, dated March, 2000
- Senior Managers Maintenance Council minutes, dated April 3, 2000
- WERF TAA Inspection Checklist, dated June 5, 1995
- WROC Operations Daily Schedule, dated June 7, 2000
- WROC CARB Meeting 6/7/00 Agenda
- Independent Oversight and Trending Report, May 2000, Appendix C
- JSA LF-ORT-003, dated June 6, 2000
- TPR-LF-3.1.8, Landfill Operational/Inspection Procedures, Revision 4, dated June 6, 2000
- Self-Assessment Report Form, 1061-SAR, dated May 24, 2000
- Self-Assessment Report Form, #2379, dated June 1, 2000
- Self-Assessment Report Form, 2341-SAT, dated May 9, 2000
- Self-Assessment Report Form, APM-2339, dated May 22, 2000
- File, WROC Positive Actions/Noteworthy Practices
- PLN-683, PBF Configuration Management Recovery Plan Revision 0, dated June 1, 2000
- Memo, L. K. Steinmetz to M. C. Tiernan, Integrated Assessment Program Review, dated May 2, 2000

- Letter, M. Tiernan to WROC/PBF Personnel, MCT-22-99, STD-101 Position Assignments Revised, dated April 28, 1999
- Memo, M. Tiernan to Distribution, Guidance for SSW at WROC, dated June 5, 2000
- WROC APM Index and Scheduling Master Schedule, dated June 7, 2000
- Self-Assessment Report Form, KMS-00-03, dated 5/15/00 (blank form)
- WROC APM Entry form, #2452 (blank form)
- Letter, L.W. Gurney and D. R. Allen to J. D. Mousseau, Assessment of WGS Self-Assessment Program, DRA-01-00, dated January 11, 2000
- WROC WASP Report, dated June 8, 2000
- Interoffice Memorandum from G. W. Braun to Distribution, CFA/IF ALARA Committee – Response to Formal ALARA Review of Shielding Calculations for New HPIL Facility Design, GWB-04-99, dated 10/27/99
- Engineering Change Form No. 2160, Project File No. 020565, Construct a New Health Physics Instrumentation Laboratory, initiated 4/27/00
- CFA CARB Agenda, dated 5/30/00
- Copies of Deficiency Reports Nos. 12218, 12071, 12222, 12277, 9317, 12313,10452, 11346, and 8795 that were reviewed at the CFA CARB Meeting on 6/5/00.
- Interoffice Memorandum from T. D. Lee to J. P. Howanitz, Notification of Independent Oversight Assessment #00-ESH-017 "Construction Management Environmental, Safety, and Health Program," dated 5/16/00
- Interoffice Memorandum from W. R. Lonergan to J. P. Howanitz, Self-Assessment Process Plan Fiscal Year 2000 – JPH-02-99, dated 11/10/99
- Interoffice Memorandum from J. L. Lowenthal to Distribution, Self-Assessment Results for April 2000 – JLL-01-00, dated 5/11/00
- Construction Management CM W/O – Self Assessment Checklist, Hook up D&D Trailers at TRA, dated 4/27/00
- MCP-WROC-MD-3.16, Administrative Preventive Maintenance, Revision 2, dated 7/26/99
- Good News, Talking the Talk and Walking the Walk, dated June 4, 2000 (Construction Management Bulletin)
- Radiological Survey Report, PBF-620 First Basement, dated 5/30/00
- Radiological Survey Report, PBF-620 First Basement, dated 6/8/00
- CTR-68, WROC Unit Employee Safety Team Charter, Revision 0, dated 5/16/00
- Lessons Learned Report 2000-10, Bioremediation of Groundwater Speeds Cleanup at TAN, dated January, 20, 2000.
- Safety and Health Inspection Report, CPP-1617, dated 3/30/2000
- Safety and Health Inspection Report, CPP-1619, dated 3/30/2000
- WROC Employee Safety Team Meeting Agenda, 6/8/00
- Unit 6 FY-00 Trending Data, dated 6/8/00
- MCP-196, Training, Indoctrination, and Qualification of Auditors/Lead Auditors, 3/2/00
- MCP-552, Conduct of Independent Oversight Assessments, 9/10/99
- Independent Oversight Self Assessment of Independent Oversight Records, 5/10/00
- Web Page Listing of Assessments from Independent Oversight organization, 6/7/00
- Interoffice Memorandum from C. Kvamme to T. D. Lee, Transmittal of the Independent Oversight FY2000/FY2001 Annual Integrated Assessment Plan/Schedule, 5/2/00

- Independent Oversight FY-2000 Integrated Schedule, 3/21/00
- Second Quarter FY-00 Independent Oversight Schedule Changes, undated.
- FY 2000 ES&H & QA Independent Oversight Assessment status through week ending 4/16/00
- Performance Measurement & Trending Report, May 2000
- Email message form R. A Rickman to Distribution, Practical, Hands-on, Scaffold Building Training, 5/31/00

Interviews Conducted:

- CFA Site Area Director
- WROC/PBF Site Area Director
- CFA Self-Assessment Coordinator
- WROC/PBF Self-Assessment Coordinator
- WROC/PBF Self-Assessment Administrator
- WROC/PBF ES&H Manager
- WROC/PBF Mixed Waste/Hazardous Waste Operation Supervisor
- WROC/PBF Engineering Supervisor
- INEEL Site Operations Director
- CFA ICARE Coordinator
- WROC/PBF ICARE coordinator/CARB Coordinator & Secretary
- CFA Environmental Management ICARE Coordinator
- INEEL Protective Services ICARE Coordinator
- INEEL Occupational Medical Supervisor
- Emergency Preparedness Program Development Manager
- INEEL Emergency Preparedness Program Implementation Manager
- BBWI Training Subject Matter Expert
- BBWI Director of Training
- CFA Warehousing Supervisor
- CFA Warehousing Senior Business/Operations Specialist
- CFA Work Planning and Scheduling Manager
- CFA Lessons Learned Coordinator
- Building Engineer
- Project Manager (Construction Management)
- Quality Engineer
- Architect (Lead Engineer)
- Manager of Project Management
- CFA Site Services Engineer
- HPIL Program manager
- Radiological Engineer
- Subcontract Technical Representative
- Environmental Engineer
- Infrastructure Supervisor
- Manager of Construction Operations

- Construction Services Supervisor
- Field Superintendent (Construction)
- Independent Oversight, ES&H Technical Lead
- Self-Assessment Program Subject Matter Expert
- WROC/PBF Lessons Learned Coordinator
- CFA Configuration Management Coordinator
- Life Safety Configuration Management Coordinator
- WROC Configuration Management Coordinator
- WROC/PBF Employee Safety Team Chair
- WROC/PBF Employee Safety Team Trending Sub-chair
- WROC/PBF Voluntary Protection Program Unit Coordinator
- CFA Employee Safety Team Chair
- CFA Employee Safety Team Trending Sub-chair
- Manager, Waste Generator Services
- Supervisor, Low-Level/Industrial Waste
- CFA Integrated Safety Management System Coordinating Committee Chairman
- WROC Integrated Safety Management System Coordinating Committee Chairman
- Director, Power Management Department
- Utilities Foreman
- Utilities Supervisor
- Utility Operator (2)
- Electrical Shop Foreman
- Electrician (2)
- Electrician Apprentice
- Life Safety Supervisor
- Life Safety Lead Technician
- Life Safety Technician
- Primary Owner
- Safety Engineer
- Pipefitter/State Inspector
- Planner
- WROC Industrial Hygienist
- PBF Facility Operator
- PBF Supervisor
- CFA Environmental Radiological Monitoring Technicians (2)
- Radiological Control Technician Supervisor
- Radiological Control Technician Foreman
- PBF Senior Radiological Control Technician
- Maintenance Foreman
- Maintenance Technical Lead
- Landfill Foreman
- Power Management Foreman
- Lineman (2)
- Engineer/Planner (Electrical)

- Lessons Learned Program Manager
- Site Operations Directorate Initiatives Coordinator
- Carpenter (2)

Observations:

- CFA Plan of the Day Meeting
- WROC/PBF Plan of the Day Meeting
- INEEL Occupational Safety and Health Committee Meeting
- CFA Site Area Director Operational Safety Board Meeting
- CFA Corrective Action Review Board Meeting
- WROC/PBF Corrective Action Review Board Meeting
- CFA Employee Safety Team Meeting
- WROC/PBF Employee Safety Team Meeting
- Pre-job Brief for Utilities Work Order, CFA-680 Confined Space Entry
- Pre-job Brief for Power Management Work Order, #29322-01,Transformer Test
- Life Safety, Post Indicator Valve Supervisory Alarm Checks PM #27591-01
- Utility Operations, Boiler Water Chemistry Analysis
- Radiological Controls Building Weekly Survey, PER-620
- TAA RCRA Weekly Inspection
- Radiological Environmental Monitoring Survey Demonstration
- Post-job Review for Electrical Maintenance Work Order # 29202-01, Change batteries for Back-up Generator at Big Shop
- Post-job Review for Life Safety, Post Indicator Valve Supervisory Alarm Checks PM #27591-01
- Job Planning Hazard Evaluation/Workability walkdown (HIM) for Work Order, Repair Backflow Preventer in CFA Cafeteria
- Tour of CFA Craft Shop

Discussion of Results:

The INEEL Institutional Plan established the strategic thrusts and vision for the programmatic activities performed at the INEEL. The CFA Integrated Plan translates this vision into local planning. DOE provides programmatic guidance in the form of Program Execution Guidance (PEG), Performance Evaluation and Monitoring Plan (PEMP) criteria, and budgetary work packages. BBWI management uses procedural mechanisms to identify and prioritize work items in accordance with the guidance provided. Modifications to programmatic cost, scope and schedules are identified, approved, and submitted to DOE-ID for customer approval, following procedures which govern a Change Control Board process. These business management procedures are found in Company Manual 5, Project Cost and Schedule Controls.

The CFA directorate is a centrally located supporting organization providing infrastructure and service to the entire INEEL site and Landlord support to the buildings, facilities, and structures located at the CFA. A total of 53 tenant departments exist under the CFA SAD, such as Utilities, Power Management, Security, Occupational Medicine, Warehousing, Environmental Monitoring, Analytical Laboratories, Emergency Preparedness and Maintenance.

WROC/PBF provides regulatory compliant waste management services to the INEEL, including mixed, hazardous, and low-level waste treatment, storage and disposal (TSD). In addition, Waste Generator Services (WGS) was evaluated at the same time. WGS is a site-wide service organization which provides technical support to the waste generators at various locations across the INEEL to facilitate disposition of generated wastes, and to the WROC directorate to support performing its TSD role, to ensure a timely and compliant waste disposition process.

Day to day work tasks at CFA and WROC/PBF are identified, prioritized, planned, scheduled, and performed as specified in company-wide and local procedures. Planned workscope is submitted for prioritization and scheduling on the Plan of the Day (POD). Long range schedules (e.g. weekly, monthly and annual) are used to support this process. The CFA and WROC/PBF POD meetings (held each workday morning at WROC/PBF and in the afternoon at CFA) were observed. At these meetings, the POD was reviewed, any necessary schedule changes were made, and the SAD approved the final POD to authorize the scheduled work to commence immediately at WROC/PBF, or at 5:00 p.m. the same day at CFA. While this process is equally effective in authorizing work, there are various advantages and disadvantages with each approach. Issues involved include prioritization and rescheduling work to address problems such as unavailability of manpower or repair parts, plant condition changes, etc. The SAD should carefully evaluate these advantages and disadvantages to ensure the best approach is selected for his particular needs.

Urgent, emergent work is authorized when a completed work package is provided to the SAD (or his authorized designee) for approval and immediate addition to the POD. Emergency work is authorized when an event necessitates protection of the public, the

environment, the workforce or facility equipment, and can be approved verbally by the Site Area Director or his designee. These processes are implemented as defined in STD-101, Integrated Work Control Process.

A formal process is used to document the rolldown and applicability of BBWI company documents for activities conducted in CFA or WROC/PBF Facilities. The rolldown documents for the CFA and WROC/PBF Facilities, were reviewed and concurred in by the DOE-ID Facility Directors.

Mission related tasks, including maintenance activities, facility operational activities, and laboratory work are performed in strict compliance to approved work packages or written operational procedures. Work packages for maintenance type activities are prepared in accordance with requirements contained in STD-101. This requires the identification and planning of work by involving the job requesters, equipment or process owners, craft personnel and their supervision, job planners and appropriate safety professionals to ensure all of the core functions of ISMS are satisfied. A key element of this process involves a jobsite/task walkdown to ensure all hazards associated with the facility and the job itself are identified and controlled. Operational activities are performed using operating procedures, which have been developed under the MCP-3562 process, which requires a walkdown of the procedure by operations personnel and appropriate safety professionals to ensure all hazards associated with the procedure are identified and controlled. A similar process, prescribed by MCP-3571, is conducted to ensure the hazards associated with laboratory operations are identified and controlled. Observations of operations work and maintenance activities revealed that personnel understand their roles and responsibilities associated with performance of the work, and generally demonstrated compliance with the work control procedures. An exception to this is discussed within the Hazards (HAZ) portion of this report.

An exception to the control of work by adherence to written procedures is the authorization and conduct of emergency work, as defined in STD-101, to include events which pose a potential impact to the environment, the public, the worker, or equipment, or which represent a security threat. An evolution, electrical isolation of high voltage power to the CFA-625 substation, was determined to meet the criteria for emergency work, and was verbally approved by the SAD. Pulling of line fuses on an energized 13.8Kv power line by the Power Management group was observed as an actual emergency work activity. Heightened on scene supervision, communication, step-wise planning and execution of the work was noted. The emergency work was performed without incident.

An interview was conducted to discuss the process used for the design of the new Health Physics Instrumentation Laboratory (HPIL). Although design activities were initiated several years ago, an Engineering Change Form has been initiated and design activities are now being controlled in accordance with MCP-2811, Design and Engineering Change Control. An Engineering Review Team has been established, and completed the Title II (95%) design review during May 2000. The Engineering Review Team included individuals with expertise in the technical areas of quality, configuration management,

environment, health and safety, radiation safety, fire protection, roof construction, and structural engineering. The CFA/IF ALARA Team reviewed shielding calculations used in the design. Consensus standards specified in MCP-138 were used to establish design requirements for radiological calibration devices that will be used in the facility. Personnel were aware of recent lessons learned and safety considerations for interlock systems that interface with computerized control equipment.

In addition to the work planning processes noted above, a requirements rolldown review is a mandatory part of each work task development/planning process, per the integrated work control process. This review results in the identification of all applicable governing requirements (regulatory, DOE, national consensus standard, etc.), and incorporation of step(s) in the work control documentation to ensure the requirements are met. A review of work documentation revealed that this process is effectively implemented. Interviews with management personnel, supervision and workers revealed a high level of confidence in the process.

Procedures and mechanisms are in place and utilized by personnel to collect feedback information, including self assessments, independent assessments, facility excellence walkdowns, safety inspections, development and monitoring of performance measures/indicators, and investigation of events, injuries and accidents. Procedures prescribe and employees view the collection of feedback information and its application to process improvement as a single integrated process. This process includes the general steps of process or activity review, identification of deficiencies that need correction, identification of causal factors and a root cause, identification and selection appropriate corrective actions to resolve the causes and reduce the probability of recurrence. Typically, an independent verification or validation step is performed to ensure that the corrective actions have been performed as specified, and that the modified process or activity does in fact eliminate or mitigate the root cause and prevent or reduce the probability of recurrence.

Self-assessment, management assessment and safety programs have been established in the CFA and WROC/PBF organizations in accordance with MCP-8 and MCP-3449. Self-Assessment Coordinators have been designated within each organization and assist the SAD with the development of self-assessment schedules and coordinate the performance of required and targeted assessments. Many employees at all levels are involved in the performance of assessments. A semi-annual Integrated Assessment Program Review for the Operations Directorate is required by MCP-8, and appears to have been completed across the organizations reviewed. Several of these program reviews for a number of the reviewed organizations were evaluated. The program reviews were generally compliant with procedural requirements and, for the most part, provided insightful analysis of trends and performance information. In addition, the reviews provided a number of useful suggestions for improving the assessment process or programmatic performance. However, a misunderstanding existed within the Construction Management organization concerning performance of the semiannual Integrated Assessment Program Review per MCP-8 (Section 4.4) in which personnel incorrectly believed that the ES&H assessment being conducted by the Independent

Oversight organization would fulfill this requirement. While the Self-Assessment Coordinator provides monthly reports of the results of self assessments to management, the semiannual review allows the self assessment coordinator to critically evaluate and summarize overall program results and trends, and develop suggestions for improved effectiveness of the self assessment program.

During the review of the WGS self-assessment program, it was identified that the Self-Assessment coordinator was not involved periodic meetings held by the BBWI Self-Assessment Subject Matter Expert. He should be participating in the process to be able to benchmark his program and to share information and lessons learned.

The Facility Excellence Program, described in PDD-1011, provides feedback to facility managers and SADs on the material condition of the facility, conduct of operations, environmental compliance, and related performance areas. Many of the facilities at CFA and WROC/PBF have been evaluated under the Facility Excellence program, and some have been reevaluated.

Procedures and mechanisms are in place and are being used to collect feedback information, including post-job briefings, monitoring against performance objectives, and occurrence reporting. Evidence of satisfactory identification and use of lessons learned from within the organization and outside the company were observed.

Performance measures are utilized in a number of ways at the CFA and WROC/PBF areas. One effective method is performed by the Employee Safety Teams, which have been formed and function to foster a bottoms-up ownership by the employees of the safety of each worker. These ESTs have been formally chartered, and are lead and staffed by non-management personnel, with the full support of area management. The chairpersons of each of the area teams are members of the Company Employee Safety Team (CEST), along with members of Senior Management. The CFA and WROC/PBF ESTs have formally established safety goals for the directorate, and gather and track a variety of safety related statistics to monitor progress toward their area goals. Members of the CFA and WROC directorate management at all levels frequently attend most of the EST meetings, and participate in discussions and problem solving. During interviews with line management, they explained that their presence is indicative of the level of support for the EST process, and enables line management to take an active role in meeting its responsibility for ensuring a safe work environment for their employees.

The area ESTs coordinate safety walkdowns, inspections and observations of work areas to help employees build a sense of ownership for safety, and to generate information on recurring safety deficiencies in order to apply corrective measures. Many other safety related activities are conducted by the ESTs, such as safety contests, the recently completed INEEL Safety EXPO 2000, held at the Grand Teton Mall and open to the public, safety demonstrations, team-building activities, safety walkdowns with workers and supervisors, and much more. For these and many other functions, the CFA and WROC/PBF area Employee Safety Teams are recognized as a significant strength (CMG1-7).

The EST has established safety goals, discussed above, and in addition, has developed an Employee Action Plan, which establishes minimum expected levels of employee performance for safety. Seven measures are incorporated in the Employee Action Plan, and are also a part of each WROC/PBF employee's Employee Performance Agreement. These seven performance measures are printed on a small card with the five FY-2000 Unit safety goals, and a copy provided to each employee for reference. This mechanism is considered a strength (CMG1-10).

A highly effective program, the Worker Applied Safety Program (WASP) was started by members of the maintenance crafts organizations, to promote a caring attitude for each other's safety among workers. The simple program consists of prepared checklists for general types of work environments that serve as a guide to help workers identify unsafe acts or conditions during a pre-arranged observation of a fellow employee performing normal work. Any observed unsafe acts or conditions are discussed, and documented on the checklists, which are submitted for anonymous tracking and trending. This program, initially started by workers for workers, has spread throughout the entire company, and is fully supported by management at all levels. During interviews and observations of employees, nearly all employees contacted had received the orientation training, and most of the employees had performed and submitted one or more WASP observations. The trending information generated in the WASP program is used to identify common safety problems and causal factors and to help eliminate workplace safety problems.

Worker involvement at all levels within the company is a notable strength throughout the company. In addition to examples noted above for the Employee Safety Teams and Worker Applied Safety Program, worker driven initiatives, such as the development of a practical, hands-on training course for scaffold builders, provide additional evidence of worker involvement and ownership of work practices and outcomes. The training initiative for scaffold builders, as well as efforts to identify practical alternatives to scaffold construction (e.g., innovative tie-off systems) provide dividends in the form of increased efficiency, waste minimization, and safety of the workers who build and use the scaffolds. Management's willingness to support the worker driven initiatives is equally important in building an atmosphere of mutual respect and trust (CMG1-8).

Management personnel periodically perform and document routine observations or safety inspections of activities under their cognizance. These are performed either formally, as under MCP-3449, Safety Inspections, or informally. Documentation of these reviews were reviewed and discussed during interviews with managers. Deficiencies noted during these observations are evaluated for safety hazards and screened for risks to determine the appropriate method for correction of deficiencies. A graded approach to corrective action is applied, ranging from a simple discussion of a minor problem with a supervisor or foreman to formal documentation of a deficiency or significant condition adverse to quality in the ICARE corrective action management system.

Required safety and health inspections (MCP-3449) have been integrated into the self-assessment schedules for CFA and WROC/PBF directorates. Under MCP-3449, management is required to (1) involve employees or safety teams in inspections, (2)

conduct or participate in inspections, and (3) ensure that all work areas are inspected annually by an appropriate S&H professional.

The Site Operations Directorate developed the FLASH message to assist in providing timely notifications to Senior management and the SADs of events or situations in order to allow management to take immediate corrective actions, to provide resources to other areas, to provide hazard mitigation, etc. as necessary to ensure work is performed in a safe manner. While this tool has only recently been formalized in the Site Operations Manual, PDD-1005, it has been in practice for some time. The SADs and some senior managers were aware of the existence of this tool, however, many of the senior managers and most other managers were not aware of its existence. Management should ensure that all members of management are aware of this communication tool, in order to assure that appropriate information is elevated to the SAD for communication when warranted (CMG1-1).

Several Post-job reviews were observed as required by MCP-3003 at the conclusion of work, and a number of post-job review forms contained in completed work packages were reviewed. While this process is being used to provide feedback and process improvement information, it became evident that the process was not as effective as it could be because little or no detailed information was being provided on the completed post-job review forms. It was revealed that this deficiency had been identified previously, and documentation provided to confirm that there is an effort in progress to revise the MCP-3003 Post-Job Reviews process to obtain more details related to problems encountered or improvements needed. This should result in a better process and ultimately a more effective and safer work control system.(CMG-1-2).

A Corrective Action Review Board (CARB) meeting was observed at CFA and at WROC/PBF. The CFA Corrective Action Review Board reviewed several open deficiency reports. These reviews generally focused on timeliness of corrective actions. In some instances, the Coordinator asked that established completion dates be reviewed and accelerated, if possible. In at least two instances, personnel with requisite adequate expertise were not present the meeting to address CARB questions about the deficiencies. The CARB discussed preparation of lessons learned. Four lessons learned have been generated at CFA since the beginning of the year. The CARB Coordinator asked that a note be sent to CFA personnel asking that they place greater priority on submitting lessons learned. An opportunity for improvement may exist to benchmark CARB performance at CFA against other areas and focus greater attention on evaluating the adequacy of issue causes and corrective actions.

A concern that developed during interviews was the adequacy of the feedback to ICARE Coordinators and others who provided information and concerns to the CARB process. The CFA CARB addressed this issue in the previous meeting and an action was assigned to ensure that feedback from the CARB, via copies of CARB meeting minutes was more widely disseminated.

During the WROC/PBF CARB meeting, approximately 50 closed corrective actions were reviewed for designation of root cause, validation that the completed action would reasonably correct the root cause and appropriateness of closure. Lists of closed corrective actions had been previously assigned at the SAD staff meeting to CARB members for review. Considerable discussion occurred and some closures for corrective action items were overturned. In addition, the final item on the CARB agenda was to review Appendix C of the May 2000 ESH&QA Performance Measurement and Trending Report. This document, previously assigned at the SAD staff meeting, contained tracking and trending information for ICARE issues by various metrics. The WROC CARB appeared to be an effective tool to assure that the CA process is working to meet the SAD's needs.

Interviews with personnel and review of documents revealed that attention is paid to the identification of root causes associated with deficiencies identified via management assessments, self-assessments, critiques, safety concerns, etc. Many individuals in the organizations have attended root cause training and are considered qualified to perform these responsibilities.

An Administrative Preventive Maintenance (APM) system has been developed for management and scheduling of all administrative actions related to the completion of the WROC/PBF mission, and is formally documented in MCP-WROC-MD-3.16. This system includes management assessments, self-assessments, safety inspections, walkthrough inspections, record reviews, requirements rolldown reviews, required document updates, permit-required actions and reports, and many other administrative actions. Each required administrative action is listed in the APM database with a unique number, periodicity, scheduled date, description, facility and responsible individual. Each item has a requirements page associated with the item, which lists the source requirement, and a description of the action required, and typically contains a sequence of steps to be taken and criteria for successful completion of the action. The APM coordinator manages the process by scheduling the items, publishing the schedule of items in the POD, tracking completion of actions and following up on incomplete or overdue actions. As a result, the completion rate for administrative actions for the WROC/PBF directorate is extremely high. This system is considered to be a noteworthy practice (CMG1-6).

A Self-Assessment Coordinator is designated for the CFA, WROC/PBF and WGS organizations. In addition, each organization within the CFA directorate has an individual responsible for managing the self-assessment program. The Self-Assessment Program, defined in MCP-8, has been enhanced to require a semi-annual Integrated Assessment Program Review (IAPR). The purpose of the IAPR is to complete an effectiveness evaluation of the facility/program continuous improvement and management assessment processes. This enhancement to the self-assessment program became effective in August of 1999, and is beginning to bear fruit. Each IAPR is required to discuss systemic issues or trends identified from assessments, and suggestions for improved assessment program effectiveness. These issues, trends and suggestions

have been reported, as noted above, and deficiencies are being addressed under the corrective action process.

Personnel assigned to these self-assessment roles are competent to execute their responsibilities, and were normally assigned additional related duties such as ICARE coordinators or Lessons Learned coordinators. Additional information on training and qualifications is found in the MG-2 section of this report.

Implementation of independent oversight activities as described in PDD-1004 was evaluated from the perspective of oversight conducted in support of CFA and WROC. The organization responsible for independent oversight assessments has experienced considerable change during the last year. During the last year, the manager for this organization has changed twice, and the position is presently vacant. Leadership for the Quality Assurance and Conduct of Operations and ES&H groups has also changed, and are presently filled by Technical Leads. Staffing of the Independent Oversight organization has diminished by about 50% in the last year, without a commensurate change in the assessment schedule originally developed for the predecessor organization. These changes warrant re-evaluation of the scope of work for this organization from the perspective of the Guiding Principles of balanced priorities and competence commensurate with responsibility (i.e., appropriate skills mix and technical expertise of the remaining staff). Independent assessments are conducted in accordance with MCP-552, which does not reflect the recent organizational changes. Under this procedure, an annual independent assessment schedule is developed. The annual schedule is based on regulatory drivers, relative risk of facilities and programs, trending data, and customer requests. An Independent Oversight ES&H Assessment of Construction Management is presently underway. Although the Independent Oversight organization requested direct funding for this assessment, it is being performed using indirect funding sources. The maintenance of a regulatory, risk, and performance-based approach to independent oversight may be questionable when the assessing organization must depend upon the assessed organizations for funding (CMG1-5).

The WROC/PBF Directorate has embraced a safety goal of developing an employee stretching program. This goal has as a basis a relatively high percentage of work that involves lifting or moving material and several physical injuries to employees while performing this work that may have been prevented or minimized had a stretching program been implemented. In order to solve this problem, the VVP program and Employee Safety Team established the goal, and have worked with management to ensure that each employee work group or organization develops an employee stretching program that all employees can participate in. In addition, designated work tasks that involve a high percentage of lifting, loading and carrying are required to include worker stretching as a part of the pre-job brief. A stretching program conducted following each WROC/PBF POD meeting for all interested attendees exemplifies this practice. This practice is considered a strength (CMG1-9).

Processes for identifying and sharing lessons learned information and for translating the information into actions to improve processes are contained in MCP-192, Lessons

Learned Program. During interviews with personnel, it was evident that lessons learned information is received and is being shared within the CFA and WROC/PBF organizations, generally on a FYI basis. Most members of management had a reasonable level of familiarity/understanding of root and direct causes and causal factors for recent accidents within the DOE complex, but this was not true of employees at lower levels in the organization. During interviews with the company Lessons Learned Coordinator and the Site Operations Directorate Lessons Learned SME, they indicated that the need for a better process to disseminate and institutionalize lessons learned had been identified. They provided a copy of a revised Draft procedure which had been prepared and was undergoing review. The revisions were intended to develop greater accountability for sharing and applying lessons learned to result in process improvements. Comments were provided to help improve the draft procedure (CMG1-3).

Insufficient emphasis is placed on identification of noteworthy practices to share within INEEL or with other portions of the DOE system. While this is frequently performed at CFA and WROC/PBF in an informal fashion, there is little management attention directed to soliciting and sharing this information with higher levels in the organization and submittal to the DOE lessons learned system. A review only found one noteworthy practice report formally identified and submitted to the DOE-wide lessons learned system database in recent months. This is an area where improvement is warranted (CMG1-4).

The various modules of the ICARE process provide formal mechanisms for managers to consider and resolve recommendations for improvement.

During the observation of a CFA Site Operations Safety Board (SOSB) meeting, a presentation was made to operations management regarding the operational safety envelope for the Power Management organization. The SOSB reviewed and determined the ability of Power Management to fulfill its responsibilities in a safe manner, including identified hazards associated with the work, controls in place to mitigate and control the hazards, and processes and requirements to work within the controls. The SOSB review determined that the Power Management organization is operating within its safety envelope, and has appropriately implemented the principles and core functions of ISM. While reviewing the Charter for the SOSB, it was noticed that the SOSB is chartered with "prohibiting implementation of any new major activity …" It was reported that this apparent error had been identified and was being corrected in a pending revision to the document, and documentation was provided showing that this action was in progress.

Interviews with worker level personnel from the Power Management and other craft organizations revealed that, for the most part, they believe in the processes and practices established to assure that work is performed safely, that they feel an ownership of the processes, and that the work environment is safer than it has been in the past. In addition, they believe that through the application of evaluation and feedback mechanisms, that the workplace will continue to become safer as good practices or areas for improvement are identified and the organizational team works to emphasize and spread the former and eliminate and correct the latter. A concern was noted by a number of workers that the maintenance work control process defined in STD-101 is significantly less efficient than

the previous process. This is not a new concern. The Site Operations Directorate is planning to convene a review team to address this issue, commencing about mid-June, 2000.

The Voluntary Protection Program (VPP) and Employee Safety Teams provide effective mechanism and avenues for considering and resolving improvement recommendations and worker suggestions. The CFA and WROC/PBF Employee Safety Teams are focused on ensuring that the safety concern process, wherein employees can report observed safety problems to management for correction, is functioning efficiently and is effectively resolving problems. The ESTs embrace the principles of VPP, and are chartered to review the submitted safety concerns, to help identify options for correction and to develop and recommend solutions to management for correction. In addition, the ESTs serve as a liaison between the company and the safety concern submitter to communicate resolutions and to ensure that the resolution adequately addresses the concern. The teaming of management and workers in mutually beneficial actions to improve processes and work conditions appears to be an increasingly important aspect of the feedback and improvement cycle within the CFA and WROC/PBF Directorates.

Several mechanisms have been established to provide oversight that will help ensure that regulatory compliance is maintained. The management observations and safety inspections discussed previously ensures that procedures and work packages are used to control work and activities, while the requirements rolldown process noted above helps ensure that the work packages and procedures contain appropriate controls and requirements to assure compliance with regulatory and other requirements. Self-assessment activities by workers, management, and ESH&QA professionals provide ongoing opportunities to identify deficiencies or non-compliant conditions. The facility excellence program previously mentioned provides another opportunity for different individuals to evaluate the workspaces and ask questions. The BBWI independent assessment organization provides a structured mechanism for reviewing regulatory compliance.

At every opportunity, employees were asked to explain whether the workplace was any safer than in the past, and whether they expected that the present level of safety in the workplace would remain, improve or decline, and the basis for that expectation. Without exception, workers, foreman, supervisors, site area directorate management, company senior management and DOE programmatic personnel at the CFA and WROC/PBF areas believed that the current level of safety in the workplace was much improved over what it had been, and expected that it would continue to improve with time. This expectation was based on a number of consistently mentioned factors, including a strong sense of employee ownership for safety, observation that the processes and mechanisms put in place are working, a team spirit of caring for each other's safety, the enhanced self-assessment processes recently implemented, and the cultural assimilation of the principles of being more aware of hazards, understanding the controls established to mitigate hazards, working within those controls in a procedurally compliant manner, and actively seeking opportunities to identify and apply process improvements. These

responses are totally consistent with the observations made during the verification review.

In addition, BBWI management is developing a new process to provide a special emphasis self-assessment team to periodically evaluate the effectiveness of ISM processes and mechanisms, in order to provide an annual report on the implementation status to DOE.

Conclusion:

The objective has been met**.**

Issue(s):

- Many managers are not aware of the existence of the FLASH message process. Management should ensure that all members of management are aware of this communication tool, in order to assure that appropriate information is elevated to the SAD for communication in a FLASH message. (CMG1-1)

- The MCP-3003 post-job review process was not as effective as it could be because little or no detailed information is typically being provided on the completed post-job review forms. (CMG1-2)

- Employees at lower levels in the organization did not demonstrate a reasonable level of familiarity/ understanding of root and direct causes and causal factors for recent accidents within the DOE complex. There is a need for a better process to disseminate and institutionalize lessons learned. (CMG1-3)

- Insufficient emphasis is placed on identification of noteworthy practices to share within INEEL or with other portions of the DOE system using the DOE-wide lessons learned system database. (CMG1-4)

- BBWI management needs to re-evaluate the scope of work and funding mechanism for the Independent Oversight organization from the perspective of balanced priorities, competence commensurate with responsibility and the desire to maintain an independent regulatory, risk and performance-based assessment schedule. (CMG1-5)

Strength(s):

- The Administrative Preventive Maintenance (APM) system developed for management and scheduling of all administrative actions related to the completion of the WROC/PBF mission has resulted in an extremely high completion rate for administrative actions for the WROC/PBF directorate. (CMG1-6)

- The CFA and WROC/PBF Employee Safety Teams are recognized as a significant strength for the many important safety-related functions performed. (CMG1-7)

- Worker involvement at all levels within BBWI and management's support of this involvement is a notable strength. (CMG1-8)

- The WROC/PBF Directorate-wide employee stretching program allows each employee to participate in a stretching program. Designated work tasks that involve a high percentage of lifting, loading or carrying are required to include worker stretching as a part of the pre-job brief. (CMG1-9)

- An Employee Action Plan, consisting of seven measures defining minimum expected levels of employee safety performance are printed on a small card along with Unit safety goals, and a copy provided to each employee for reference. The Employee Action Plan is a part of each WROC/PBF employee's Performance Agreement. (CMG1-10)

Inspector_____ Brian S. Anderson	**Team Leader**_____ Terry W. Smith

Sub-Team CFA/PBF/WROC	**FUNCTIONAL AREA: MG.2** **DATE**: June 12, 2000

OBJECTIVE: MG.2 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:

1. 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.

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

3. Facility or activity procedures specify that line management is responsible for safety.

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

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

6. The contractor is using a process to establish, document and implement safety performance objectives, performance measures, and commitments in response to DOE program and budget execution guidance.

APPROACH:

Record Review: Review contractor organization charts and documents describing the contractor matrix management concept. Review organizational documentation such as PDD-1015 "Research and Development Operations," PRD-5060, “Occupational Safety Functions, Roles, Responsibilities, and Interfaces,” MCP-3680, “Central Facilities Area Operations Information, Roles and Responsibilities,” and MCP-3776, “INTEC Roles and Responsibilities,” and other similar documents. Ensure roles and responsibilities for personnel responsible for safety are clearly defined and understood and properly executed. This review could include position descriptions, Form-325.01 “Employee Position Description (EPD)” and other applicable MCPs that describe roles and responsibilities related to ensuring safety are 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 such as PDD-13 "Conduct of Training," MCP-27 "Preparation and Administration of Individual Training Plans," and MCP-33 "Personnel Qualification and Certification" to ensure that managers and workers are competent to safely perform work. Review the personnel records which should include the "Training and Implementation Matrix" (TIM), "Individual Training Plans" and "Employee Training History," to identify the individual qualifications that meet the elements of the position descriptions. Review the applicable records of qualification and certification. Review any training or qualification material, including training and qualification manuals such as Manual 12 and the associated processes that support gaining or verifying competence to fill the positions.

Review the process to establish, document and implement safety performance objectives that support DOE program and budget execution guidance.

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 to determine their understanding of competency requirements and their commitment to performing work safely. Interview senior contractor management at the facility to determine their knowledge of the ISM process and their commitment and participation in the process. Interview contractor line managers who are responsible for the establishment and implementation of the safety performance measures and safety objectives.

Observations: As possible, observe training being delivered for key programs such as hazards identification and analysis. 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.

As possible, observe activities such as weekly planning meetings, plans of the day, event critiques, safety training, OSB meetings, Pre-job briefs, Site Operations Council (SOC) meetings, Corrective Action Review Boards (CARBS) and safety meetings that may provide good examples of the safety training and decision making process. Activities such as facility/process operations, testing, and maintenance also provide opportunities to observe personnel in the execution of roles and responsibilities, their understanding of procedures, awareness of hazards and management commitment to safety.

Record Review:

- PDD-13, Conduct of Training, 10/4/99
- PDD-1003, Waste Generator Services Program, 8/23/99
- PDD-1004, INEEL Integrated Safety Management System, Rev 4, 2/25/00

- PDD-1005, Site Operations Manual, Rev 2, 3/17/00
- PRD-5060, Occupational Safety Functions, Roles, Responsibilities, and Interfaces, 1/28/00
- CTR-6, Charter for WROC/PBF Corrective Action Review Board, 6/16/99
- CTR-9, Charter for CFA Corrective Action Review Board, 4/17/00
- STD-101, Integrated Work Control, 12/14/99
- MCP-27, Preparation and Administration of Individual Training Plans,2/3/00
- MCP-33, Personnel Qualification and Certification12/17/99
- MCP-196, Training, Indoctrination, and Qualification of Auditors/Lead Auditors, 3/2/00
- MCP-552, Conduct of Independent Oversight Assessments, 9/10/99
- MCP-3562, Hazard Identification, Analysis and Control of Operational Activities, 7/31/99
- INEEL Fire Department Training Safety Plan for live fire training, developed 10/30/99, training activity date 6/6/00
- Pre-job Briefing Checklist for Tank Fire Drill and Pre-job briefing Attendance Record, 6/6/00
- Job Safety Analysis, Tank/Pit Fire Extinguishment, 10/12/99 and Foam System Operation (Tele-Squirt), 9/29/99
- MCP-3640, Central Facilities Area Operations Information Roles and Responsibilities, 11/23/99
- MCP-3741, CFA Support Services Department Operations Information Roles and Responsibilities
- MCP-3768, Protective Services Roles and Responsibilities, 1/5/00
- MCP-WROC-COO-01, WROC Supplemental Procedure to MCP-2973, Chapter 1 – Operations Organization and Administration, 5/16/00
- WROC Operations Daily Schedule, approved 6/7/00
- WROC CARB Meeting 6/7/00 Agenda, including list of ICARE issues reviewed at the meeting and Appendix C from the May 2000 ESH&QA Performance Measurement and Trending Report
- MCP-2983, Chapter XIV – Required Reading, 8/24/99
- Required Reading Employee Training History for RadCon Technician, 6/7/00
- Draft Interoffice Memorandum from T. L. Carlson to F. L. Hinckley, WROC Facility ALARA Committee Meeting Minutes (for May 24, 2000 meeting)
- Interoffice Memorandum from C. J. Greene to R. D. Sayer, First Quarter CY-2000 RadCon Surveillance Program for WROC Facilities – CJG-03-00, 4/4/00
- Training Implementation Matrix for Nuclear Fuels and High Level Waste, LST-10, March 1997
- PDD-WROC-02, Power Burst Facility (PBF) Training Manual, 5/30/00
- PDD-WROC-01, Waste Reduction Operations Complex training, 5/30/00
- MCP-2863, Construction Work Coordination and Hazard Control, 4/12/99
- MCP-2514, Management of Construction Projects, 8/27/99
- Draft IAG-72, Interface Agreement Between INTEC Site Area Director and Project/Construction Management
- Read and Sign Training Record for PRD-4001, Waste Management, 1/30/98

- ESH&QA Performance Measures and Trending Report for May 2000
- Various Organization Charts
- Various Employee Position Descriptions, Employee Training Plans, Employee Qualification/Certifications, Job Requirements Report With Associated Programs, Employee Training Needs Forecast, and Employee Training Histories
- Employee Training Needs Forecast for WROC facility
- Numerous Employee Qualification Cards/
- CFA CARB Agenda, May 30, 2000, including attached performance measures and CARB Action Log
- List of Deficiencies Reviewed at 6/5/00 CFA CARB Meeting (Deficiency reports Nos. 12071, 12222, 12277, 9317, 12313, 10452, 11346, and 8795)
- WASP, Worker Applied Safety Program Total Safety Culture Brochure
- WASP Total Safety Culture, General Observations Checklist
- WASP, Total Safety Culture, Office Worker Observations Checklist
- WASP Performance Measure Charts (Monthly Percent Safe for CFA for various checklists, and Monthly Checklist Totals
- Interoffice Memorandum from K. K. Clark to V. R. Catania, Periodic Assessment of the Directorate Self Assessment Program, 3/23/99
- Letter from D. C. Jenkins to Distribution, Construction Management Trending Report Through April 2000, DCJ-22-2000, 5/3/00
- Memorandum from A. Kelley and J. Howanitz to Distribution, Project/Construction Management Monthly Highlights for February 2000, 3/16/00
- Work Order 13458-01, CFA Power Substation Upgrade
- Work Order 19722-01, WCF-8890, North Area of CFA Additional Well Drilling & Sample

Interviews Conducted:

- CFA Site Area Director (SAD)
- CFA Landlord Department Manager
- CFA Issue Management Supervisor
- CFA ICARE Coordinator
- CFA CARB Coordinator
- CFA SAD Self-Assessment Coordinator
- CFA Substation Engineer
- Primary Owner (CFA Substation)
- Superintendent (Wheeler Electric)
- Construction Manager
- Construction Operations Supervisor (Balance of Plant)
- Industrial Hygienist (Construction)
- Construction Safety Specialist
- Subcontractor Technical Representative
- Construction Coordinator (Well Drilling)

- Geologist
- Safety Representative (EG&G Technical Services)
- Construction Supervisor
- Manager of Construction Operations
- Construction Services Supervisor
- Field Superintendent
- CFA Maintenance Manager
- Fire Department Chief
- Fire Department Assistant Chief
- Fire Department Battalion Chief
- Fire Department Training Officer
- ES&H Consulting Technical Specialist
- Senior Range Master, Security
- Safeguards and Security Training Supervisor
- ES&H Manager for Site Services
- Carpenters (2)
- Painter
- Foreman (Carpenters and Painters)
- Craft Shop Supervisor
- Industrial Safety Specialist
- CFA Chemical Management Oversight
- BBWI Training Subject Matter Expert
- Manager, Site Operations Training
- WROC SAD
- WROC Industrial Hygienist
- Mixed Waste/Hazardous Waste Operations Supervisor
- CARB Co-Coordinator & Secretary
- WROC ES&H Manager
- RWMC/WROC Radiological Controls Supervisor
- WROC Radiological Engineer
- PBF Shift Supervisor
- WROC Maintenance Technical Lead
- WROC Engineering Supervisor
- Project Manager (Infrastructure)
- WROC Training Technical Lead
- WROC Training Specialist
- Waste Generator Services (WGS) Quality Engineer
- WGS ES&H Supervisor
- WGS Representative for WROC
- WGS Manager
- Independent Oversight, ES&H Technical Lead
- Self-Assessment Program Subject Matter Expert

Observations:

- Tour of CFA Power Substation Upgrade Project (Work Order 13458-01)
- Tour of Percolation Pond Drilling Project (Work Order 19722-01)
- CFA Corrective Action Review Board Meeting
- CFA Plan of the Day, 6/5/00
- Tank Fire Drill, INEEL Fire Department Training Facility
- Semiannual Firearms Qualifications at INEEL Live Fire Range Complex
- Live Fire Training Facility Room Clearing Operations at INEEL Live Fire Range Complex
- Tour of CFA Craft Shop
- WROC Plan of the Day, 6/7/00 and 6/8/00
- PER 609 TAA Weekly Inspection Walkdown & Tour
- Tour of Mixed Waste Storage Facility Repackaging Operations
- Lockout/Tagout Practical Training at WROC with Simulator

Discussion of Results:

Roles and responsibilities for key positions and management boards within the Integrated Safety Management System are defined PDD-1004, INEEL Integrated Safety Management System and PDD-1005, Site Operations Manual. Program Description Documents for other activities, such as the conduct of training (PDD-13) and Waste Generator Services Program (PDD-1003) describe roles and responsibilities. At CFA, roles and responsibilities for the CFA operations organization, CFA Support Services Department and tenants are also formally defined (e.g., MCP-3640, MCP-3741, and MCP-3768). At WROC, a supplemental procedure (MCP-WROC-CCO-01) defines roles and responsibilities of the operations organization. Company-wide Management Control Procedures (e.g., MCP-8, MCP-598, MCP-2811, MCP-2863) provide additional detail concerning roles and responsibilities for specific functions and tasks. Information obtained from document reviews, observations, and interviews indicate that roles and responsibilities for workers were well defined and understood.

Procedures and mechanisms are in place that define clear roles and responsibilities for activities conducted at CFA and WROC in order to ensure that safety is maintained. Maintenance activities are conducted in accordance with STD-101, Integrated Work Control Process, and operational activities are conducted in accordance with MCP-3562, Hazard Identification, Analysis and Control of Operational Activities. Interviews and observations indicate that these procedures and mechanisms are understood and routinely used to control work. Facility or activity procedures clearly implement the Guiding Principle of line management responsibility for safety.

Employee Position Descriptions (Form 325.01), Employee Training Plans (ETPs), Employee Qualifications/Certifications, Job Requirements Reports, Employee Needs Forecasts, and Employee Training Histories for several workers and supervisors were sampled and discussed during interviews. All employees and supervisors sampled had current Employee Position Descriptions and Employee Training Plans. As noted in previous Phase II verification reviews, the Environment, Safety and Health Statement in

the Employee Position Description only addresses health and safety expectations, and fails to explicitly mention expectations with respect to the "environment." Information obtained during interviews, record reviews and observations indicated that line managers and supervisors had appropriate training, qualifications, and experience and were competent commensurate with their responsibilities.

Facility training plans were reviewed at WROC/PBF. The PBF is presently classified as a non-reactor nuclear facility, since the fuel has been removed from the reactor. In accordance with DOE Order 5480.2A, "Personnel Selection, Qualification and Training Requirements for DOE Nuclear Facilities," a Training Implementation Matrix (LST-10), approved by DOE in 1997, is in place for PBF. A new Training Implementation Matrix is being drafted that will reflect the present status of the facility, in which reactor fuel is being stored in the canal. The PBF Training Program Manual (PDD-WROC-02) describes responsibilities for addressing the requirements of DOE Order 5480.2A. The WROC Operations Training Plan (PDD-WROC-01) is current and addresses training requirements as defined by federal and state regulations, and company procedures.

Information in the TRAIN database was reviewed in detail for a few workers. It was noted that the Employee Needs Forecasts reports contain artifacts (e.g., indications that an employee with Radiological Worker II training is delinquent for Radiological Work I training) that tend to "mask" real training needs. During one interview, an individual learned that a new training requirement had been placed in his Employee Training Plan. Otherwise qualifications and training histories reviewed in the TRAIN database appeared to be accurate and complete.

A number of processes are used to establish, document and implement safety performance objectives and measures. At a corporate level, the Performance Evaluation Measurement Plan (PEMP) addresses administration of award fee provisions of the contract between DOE and BBWI, and uses a balanced scorecard approach to establish safety and operational performance measures and goals. Performance with respect to the PEMP is formally reviewed by DOE and BBWI on a monthly basis. Performance Execution Guidance is another mechanism used to establish performance expectations, performance measures, and milestones. PEGs are updated at least annually, and progress is discussed at periodic meetings between contractor personnel and DOE performance monitors.

The ESH&QA Performance Measurement & Trending Report provides performance metrics and analysis on a periodic basis. Measures such as the safety and health severity index, recordable case rate, radiological performance index, ORPS near misses, lessons learned database accesses, and reportable occurrences of environmental releases are included. Additionally, a number of measures related to corrective action management are monitored. Employee Safety Teams are routinely tracking and trending a number of different measures, including accident and injury statistics. Information from the WASP (Worker Applied Safety Program) observations is being tracked and will soon be posted at several locations within the workplace.

A number of periodic assessment and trending reports are routinely prepared to provide important feedback and continuous improvement information to management. Examples of these types of reports include the semiannual integrated assessment reports for self-assessment programs, construction management trending reports, and the radiological control surveillance program reports. These routine reports are an important aspect of the ISMS infrastructure. First, these reports provide evidence that the process or management system is functioning. Second, they provide an opportunity to evaluate, summarize, and highlight important information to management on areas needing attention. Finally, they provide management with an opportunity to take corrective actions or make proactive improvements. An opportunity exists to monitor and improve the content and quality of these reports as management tools that promote feedback and continuous improvement.

Conclusion:

The objective has been met.

Issue(s):

- None

Strength(s):

- None

Inspector_____ Richard L. Dickson	**Team Leader**_____ Terry W. Smith

Sub-Team: CFA/PBF/WROC	**FUNCTIONAL AREA: OP** **DATE**: June 12, 2000

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

CRITERIA:

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

2. 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.

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

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

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

6. Workers actively participate in the work planning process.

APPROACH:

Record Review: As applicable, review documentation and/or mechanisms that govern the work control process for planning, authorizing, and conducting work such as STD-101 "Integrated Work Control Process," MCP-3562 "Hazard Identification, Analysis & Control of Operational Activities," MCP-3571 "Independent Hazard Review," PRD-5043 "Operational Safety Boards", PDD 1012 "INEEL Environmental Management System" and MCP-3480 "Environmental Instructions for Facilities, Processes, Materials and Equipment." This review should assess the adequacy of the documents and the status of their implementation, to meet the requirements listed above and determine that the maintenance and work control process is effectively integrated into the facility/activity procedures. In particular, note the integration of hazard identification and controls, (i.e. chemical, electrical, radiological, waste streams, environmental) into the work planning process. Review documentation that describes roles and responsibilities for the work

control process, worker involvement in all aspects of the activity, and the work authorization process. Controls for individual work items or activities such as Job Safety Analysis (JSA), Radiation Work Permits (RWP), Hazard Profile Screen Checklist (HPSC), Work Control Forms (WCF), Confined Space Entry Permit, and operating procedures should also be evaluated.

As applicable, review the ALARA process to ensure the basic concepts of ALARA as well as any ALARA Committee recommendations are incorporated into the work control documentation.

Review the integration of subcontractor work control into the facility work control process. Evaluate the review of subcontractor work control documentation, the approval of the documentation, work authorization, and the oversight of subcontractor work in the facility.

Review the performance measures and performance indicators using the "INEEL Performance Measures and Trending Report," MCP-3521 "Trending Center," self - assessments conducted in accordance with MCP-8 "Self-Assessment Process for Continuous Improvement," or the Facility Excellence Program PDD-1011 "Facility Excellence Program." Determine if these tools provide information that is truly a direct indicator of how safely the work is being performed.

Review the process used to prepare Authorization Agreements, MCP-3567 "Authorization Agreements with Authorization Basis List" and TEM-2, "Template for Authorization Agreement with Authorization Basis List." As applicable, review the Authorization Agreements for the selected facilities 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 preparing, authorizing, performing, and measuring the performance of the work. This should include personnel such as those responsible for preparing and maintaining work control documents, hazard identification and control documents, the Plan of the Day (POD), equipment status files, pre-job briefings, and the conduct of facility or activity operations.

Interview personnel responsible for individual activity procedures and controls (e.g. JSAs, RWPs, HPSCs, WCFs, etc.) Verify adequate worker involvement at each step of the process.

Interview personnel responsible for the development and implementation of the self-assessment program including individuals who participate in self-assessments. As applicable, interview those individuals responsible for development, maintenance, and approval of the Authorization Agreement. Interview members of the management team charged with adherence to the requirements listed within the Authorization Agreement.

Observations: Observe the actual authorization and performance of work activities. Observe a plan of the day or plan-of-the-week meeting. As possible, attend an Operational Safety Board (OSB) meeting or an Independent Hazard Review Group (IHRG) meeting with field verification that hazard controls specified by the hazards control documents are being implemented. As possible, team members should observe the development of a maintenance work package as well as the field execution of a maintenance work package. Observation could include the pre-job brief, authorization by the managers to proceed, command and control of the work, review of safety requirements, post-job review, etc.

As possible, observe work hazard identification activities (e.g. JSAs, RWPs, etc.) and the application of MCP-3562 during an operational procedure walk-down and review. Observe worker involvement in these processes.

Record Review:

- PDD-1004, INEEL Integrated Safety Management System, Rev. 4, 2/25/00
- PDD-1005, Site Operations, Rev. 2, 3/16/00
- PDD-1011, Facility Excellence Program, Rev. 0, 3/15/00
- PDD-1012, INEEL Environmental Management System, Rev. 3, 5/9/00
- PRD-5042, Facility Hazard Identification, Rev. 1, 8/30/99
- PRD-5043, Operational Safety Boards, Rev. 0, 8/2/99
- PRD-164, Safety Analysis for Non-Nuclear, Radiological, and other Industrial Facilities, Rev. 1, 7/27/99
- STD-101, Integrated Work Control Process, Rev. 3, 12/14/99
- MCP-8, LMITCO Self-Assessment Process for Continuous Improvement, Rev. 3, 8/31/99
- MCP-91, ALARA Program and Implementation, Rev. 10, 11/10/99
- MCP-123, Unreviewed Safety Questions, Rev. 2, 8/26/99
- MCP-190, Event Investigation and Occurrence Reporting, Rev. 8, 9/13/99
- MCP-192, Lessons Learned Program, Rev. 4, 6/10/99
- MCP-598, Process Deficiency Resolution, Rev. 12, 5/10/00
- MCP-2447, Requirements Management, Rev. 2, 4/30/99
- MCP-2449, Nuclear Safety Analysis, Rev. 2, 7/27/99
- MCP 2450, Technical Safety Requirements, Rev. 1, 10/27/97
- MCP-2451, Safety Analysis for NonNuclear Facilities, Rev. 1, 9/1/99
- MCP-2723, Reporting and Resolving Employee Safety Concerns and Suggestions, Rev.3, 12/1/99
- MCP-3003, Performing Pre-Job Briefings and Post-Job Reviews, Rev. 5, 8/9/99
- MCP-3449, Safety and Health Inspections, Rev. 0, 3/3/98
- MCP-3480, Environmental Instructions for Facilities, Processes, Materials and Equipment, Rev. 2, 5/3/00
- MCP-3521, Trending Center, Rev. 0, 3/1/99
- MCP-3562, Hazard Identification, Analysis & Control of Operational Activities, Rev. 2, 3/14/00

- MCP-3571, Independent Hazard Review, Rev. 2, 2/2/00
- MCP-3567, Authorization Agreements with Authorization Basis List, Rev. 2, 5/25/00
- IAG-47, Authorization Agreement for the Power Burst Facility, Rev. 1, 10/1//99
- Wastewater Operations Daily Log Sheet, Dated: 5/30/00
- TPR-5979, CFA-1603 Firewater Pump Operations and Weekly Checks, Rev. 1, 11/26/98
- CFA PM Generator Run Test TPR
- CFA, WROC, PBF Plans of the Day
- Facility Hazards Lists for PER-613 Mixed Waste Storage Facility and PER-638 Water Pumphouse
- Employee Position Description, Form 325.01
- Employee Training Plan, Form from TRAIN Reports in INEEL Training Records and Information Network system
- MCP-WROC-COO-01, WROC Supplemental procedure to MCP-2973, Chapter 1-Operations Organizations and Administration
- April WROC Performance Indicators
- May PEG Maintenance Performance Measures
- CTR-17, Charter for Senior Maintenance Management Council
- CFA Site Area Tenant Organizations and Central Services Directorate – Org 5700
- TPR-WROC-SOP-3.1.1, WROC/WERF/PBF Area Water Supply and Fire Protection System
- TPR-WROC-SOP-3.1.11, General Waste Movement
- TPR-WROC-SOP-3.1.2, Waste Repackaging
- Job Safety Analysis for TPR-WROC-SOP-3.1.1
- Interoffice Memorandum, dated May 2, 2000, WROC/PBF Integrated Assessment Program Review (Self-Assessment)
- WROC-CTR-68, WROC Unit Employee Safety Team
- Self Assessment Report Form, Form 220.03
- Maintenance Work Orders: 29586, 25017, PM IS-C44

Interviews Conducted:

- CFA Site Area Director
- CFA Power Management Manager
- CFA Utility Operations Supervisor
- CFA/PBF/WROC Utility Foreman and a couple of Operators
- CFA Power Management Line Crew Foreman
- CFA Electrical Forman
- CFA Maintenance Supervisor
- CFA Group of Carpenters/Painters/Mechanics/Laborers/Equipment Operators/Roads and Grounds/Manufacturing Shop/D&D/Custodial Services (2 individuals from each discipline/area)
- CFA Work Control Manager

- CFA Maintenance Manager
- CFA Issues Management Supervisor
- WROC Site Area Director
- WROC MW/HW Operations Supervisor
- WROC Project Management Technical Lead
- WROC Engineering Supervisor
- WROC Maintenance Technical Lead
- WROC Maintenance Planner
- WROC Maintenance Forman and a few maintenance crafts
- PBF Facility Manager
- CFA Senior Supervisory Watch
- CFA LO/TO Manager
- CFA Maintenance JSA Coordinator
- CFA Scheduling Foreman
- CFA Utility Foreman
- Power Management Foreman
- Waste Generator Services Manager
- Wireless Shop Tenant Manager
- CFA Landlord Supervisor
- CFA Facility Operations Department Manager
- Standards and Calibration Laboratory Manager
- CFA Operations and Engineering Manager
- CFA ES&H Manager
- CFA Maintenance Manager
- CFA Maintenance Supervisor
- CFA Electrical Forman
- CFA Cafeteria Manager
- CFA Roads and Ground Supervisor
- Several CFA Maintenance Employees
- CFA Industrial Hygienist
- CFA Issues Management Supervisor
- WROC/PBF Maintenance Foreman
- WROC/PBF Mechanic
- WROC/PBF Work Control Coordinator
- Several WROC Waste Repackaging Workers
- Industrial and Radiological Operations Supervisor
- Landfill Operations Foreman
- Landfill Heavy Equipment Operators

Observations:

- CFA and WROC/PBF Plan of the Day Meetings (2)
- CFA and WROC/PBF Daily Forman Meetings (2)
- Shift turnover at the Power Dispatcher

- Hazard Checklist Screening, JSA Develop and Review Process
- Wireless Communication Routine Shop Activities
- Cafeteria Facility Walkdown
- Calibration Shop Activities
- CFA Standby Generator Operational Monthly Check
- WROC/PBF Firewater Pump Weekly Operational Check
- Waste Repackaging Operations
- Heavy Equipment Lubrication Activity with a W.A.S.P. Observation

Discussion of Results:

Procedures and mechanisms are in place and utilized to ensure work planning is integrated at the individual maintenance or activity level, work planning fully analyzes hazards, and develops appropriate controls. Work performed at CFA, WROC/PBF was being done under maintenance and operations work packages and procedures that conformed to STD-101 or MCP-3562 as applicable. This was confirmed by observations and interviews with all levels of the INEEL work force at these areas. The extent to which workers have been included in the process for developing these work packages and procedures was notable.

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. Maintenance and operational work performed at CFA, WROC/PBF is developed, reviewed, approved and executed using the processes that include pre-and post- job briefs, walkdowns by the planners who actually developed the work packages, and is authorized via the Plan of the Day by the Site Area Directors. This was validated through observations and interviews with employees ranging from the Site Area Directors to the actual crafts and operators doing the work. It was noted in the work packages reviewed that the notification to operations and other affected areas was included in the detail work steps for the activities. Also noted was that the operations managers were thoroughly knowledgeable of their respective facilities and condition. Specific to PBF there is an Authorization Agreement in place. The Authorization Agreement clearly specifies the envelope in which the facility can be operated.

One area that the contractor may want to look into is improving (or establishing) the process to disseminate information to employees which is more timely. Of the many events that have occurred across the site, few (if any) actually get written up and distributed to employees in a manner that they can gain the benefit of the lessons learned so they can be applied sooner rather than later. For example, if a near miss occurs, one would hope that within a day or two a fact sheet would be distributed to all employees doing similar work to what occurred, why, and what could have been done to preclude it. Also, it was noted that the contractor is distributing DOE-ID Fact Sheets to employees. The contractor may want to reconsider this practice as these fact sheets developed by DOE-ID generally only contain information that is gathered by the Facility Representative based on his or her understanding of the events and are generally not

validated for accuracy of the source of information. They tend to state the facts as told but not validated. Distributing the documents could lead to a misunderstanding or incomplete appreciation of what actually occurred.

Procedures and/or mechanisms are in place and utilized which ensure that there is a process used to gain authorization to conduct operations. Once again the Plan of the Day identified all operations authorized to be conducted that were observed. A conduct of operations conformance matrix exists for the operational activities observed. Interviews with personnel confirmed that they fully understood how operations are authorized via the Plan of the Day and that they have a good understanding and appreciation of the concept of "conduct of operations" as it applies to their specific areas of responsibility. Additionally, changes in the operational status of facilities and systems are tracked and documented in the equipment out of service portion of the Plan of the Week schedule.

Procedures and/or mechanisms are in place and utilized which ensure that safety requirements are integrated into work performance. STD-101 and MCP-3562 both ensure that hazards associated with maintenance and operations are determined, evaluated and mitigated in the documents used to control maintenance and operational work activities. Work activities performed in accordance with these procedures ensures that a comprehensive evaluation is done of each activity to identify all possible hazards and that those hazards are in fact mitigated. All work packages and operational procedures reviewed clearly identified specific safety requirements to be followed and the necessary training to conduct the work safely. Individuals interviewed were fully aware of their authority to stop work should they feel the work cannot be accomplished safely or if it is unclear as to what is actually to be done or how. Additionally, workers fully appreciated that they can provide feedback to the planners and procedure writers as to how the work document could be improved.

Procedures and/or mechanisms are in place and utilized which ensure adequate performance measures and indicators, including safety performance measures are established for the work. Each area reviewed has in place a performance measures and indicators program. Measures and indicators are posted in all facilities and are easily accessible to all employees. Management is using the indicators to focus attention in areas most vurnerable to safety. In addition to safety indicators and measures, other activities are being monitored such as maintenance. Beyond any mandated requirements, BBWI employees have established and are effectively utilizing a Worker Applied Safety Program (W.A.S.P.) in which the workers evaluate each other to identify areas where they can improve safety performance.

Workers actively participate in the work planning process. It was observed and confirmed in interviews with the employees that workers do in fact participate in the work planning processes. On the operations side, operators are involved in the MCP-3562 process for determining the adequacy of hazard identification and mitigation in operations procedures. Direct observation of a Hazard Evaluation Group review of an operations procedure and interviews with operators indicated that worker participation in the work planning process for operations activities is adequate. Without exception,

employees interviewed demonstrated an enthusiastic attitude toward their participation in improving the safety culture at the INEEL.

Several instances were noted which indicate that a strength the INEEL has achieved is in involving workers in the planning process. Examples are: 1) Power Management workers and management have developed a Life-Cycle Planning and Condition Assessment program that enables them to more effectively plan and anticipate potential problems before they escalate into a safety problem; 2) Power Management employees utilize the 100% rule that states every employee has to agree to a job plan before any work proceeds; 3) Standards and Calibration Laboratory employees were involved in the development of JSAs for the work that they perform and have done an excellent job in maintaining the condition of their facility/equipment and as such will be able to utilize that asset safely well into the future; 4) Roads and Grounds Department has factored a more environmental friendly method into their plan for managing noxious weeds through the introduction of bugs that attack those weeds, thus not having to use chemicals to control them; 5) Landfill Operation's personnel identified opportunities to incorporate waste minimization into their work plan, such as contracting with an outside firm to sell them "wood chips" for use in their food production processes; 6) CFA and their 53 Tenant Departments have established a single system for managing ICARE issues which ensures that the resolutions are factored into the overall planning process at CFA; and 7) Industrial Hygiene team at CFA has developed a database for tracking the location of confined spaces to assist work planners in the awareness of these areas. These are only a few examples that demonstrate worker involvement in the planning processes has not only been achieved but is proving to have a positive effective on the INEEL worker ES&H awareness and contribution to continued improvement in this area. (COP1-1)

Conclusions:

The objective is met for CFA, WROC/PBF areas.

An integrated process has been established and is utilized to effectively plan, authorize and execute the identified work for the facilities and associated work activities.

Issue(s):

- There were no identified issues in this area.

Strength(s):

- Worker involvement in the planning processes has not only been achieved but is proving to have a positive effective on the INEEL worker ES&H awareness and contribution to continued improvement in this area. (COP1-1)

Inspector_____ William H. Leake, Jr.	**Team Leader**_____ Terry W. Smith

Sub-Team: CFA/PBF/WROC	**FUNCTIONAL AREA: HAZ** **DATE**: 6/12/00

OBJECTIVE: HAZ.1 The full spectrum of hazards associated with the Scope of Work is identified, analyzed, and categorized. Those individuals responsible for the analysis of the environmental, health and safety, and worker protection hazards are integrated with personnel assigned to analyze the processes. 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 are used to ensure adequate protection of the public, worker, and the environment and are established as agreed upon by DOE. These mechanisms demonstrate integration, which merge together at the workplace. (CE II-2, CE II-3)

CRITERIA:

1. Procedures and/or mechanisms are in place and utilized by personnel to ensure hazards associated with the 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 environmental, health and safety concerns are integrated with those assigned to analyze the hazards for the facility or activity. The use of these mechanisms ensure direction and approval from line management and integration of the requirements.

2. Procedures and/or mechanisms are in place and utilized by personnel that describe the interfaces, 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.

3. Procedures and/or mechanisms are in place to develop, review, approve and maintain current all elements of the facility Authorization Basis Documentation with an integrated workforce.

4. Procedures and/or mechanisms that identify and implement appropriate controls for hazards mitigation within the facility or activity are developed and utilized by workers and approved by line managers. These procedures/mechanisms reflect the set of safety requirements agreed to by DOE.

5. Standards and requirements are appropriately tailored to the hazards.

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

7. Workers actively participate in hazard identification, analysis, and mitigation processes.

APPROACH:

Record Review: Review the documents that govern the conduct, review, and approval of facility hazard analysis such as: Technical Safety Requirements MCP-2450 "Technical Safety Requirements", Fire Hazards Analysis (FHA) MCP-579 "Fire Hazards Analysis", Safety Analysis PDD-22 "Safety Analysis" and PRD-164 "Safety Analysis for Other than Nuclear Facilities", and MCP-3680 "Environmental Aspects and Evaluation" (EAE) to verify that these documents conform to the hazard analysis requirements.

Review a sample of hazard control documents 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, Safety Analysis Reports (SARs), Technical Safety Requirements (TSRs), Health and Safety Plans (HASPs), Auditable Safety Analysis (ASA), Fire Hazards Analysis (FHA), Criticality Safety Evaluation (CSE), etc.

Review procedures and documentation such as that pertaining to field verifications for activities/processes such as: STD-101 "Integrated Work Control Process," Radiological Work Permits (MCP-7 "Radiological Work Permit"), operations procedures (such as MCP-3480 "Environmental Instructions for Facilities, Processes, Materials, and Equipment), Hazards Identification and Control documents (MCP-3562 "Hazards Identification, Analysis & Control of Operational Activities" or MCP-3571 "Independent Hazard Review") to ensure accurate and effective implementation of Authorization Basis documentation requirements.

Where appropriate, review the process used to resolve Unreviewed Safety Questions (USQs) to ensure new tasks are being evaluated against the approved authorization basis as required by MCP-123, "Unreviewed Safety Questions." Review completed USQ or in progress USQ implementation documentation.

The primary focus of this section of the review (HAZ) is the identification of hazards and development, review, and approval of Authorization Basis documentation at the facility level. Hazard identification and controls for individual work items or activities will be evaluated using the Operations (OP) CRAD.

Interviews: Interview personnel responsible for the identification and analysis of work hazards including personnel responsible for ALARA review requirements. For example, this should include personnel responsible for USQ determination, procedure technical reviews, etc. 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, FHA, CSE, and EAE preparations and implementation.

Observations: As 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 Job Safety Analysis (JSA), etc.

As possible, observe the actual processes development, review, approval, and implementation of SAR/TSR, and other Authorization Basis Documents as available. Where appropriate, observe that new tasks are being evaluated to determine if the tasks fall within the safety envelope described in the approved authorization basis as required by MCP-123, "Unreviewed Safety Questions."

Record Review:

- PDD-1004, INEEL Integrated Safety Management System, revision 4, dated 2/25/00
- PDD-1005, Site Operations , revision 2, dated 3/16/00
- PDD-5042, Facility Hazard Identification, revision 0, dated 1/28/00
- PRD-164, Safety Analysis for Non-Nuclear, Radiological, and other Industrial Facilities, revision 1, dated 7/27/99
- PRD-5060, Occupational Safety Functions, Roles, Responsibilities, and Interfaces, revision 0, dated 1/28/00
- STD-101, Integrated Work Control Process, revision 3, dated 12/14/99
- MCP-2449, Nuclear Safety Analysis, revision 2, dated 7/27/99
- MCP 2450, Technical Safety Requirements, revision 1, dated 10/27/97
- MCP-2451, Safety Analysis for NonNuclear Facilities, revision 1, dated 9/1/99
- MCP-2707, Compatible Chemical Storage, revision 3, dated 6/1/00
- MCP-2873 INEEL Chemical Management System, revision 2, dated 4/27/00
- MCP-3003, Performing Pre-Job Briefings and Post-Job Reviews, revision 5, dated 8/9/99
- MCP-3449, Safety and Health Inspections, revision 0 , dated 3/3/98
- MCP-3562, Hazard Identification, Analysis & Control of Operational Activities, revision 2, dated 3/14/00
- MCP-3571, Independent Hazard Review, revision 2, dated 2/2/00
- MCP-3640, Central Facilities Area Operations Information Roles and Responsibilities, revision 1, dated 11/23/99
- MCP-WROC-MD-3.17, WROC Independent Safety Review Function, revision 2, dated 3/1/00
- TPR-5979, CFA-1603 Firewater Pump Operation and Weekly Checks, revision 1, dated 11/20/98
- TPR-EM-DW-1.2, Routine Collection of Samples for Coliform Bacteriological Analysis, revision 8, dated 1/1/00
- WROC Proposed Update to Facility Hazards List, not dated
- Document Action Request WROC-DAR-1018, dated 3/20/00
- Various Employee Position Descriptions, Employee training Plans, Employee Qualifications/Certifications and Employee Training Histories

- Fire Hazards Analysis Mixed Waste Storage Facility PER-613, revision 2, dated 5/3/00
- Fire Hazards Analysis Power Burst Facility, revision 0, dated 5/3/00
- WROC Maintenance Work Order, GF-2W1, not dated
- Hazards Identification & Mitigation Checklist, Work Control Form 16825, dated 6/5/00
- Interoffice Memorandum from M.C. Tiernan to Distribution "Guidance For Senior Supervisory Watch (SSW) At Waste Reduction Operations Complex (WROC), dated 6/5/00
- Pre-Job Briefing Checklist, Emergency Work 41-15, dated 6/5/00
- CFA/INEEL Site Area Plan of the DAY (POD), June 1 - June 5, 2000
- Post-Job Review Checklist, Emergency Work 41-15, dated 6/5/00
- CFA Employee Safety Team (EST) Meeting Minutes, dated 5/2/2000
- CFA EST Accident Investigation Team Monthly Report, dated 6/6/00

Interviews Conducted:

- BBWI Lessons Learned Coordinator
- BBWI ES&H Manager
- CFA Custodian (2)
- CFA Mechanic
- CFA Electrician
- CFA Foreman
- CFA Maintenance Technical Lead
- CFA Planner
- CFA Chemical Custodians (2)
- CFA Supervisor
- CFA Maintenance Foreman
- CFA Senior Supervisory Watch
- CFA Utilities Foreman
- CFA Leadman
- CFA Safety Engineer
- CFA Industrial Hygienist
- CFA Yardman
- CFA Equipment Operator
- PBF Planner
- Power Management Lineman (3)
- Power Management Foreman
- Power management Supervisor
- Power management Safety Engineer
- WROC ESH&QA Manager
- WROC Safety Engineer
- WROC Safety Analyst
- WROC Mechanic

- WROC Maintenance Foreman
- WROC System Engineer (3)
- WROC Planner
- WROC Configuration Management Coordinator
- WROC Hazard Evaluation Group Chairman
- WROC Engineering Manager
- WROC Senior Supervisory Watch

Observations:

- CFA Plan of the Day Meeting
- CFA Pre-job Brief, Work in Progress, & Post Job Brief for Emergency Work Activity Power Pole 41-15
- CFA Work Control Planning Activity
- CFA Operational Safety Board Meeting
- CFA Corrective Action Review Board
- CFA Weekly Fire Pump Run Test
- CFA Employee Safety Team
- CFA Potable Water Sampling at CFA-615
- WROC Hazard Evaluation Group Meeting
- WROC Pre-job Brief & Post Job Brief for PER 638 Maintenance Activity

Discussion of Results:

Review of BBWI's management systems and implementing processes found that mechanisms are in place and utilized by personnel to ensure hazards associated with the work throughout the facility have been identified and analyzed. This includes safety, health, and environment. This has been accomplished through the implementation of processes described in key documents including PDD-1004 and PDD-1012. PRD-25, "Activity Level Hazard Identification, Analysis and Control" and its implementing procedures encompass the various work processes mandating a defense-in-depth methodology for the identification of hazards. The resulting documentation meets DOE expectations. Validation of the use of these mechanisms ensured direction and approval from line management and integration of the requirements. During the review, one operation was noted as not having been subjected to the MCP-3562 review process (CHAZ1-1). The CFA Sewer Lagoon Pivot Wheel was in operation without a formal review by the Job Safety Analysis (JSA) process. The operation of the pivot sprinkler system was informally reviewed by a safety professional in spring of 2000, but was never reviewed under MCP-3562. The ability to remotely start-up the equipment without validation that "area of operation" was clear of personnel/equipment was not identified as a potential hazard. The area of operation was not controlled or posted. Follow-up field reviews and personnel interviews failed to identify the prevalence of the identified shortcoming. To the contrary, all other activities reviewed had been subjected to the necessary PRD-25 review processes and it should be noted that employees were sensitive to the various methods that new hazards could be introduced into work scope. Based on

these observations and the activities of the CFA Site Operations Safety Broad (SOSB), an acceptable level of confidence can be placed in the hazard identification system established by BBWI's applicable Program Description Documents and their implementing procedures.

One other shortcoming was identified during the review. It focused on the untimely entry of identified hazards in to the INEEL Facility Hazards List (FHL) (CHAZ1-2). The FHL plays an important role in satisfying the objectives of PRD–25 and MCP-3591, "Maintenance and Use of Facility Hazards Lists" requires that the list be maintained "with timely and accurate entry." On April 25, 2000 WROC safety personal completed a facility walkdown of all areas and submitted information for the update to the FHL. It was found during the review that only a portion of the hazards identified had been entered into the database. Further review found that updates submitted by both TAN and INTEC had not been updated. The information was submitted on 4/13/00 and 5/23/00 respectively. The review also found that BBWI has not established a system to "control/flag" identified hazards between identification and entry into the FHL to ensure that work control documents address the newly identified hazards.

During the review it was noted that in January 2000, the CFA chemical custodians undertook an effort to reduce SARA/EPCRA 313 products. This was based on the chemical's harmful characteristics (persistence, toxicity, and biological hazards) to both humans and the environment. As of June 2000, the custodial staff has reduced SARA/EPCRA 313 listed chemicals from twenty-one to a current use of twelve (57% reduction) (CHAZ1-4).

Document reviews validated that the personnel interviewed at CFA and WROC have received appropriate training to ensure their competency to accomplish their responsibilities. PRD-25 and its implementing procedures require key interfaces to ensure that the various work processes mandate a defense-in-depth methodology for the identification of hazards. Personnel interface appropriately and effectively with support personnel who analyze the hazards of the scope of work. Both CFA and WROC personnel are trained in and cognizant of the hazard analysis requirements for their area of responsibility. Personnel interviews demonstrated familiarization and wide-spread use of the Facilities Hazards List (FHL). Furthermore it was identified the individuals are using the FHL not only in work control planning processes, but also as a matter of routine prior to general field inspections and nonproceduralized work tasks (e.g. custodial and S&H inspections).

The documents that govern hazard analysis and control at CFA and WROC were reviewed to verify that the conduct, review, and approval of facility hazard analyses conform to the standards for Authorization Basis (AB) development. A sample of the safety analysis reports (SAR), job safety analyses (JSAs), fire hazards analysis (FHAs), safety concern reports, occurrence reports and work order packages were reviewed to verify that safety controls are provided for identified hazards. Authorization Basis (AB) documents are maintained current through the defined processes and changes and actions are given visibility. Key staff are trained on the AB documents and revisions. Use of the

Document Management Control Systems (DMCS) provide a formalized process for configuration control of facility documentation, including safety analysis reports and environmental permits. A spot review of a WROC Document Action Request (DAR) found no discrepancies.

Procedures and/or mechanisms that identify and implement appropriate controls for hazard mitigation within the facility or activity are developed and utilized by workers and approved by line managers. These procedures/mechanisms reflect the set of safety requirements agreed to by DOE. In conjunction with the processes in STD-101, MCP-3562 and MCP-3571, the facilities have implemented MCP-3003, Performing Pre-job Briefs and Post-Job Reviews, to ensure that employees are fully aware of related job requirements, safety and health hazards, environmental compliance issues, and mitigating actions necessary to protect the employees, the public and the environment. This procedure provides another opportunity for employees to be involved in the work control process. During field observations one event observed deviated from the prescribed control established be BBWI. During the CFA weekly fire pump operational test, an operator and supervisor demonstrated a willingness to bypass a "Prerequisite, Operating Requirement," of technical procedure TPR-5979, "CFA-1603 Firewater Pump Operation and Weekly Checks" in order to perform the required task (CHAZ1-3). The TPR required that both fuel oil tanks be kept at least 75% full at all times. Tank FW-P-2 was found to be at 69%. Based on the knowledge that additional fuel had been ordered, both the operator and supervisor were prepared to continue with the task. The CFA Operations Manager stopped the job when the potential procedure noncompliance was brought to his attention. Further field observations and personnel interviews failed to identify the prevalence of the identified shortcoming. To the contrary, the attention to procedural compliance was noted though-out the review.

The review found that both facilities appropriately tailor standards and requirements to the hazards by implementing the process defined by PRD-25. Further tailoring occurs during the work package process walkdowns and employee involvement in these processes. Planning walkdowns significantly contribute to integrating the worker's knowledge of the hazards involved in the job to the tailoring of requirements.

Accurate and effective implementation of Authorization Basis documentation requirements were sampled through reviewing procedures and making field observations for activities and processes. The observed actions of the facility operations managers and senior supervisory watch personnel were consistent with their high level of commitment to the safety of workers and the safe operation of the facilities. Personnel throughout the organization displayed sound and expansive knowledge of the entire process for controlling hazards within their area of responsibility.

Interviews and field reviews of documents associated with the PRD-25 work control process found an extremely high level of worker involvement throughout the processes. This included hazard identification, analysis and mitigation.

Conclusion:

The objective has been met.

Issue(s):

- Operation of the CFA sewer lagoon pivot wheel was not subjected to a MCP-3562 review. (CHAZ1-1)

- Timely update to the BBWI Facility Hazard List is not being performed. (CHAZ1-2)

- A CFA utilities operator and supervisor demonstrated a willingness to bypass a proceduralized "Prerequisite, Operating Requirement" in order to perform work. (CHAZ1-3)

Strength(s):

- CFA custodial staff has reduced SARA 313 listed chemicals from twenty-one at the end of 1999 down to a current use of twelve. This resulted in a 57% reduction. (CHAZ1-4)

Inspector_____ Patrick Smith	**Team Leader**_____ Terry W. Smith

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY

INTEGRATED SAFETY MANAGEMENT SYSTEM PHASE II, PART III VERIFICATION

REVIEW PLAN

May 2000

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Integrated Safety Management System Phase II, Part III Verification Team Leader

Table of Contents

1.0 INTRODUCTION/BACKGROUND

Department of Energy (DOE) Safety Management System Policy 450.4 (P 450.4), defines the expectations that DOE facilities will be operated in accordance with an Integrated Safety Management System (ISMS). The DOE Acquisition Regulations (DEAR, 48 CFR 970) further require that the Head Contracting Authority (Idaho Operations Office [ID]) provide guidance to the contractor as to the expectations for the ISMS Description.

Each site within DOE is to verify that the ISMS Description: 1) fulfills the expectations of the Head Contracting Authority, meets the requirements of the DEAR and the DOE Policy for Safety Management Systems; and 2) that the Description is implemented. The verification reviews are to be conducted in accordance with the protocol for the ISMS Verification process specified by DOE-HDBK-3027-99, Integrated Safety Management Systems (ISMS) Verification Team Leader's Handbook and DOE G 450.4-1, Integrated Safety Management System Guide. As described in the Verification Protocol and the ISMS Guide, the ISMS Verification is to be conducted in two phases. The ISMS Verification Phase I verified the adequacy of the description and the ISMS Verification Phase II verifies implementation of the ISMS.

The ID Manager guidance and expectations for the Idaho National Engineering and Environmental Laboratory (INEEL) were provided to the previous Contractor for the establishment of an ISM System at INEEL.

The ISMS established by the previous Contractor was evaluated by an ISMS Verification Phase I (ISMSV-I) completed in the spring of 1999. An ISMSV Phase II for the first five selected INEEL Facilities was completed in September 1999, immediately prior to the change of INEEL Contractors. A second ISMSV Phase II involving two other facilities was completed in March 2000. By DOE-ID direction, remaining INEEL facilities, which have not yet undergone an ISMSV-II, are to be evaluated under this Review Plan (RP). This guidance is included within the INEEL Contractor's current contract and DOE-ID directives and guidance.

The results, corrective actions, and lessons learned from the previous ISMSV-I and IIs were to be included and integrated into INEEL operations. This ISMSV-II Team has been formed to evaluate the implementation of INEEL ISMS at the remaining facilities. The Team will utilize the results and lessons learned in the conduct of the previous ISMSV-I and II evaluations for the purpose of this evaluation. This RP is for this ISMSV-II, Part III.
The ID Manager appointed Terry Smith, DOE-ID as the Team Leader for this ISMS Verification Phase II, Part III and specified the scope of this review and the desired deliverables. This RP defines the review and procedures that will be followed to conduct the review for the ID Manager.

2.0 PURPOSE

The purpose for the INEEL ISMS Verification Phase II, Part III is to provide an assessment to the ID Manager concerning the effectiveness of the implementation of ISMS for facilities at INEEL, which have not yet undergone an ISMSV-II, and to delineate areas in which

implementation does not conform to the approved ISMS Description. In assessing the adequacy of the ISMS implementation, the ISMS Verification Phase II will consider the results of previous reviews such as the ISMS Verification Phase I and Phase IIs. The final report of this ISMSV-Phase II, Part III will discuss the progress and effectiveness of the implementation efforts in these identified Site Area/facilities.

3.0 SCOPE

The scope of the INEEL ISMS Verification Phase II will include the ISMS for the following INEEL Site Area/facilities and activities managed and operated by BBWI under Contract DE-AC07-99ID13727 including the integration with the ID: Idaho Nuclear Technology and Engineering Center (INTEC), with the exception of the Three Mile Island Unit 2 (TMI-2) Independent Spent Fuel Storage Installation (ISFSI); all facilities and activities at the Test Area North (TAN) including the Water Reactor Research Test Facility (WRRTF); balance of facilities and activities at the Test Reactor Area (TRA) not reviewed during the September 1999 Phase II review; balance of facilities and activities at Central Facilities Area (CFA) not reviewed during the September Phase II review; all facilities and activities at the Power Burst Facility (PBF); and all facilities and activities at the Waste Reduction Operations Complex (WROC). Other INEEL Site Areas and facilities are excluded from the scope of this review. More specific information on the facilities which are within the scope of the review is included in Section 7.

The ISMS Verification Phase II will evaluate the adequacy of the ISMS implementation when compared to the approved ISMS Description. In assessing the adequacy of the ISMS implementation, the ISMS Verification Phase II will consider how the described site-wide corporate system containing safety requirements is coordinated and integrated “downward” into the individual facility and work processes. At the facility or process level, the mechanisms, which identify, evaluate, control and assess individual work items will be assessed as key indicators of the adequacy of the implementation. The review will assess the adequacy of the programmatic documentation at the facility level. The complete integration of environment, including waste minimization and pollution prevention, into the ISM system and all work will be assessed. Integration between the Contractor and DOE-ID as well as the integration within the Contractor’s organization from the site-wide to the process specific implementation will also be reviewed. By reviewing supporting documents, interviewing individuals within the facilities, and observing the accomplishment of selected work processes, the ISMS Verification Phase II will be able to draw conclusions as to the adequacy of the ISMS implementation. The scope of the review at INEEL will include all eight ISMS Core Expectations (Appendix II) included in the ISMS Verification Team Leader’s Handbook, which will result in evaluation of the core functions and guiding principles for Integrated Safety Management as defined in the DOE P 450.4.

4.0 PREREQUISITES

The significant prerequisite for the ISMS Verification Phase II is that the INEEL ISMS Description Document be implemented in the selected Site Area/facilities, or that implementation plans be in place with significant progress having been made. Additional prerequisites to the ISMS Verification Phase II include: appointment of the Team Leader, identification and approval of the team by the ID Manager, development of the RP, Team Leader approval of the RP, and confirmation that team member individual knowledge and understanding of the site, Integrated Safety Management, and the ISMS Description being implemented are adequate to effectively conduct the review.

5.0 OVERALL APPROACH

The ISMS Verification Phase II Team will review the ISMS implementation in the selected Site Area/facilities at INEEL. The Verification Team will evaluate the progress and effectiveness of the implementation efforts against the guiding principles and core functions defined in DOE P 450.4. Based on this assessment, the ISMS Verification Phase II Team will draw conclusions and make recommendations to the ID Manager as to whether the ISMS implementation is achieving the overall objective of Integrated Safety Management which is described 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 ISMS Verification Phase II will be conducted using sub-teams as defined in more detail under Section 7.

5.1 Sequence of Activities

The first step in the ISMS Verification process is to provide training and interaction among the team members to ensure an adequate understanding of the DOE ISMS Policy expectations, the specific INEEL ISMS Description, and the plan and strategy for the review. As a final action of this initial effort, the team will complete preparation of the Criteria and Review Approach Documents (CRADs) which will guide the review. The final CRADs are attached as Appendix II of this RP. The indoctrination period of about four days, including CRAD development and some initial briefings will be conducted at the INEEL at least a week or two prior to the start of the ISMS Verification Phase II. This initial period will be utilized by DOE-ID and the Contractor to provide ISMS presentations and briefings to update the Verification Team on implementation progress since the previous ISMS verifications. The team member's Biographies are included as Appendix I of the RP.

The ISMS Verification Phase II Part III review will be conducted during a two-week period following preparation of the RP, development of the CRADs, and completion of the team indoctrination. The review will consist of completing any necessary Site Area/facility specific

briefings from the Contractor and and DOE-ID to the team during the first week, as well as interviews, observations, and document reviews. Any additional actions that may be necessary to support review and assessment of the supporting program and process documents, and implementation will be identified as the review progresses. The final week will be used to complete the interviews, observations, and documentation reviews, if necessary, as well as the completion of the Assessment Forms, the preparation of the Final Report and any related activities. A report will be issued at the completion of the second week. Additional details on the review may be found in Section 7.

During the second week of the verification review, the team members will complete their evaluation of the criteria in the individual CRADs that will support conclusions as to whether the individual objectives have been met. The evaluation of the criteria will result from the presentations coupled with the interviews, observations, and documentation reviews. An important input to all efforts will be the observations and discussions with individuals within the facilities who explain and defend their ISMS at their individual levels of responsibility. The record of the evaluation will be the Assessment Form. 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 which will be rolled up to "Opportunities for Improvement" in the Executive Summary of the Final Report. Issues identified during the review of the individual CRAD which warrant the attention of the ID Manager or senior Contractor management will be clearly identified within the Assessment Form. In addition, good ISMS practices and strengths will be identified as “Noteworthy Practices.”

Each CRAD is intended to guide the evaluation of the adequacy of the ISMS implementation. Detailed instructions for completing the Assessment Form will be provided to the ISMS Verification Phase II Team prior to and during the review.

A Final Report will be prepared which will describe the results of the ISMS Verification Phase II. The report will provide an assessment of the effectiveness of ISMS implementation to the ID Manager and delineate areas, if any, in which implementation does not conform to the approved ISMS Description. The report will provide the conclusions reached by the review team as to the status of implementation of ISMS in the selected Site Area/facilities. The contents of the report are described in Section 9.

6.0 PREPARATIONS

Preparations for the ISMS Verification Phase II will focus on two areas. The first is intended to prepare the team to conduct the review and finalize the RP that will guide the conduct of the review. The second effort is to assist the Contractor and DOE-ID in gaining an understanding of the review process in order that they may most effectively present their ISMS implementation to the ISMS Verification Phase II Team.

6.1 ISMS Verification Phase II Team Preparations

Efforts to prepare the team to conduct the ISMS Verification Phase II will include ensuring completion of training on the relevant DEAR clauses as discussed in Section 5.1. 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 CRADs and sub-teams 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 the INEEL ISMS. Finally, the team will receive briefings and discussions to ensure an understanding of the progress in implementation since approval of the ISMS Description by the ID Manager, and the first two ISMSV-Phase II reviews. The briefings on the ISMS will include discussions on the ID counterpart elements and integration of ID functions with the INEEL ISMS. The review will verify that the responsibilities, activities and processes of the ID staff are appropriately described and integrated with the INEEL ISMS at the facility and work process levels.

6.2 Contractor and DOE-ID Preparations

The responsible Contractor and ID Managers will present their implementation of ISMS, consistent with the approved Description document, to the team so that a basis for interviews, observations and further document reviews can be formed. It is important, therefore, that the individual Managers have an understanding of the expectations of the ISMS Verification Phase II and have an understanding of the ID expectations for ISMS implementation. In order to enhance the validity of this premise, efforts will be undertaken by the ISMS Verification Phase II Team leadership to enhance the understanding of the Contractor's Managers of the expectation of the ISMSV- II Team.

The briefings will consist of Contractor and ID making presentations to the team to describe how the approved ISMS Description has been implemented consistent with DOE P 450.4, the ISMS DEAR clauses, and the requirements of the ID Manager. The briefings should include identification and a brief description of supporting program and process documents at the Site Area/facility level, as well as any self-identified gaps in the ISMS implementation plans. These presentations should also describe the integration of safety management between the Contractor ID, and within the Contractor organization at the Site Area/facility level. At the conclusion of the presentations, the ISMS Verification Phase II Team will review documentation, interview selected personnel, observe work processes, and complete the other necessary actions to support the review.

7.0 PROCESS FOR ISMS REVIEW

As described in Section 5 above, the review will be conducted using the CRADs. The CRADs for the review are included as Appendix II of the RP. The CRADs are identified by functional area and they will be used by each of the three sub-teams to form a common basis for the review. The functional areas are Hazards Identification and Standards Selection (HAZ), Management (MG), Operations (OP), DOE-ID (DOE), and Subject Matter Experts (SME). The DOE CRAD will only be used at INTEC, since all other DOE-ID Facility Teams have been reviewed in previous Phase II Verifications. The SME CRAD for Radiological Controls will be used at

TRA/TAN and the SME CRAD for Issues Management will be used at INETC. The ISMS Verification Phase II, Part III sub-teams are:

Idaho Nuclear Technology and Engineering Center (INTEC)
Test Reactor Area/Test Area North (TRA/TAN)
Central Facilities Area/Power Burst Facility/Waste Reduction Operations Complex (CFA/PBF/WROC)

The ISMS Verification Phase II Team will review ISMS implementation at the following sites as the final part of the phased approach for verifications for the remaining Site Area/facilities that have implemented the approved ISMS Description at INEEL.

The INTEC sub-team will review the ISMS implementation for facilities within the Idaho Nuclear Technology and Engineering Center with the exception of the Three Mile Island Unit 2 (TMI-2) Independent Spent Fuel Storage Installation (ISFSI).

The TRA/TAN sub-team will review the ISMS implementation for the facilities within the Test Reactor Area (excluding the Advanced Test Reactor (ATR), the ATR Criticality Facility (ATR-C), and the Nuclear Materials Inspection and Storage (NMIS) facility) and the Test Area North, including the Water Research Reactor Test Facility (WRRTF).

The CFA/PBF/WROC sub-team will review the ISMS implementation for facilities within the Central Facilities Area (excluding the Transportation Complex, commonly known as "The Big Shop," the LNG Dispensing Facility, and the Propane Dispensing Facility), the Power Burst Facility Area, and the Waste Reduction Operations Complex Area.

The TRA/TAN sub-team will also use a Subject Matter Expert (SME) CRAD during their review. The SME CRAD will be utilized to assess whether the core functions and guiding principles of ISM are met for the control of work within the specific discipline of radiation protection. For the other two sub-teams, radiation protection will be reviewed using criteria for the OP CRAD.

The INTEC sub-team will also use a Subject Matter Expert (SME) CRAD during their review. The SME CRAD will be utilized to assess whether the core functions and guiding principles of ISM are met for the control of work within the specific discipline of issues management. For the other two sub-teams, issues management will be reviewed using criteria for the MG CRAD.

In addition, the evaluation of maintenance and work control will be considered by all of the sub-teams using the OP CRAD since this discipline normally demonstrates the essence of safely conducting work. Likewise, quality assurance and training and qualification areas will be evaluated by all sub-teams using criteria from the MG CRAD.

The review of the individual CRADs will assess the status of the ISMS implementation and will support the Verification Phase II Team's conclusions and recommendations with regard to work

being done safely and in accordance with the principles and functions of DOE P 450.4. The results from these activities will be included in the final report.

8.0 ADMINISTRATION

8.1 Meetings and Presentations

Part one of the review will include presentations by the Contractor and ID to the ISMS Verification Phase II Team. The purpose for the presentations will be to provide an opportunity for the team to be provided a status of the implementation progress since the ISMS Description was approved. The presentations will provide an opportunity to describe the manner in which the elements of ISM described in the various programs are implemented at the Site Area/facilities level resulting in an ISMS which fulfills the expectations for DOE P 450.4 and the DEAR requirements. The ISMS Verification Phase II Team will utilize the information provided during the presentations as a basis to proceed with the verification that the criteria and the objectives in the individual CRAD are met. Additional interviews, record reviews observations and other activities at the Site Area/facilities level will form the majority of the review effort.

The INEEL ISMS Verification Phase II will be an open process with the goal of maximizing the opportunity to achieve a full understanding of the ISMS implementation. This in turn will result in an accurate assessment of the progress and status of implementation and a recommendation to the ID Manager. In order to achieve the level of openness and coordination which is desired, the team will meet daily to discuss observations and issues. Site personnel are invited, in limited numbers, to attend these team meetings as observers. The Team Leader and Advisor will meet as necessary with senior Contractor and ID management to ensure that they are fully informed of the progress and issues during this ISMS Verification Phase II.

Following the review portion of the ISMS Verification Phase II, the Team Leader will conduct an outbrief with the Contractor and ID Managers as well as appropriate Site Area/facilities personnel. The briefing will include the results of the review, the basis for the ISMS evaluation that will be made to the ID Manager concerning ISMS implementation and a summary of strengths or issues that arose during the review.

8.2 Documentation of the ISMS Verification Phase II

The ISMS Verification Phase II 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.

In order that the schedule for the ISMS Verification Phase II is maintained and that the report is complete prior to dissolution of the team, each team member must document his work as it is conducted. This means that daily inputs to the Assessment Form should be planned. Each sub-

team 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 ID Manager recommends actions for the Contractor or for ID, those actions should be supported by detailed information on the Assessment Form

The lessons learned from the INEEL ISMS Verification Phase II are particularly important for future reviews. Team members will draft lessons learned inputs and provide those inputs to the Team Leader. Those inputs will be used for a composite lessons learned for future use.

8.3 Team Composition and Organization

The ISMS Verification Phase II Team was formed using members from INEEL, as well as personnel experienced in conducting ISMSV reviews at other DOE Sites in the Complex. Since the focus of the Phase II Verification is on implementation, the remaining Phase II Team membership was filled with other INEEL individuals who are familiar with the conduct of work at the Site Areas and in the INEEL facilities. The ISMS Verification Phase II Team is organized into sub-teams using an integrated set of CRADs. Sub-team leaders are responsible for ensuring that all CRADs assigned are fully evaluated and that the appropriate documentation is prepared. The Biographies and Qualification Summaries for each team member are in Appendix I and will be retained with the records of the ISMS Verification Phase II.

9.0 FINAL REPORT FORMAT

At the completion of the review, the team will prepare a report. The report will include an assessment to the ID Manager concerning the effectiveness of the implementation of ISMS and will delineate areas, if any, in which implementation does not conform to DOE P 450.4, the ISMS DEAR clauses, and the approved ISMS Description. The report will also provide an assessment of the adequacy of supporting program and process documents, and implementation at the Site Area/facilities level. The report will discuss a path forward associated with verification of the completion of implementation actions at other INEEL Site Area/facilities and/or verification of corrective actions identified during the ISMS Verification Phase II, Part III.

The report of the ISMS Verification Phase II, Part III will consist of the following sections that fully describe the review, provide the necessary recommendations, and provide information necessary to support the recommendations. Team members should not include any classified or UCNI material 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.

TITLE PAGE - the page that states the Site and the dates of the review.

SIGNATURE PAGE - the page used by the Team Leader to promulgate the final version of the report.

TABLE OF CONTENTS - identifies all sections and subsections of the report, illustrations, tables, charts, figures, and appendices.

EXECUTIVE SUMMARY - provides an overview of the results of the ISMS Verification Phase II 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.

INTRODUCTION - includes the overall objectives of the evaluation; the review process and methodologies used in the review; and the team composition.

PURPOSE - includes the purpose of the ISMS Verification Phase II.

SCOPE - includes the scope of the ISMS Verification Phase II.

OVERALL APPROACH - restates (with any necessary modifications) the approach followed during the ISMS Verification Phase II and delineated by the RP.

ASSESSMENT OF INEEL ISMS - provides a summary discussion of the overall results of the evaluation. This section will include an integrated summary of the information developed by each sub-team including the opportunities for improvement (issues) as well as noteworthy practices (strengths) identified during the review. In addition, this section will provide details of the review, which are necessary to support the recommendation to the ID Manager concerning CONTRACTOR ISMS implementation. This section will also provide support for any recommendations or observations associated with ID. The report will also discuss the observations and conclusions of the team regarding the adequacy of supporting program and process documents at the Site Area/facilities level. Finally, any deviations from this RP will be discussed in the report.

CONCLUSIONS AND RECOMMENDATION - will address the adequacy of the ISMS implementation with an assessment to the ID Manager. It will further provide information about the path forward associated with verification of the completion of implementation actions at other INEEL Site Area/facilities and/or verification of corrective actions identified during the ISMS Verification Phase II, Part III.

LESSONS LEARNED - will discuss lessons learned associated with the ISMS Verification Phase II, Part II process as well as with the development and implementation of an ISMS.

VOLUME II - will include the Assessment Forms and the Review Plan (including the CRADs).

10.0 SCHEDULE

For planning purposes, the projected schedule for this ISMS Verification Phase II, Part III at INEEL is as follows:

May 15 through May 19: Team receives site-specific training, discusses the verification process, and completes their sub-team planning and development of the CRADs. Team receives presentations from ID and the Contractor on the implementation progress since the ISMS Description was approved, with the incorporation of the results, corrective actions, and lessons learned from the previous ISMSV Phase II verifications completed in September 1999 and March 2000.

June 5 – 16, 2000: Team performs the review and verification of ISMS implementation. Perform the review with interviews, observations, document reviews, evaluation, report writing and closeout of the ISMS Verification Phase II review.

APPENDICES

Appendix I Team Member Biographies

Appendix II Criteria and Review Approach Document

Appendix III ID Manager Appointing Memorandum

Appendix I

Team Member Biographies

Team Assignments

Team Leader	Terry Smith
Senior Advisor	Doug Outlaw
Team Leader Assistant	Chuck Ljungberg
Coordinator/Administration	Julie Sellars/Cindie Jensen
Classification Reviewer	BBWI
TRA/ATR	Alice Williams - Sub Team Leader/MG Larry Miller - MG Geoff Beausoleil - OPS Matea McCray - HZ Ken Whitham - RadCon SME
CFA/PBF/WROC	Richard Dickson - Sub Team Leader/MG Pat Smith - HZ or OPS Bill Leake – HZ or OPS Brian Anderson - MG
INTEC	Colette Broussard - Sub Team Leader Tom Helms – Assistant Sub Team Leader/OPS Glenn Morton - MG Pete Dirkmaat – MG Steve Somers – HZ Richard Kauffman – HZ Nicole Hernandez - OPS Andy Jones - OPS Bob Baeder (DOE-ID, Issues Management)

Team Biographies

Brian S. Anderson is the Deputy Director of the Test Reactor Area at the Department of Energy in Idaho. He earned a Bachelor of Science Degree in. Electrical Engineering from the U.S. Naval Academy, and is completing Post-Graduate work at the University of Idaho in Waste Management. More than twenty three years experience in the nuclear industry, including U. S. Navy submarine operations, DOE facility operations, facility maintenance, operator training, facility construction management, quality assurance, fuel reprocessing, environmental safety, health and quality oversight, and environmental restoration. Since arriving at DOE in 1987, positions have included program direction and oversight of the operation of the ICPP, Branch Chief of the Nuclear Safety Branch, Acting Director of the Safety Division, Technical Lead for Nuclear Safety for DOE-ID, Deputy Director of the Technical Support Division, Senior Engineer for ICPP Facility Manager, team leader and project manager for the Pit 9 Interim Action Demonstration Project, Deputy Facility Manager, Idaho Nuclear Technology and Engineering Center (INTEC)(formerly ICPP), and Deputy Director, Test Reactor Area Division.

From 1992 through 1993, served as the designated ID lead for Nuclear Safety Order compliance. Also served as technical expert on DOE-HQ team evaluating Nuclear Safety Compliance and Conduct of Operations for continued operations and for readiness to restart at the DOE Rocky Flats Plant

ORR responsibilities included a number of ORRs for startup or restart of INEEL facilities, including NWCF in 1988, ICPP Denitrator in 1989, and the Fort St. Vrain Transition Readiness Review in 1998. Served as deputy team leader for the ATR Process Control Room Upgrade ORR in 1993, and as team leader for the RWMC Type II RCRA Storage Modules in 1994, and for the INTEC Idependent Spent Fuel Storage Installation in 1999. Served as Readiness Assessment (RA) team Leader for the ATR LOCA interim RA in April, 1999 and for the ATR LOCA final resolution RA in September 1999. Experience in various RAs and Line Management Assessments at INEEL and Rocky Flats.

Assigned as Lead for the INEEL Response to the Accident Investigation Report of the TRA-648 CO_2 Fatality, responsible for development of the INEEL Corrective Action Plan, and the subsequent development and implementation of the INEEL Corrective Action Implementation Plan.

Robert Baeder is the Senior Nuclear Engineer and the Director of Energy Services with XL Associates, Inc. supporting the Department of Energy (DOE) for Defense Programs (DP) and Environmental Management (EM). He has a B.S. in Naval Engineering from the United States Naval Academy, and Masters' Degrees in Naval Architecture and Marine Engineering from the Massachusetts Institute of Technology. He is pursuing his Ph.D. in Management. Mr. Baeder has more than 24 years of naval experience as a nuclear submarine officer, earning qualification as Engineer and for Command. His experience in the Navy Nuclear Power Program includes tours as the Engineer Officer for a submarine completing overhaul, as the Executive Officer during a reactor refueling submarine overhaul, and selection for Nuclear Submarine Command.

Additionally, he served as the Associate and Acting Chairman of Mechanical Engineering at the United States Naval Academy and taught thermodynamics, fluid mechanics, and nuclear engineering. He also served for the Chief of Naval Operations in Program Management for the Navy's Ashore and Afloat Command, Control and Communications Systems (C3). As a result of his significant military experience in nuclear power and solid academic background, Mr. Baeder brings extensive expertise in nuclear and reactor plant operations and management, thermodynamic/fluid mechanics engineering, maintenance, material management, training and education and engineering design. Mr. Baeder retired from the Navy in 1994 and immediately joined XL Associates, Inc. He has gained more than five and one-half years of direct experience in DOE operations, serving for Operational Readiness Reviews (ORRs), Readiness Assessments (RAs), Standards and Requirements Implementation, Performance Assessments and Self-Assessment, implementation and training for the DOE Defense Program Core Technical Group, in DOE DP programs in response to Defense Nuclear Facility Safety Board recommendations, in the DOE Integrated Safety Management System (ISMS) implementation and Verification (ISMSV), and most recently as a Senior Mentor for Operations/Environment/Safety/Health for the Resumption of the Plutonium Facility Operations at the Lawrence Livermore National Laboratory (LLNL) for the past eighteen months. He has completed more than thirty-six major assessments and taskings since 1994.

In these capacities he has also served on, or is now preparing for, more than twenty-five major ORRs/RAs and Assessments. These taskings included the startup of new facilities and processes (such as the SRS ITP, SRS DWPF, and NTS DAF), the resumption of activities (such as the OR Y-12, SRS H and F Canyon Operations, and Pantex), and the completion and decommissioning of operations (such as the OR K-12 DRP, the RFETS Building 371 Operation, and the ORNL Uranium Storage Facility Operations). These taskings include among others: the Savannah River Site (SRS) Replacement Tritium Facility Validation and Verification, the SRS In-Tank Precipitation, the Oak Ridge Y-12 Receipt, Storage, and Shipment Restart Readiness Assessment, the SRS F-Canyon Phase II Restart ORR, the SRS Defense Waste Processing Facility ORR, the Oak Ridge K-25 Deposit Removal Project ORR, the SRS Consolidated Incineration Facility ORR, the Rocky Flats Building 371 ORR, the SRS H-Canyon ORR, the SRS ISMS Verification, the SRS HB-Line ORR, the Oak Ridge Y-12 RSS and DAS ORRs, the Nevada Test Site Combined Device Assembly Facility ORR, the SRS HB Line ORR, the EUO Phase A1 and A2 ORRs, the Pantex Building 12-116 ORR, the Y-12 Plant ISMSV, the Hanford W-320 Tank Sluicing Project ORR, the Hanford Plutonium Finishing Plant (PFP) ORR, the Idaho National Engineering and Environmental Laboratory (INEEL) ISMSV Phase I (ISMSV-I) and ISMSV Phase II (ISMSV-II), and the SRS K-Area Material Storage (KAMS) ORR. He is currently also serving on the teams for the Oak Ridge National Laboratory (ORNL) Uranium Storage Facility ORR, and the INEEL ISMSV Phase II (ISMSV-II). Usually, he has evaluated the areas of Operations, Procedures, or Management, but he has also reviewed Configuration Management, DOE Federal Management, Engineering Support, Maintenance, Quality Assurance, Safety, Safety Envelope, Qualification and Training, Waste Management, and has assisted Team Leaders and served as Senior Advisor in these capacities. He has also assisted facilities in their preparation for operations including at the Oak Ridge National Laboratory (ORNL) site. Mr. Baeder was one of the senior Mentors, from the start to the completion, for the Lawrence Livermore National Laboratory (LLNL) Building 332 Plutonium Facility Activity

Resumption Process (ARP). He continued his efforts as a senior Mentor for the B332 ISMS Implementation and their ISMSV-I and II. He is serving as Senior Advisor for the Hanford ISMSV. Additionally, he is now a senior advisor for the current Oak Ridge Y-12 Enriched Uranium Operations (EUO) restart and resumption efforts. He is preparing for additional tasking in ORRs, ISMS, and Mentoring now.

Geoffrey L. Beausoleil is the Deputy Director of the Waste Management Operations Division at the Department of Energy – Idaho Operations Office. Mr. Beausoleil earned a Bachelor of Science Degree in Marine Engineering from the U. S. Coast Guard Academy. Mr. Beausoleil has 19 years experience in industrial and nuclear operations. This experience includes nuclear submarine construction, repair, (nuclear) refueling, and overhaul; DOE Facility Operations, plant maintenance, start-up/restart activities; environmental restoration and waste management research & development, treatment, storage and disposal facility operations; quality assurance program implementation; and, environmental, safety, health, and quality oversight planning, performance, and reporting. Since arriving at DOE-ID in 1991, positions Mr. Beausoleil has held include ER&WM Quality Engineer, Chief of the (Waste Management) Advanced Systems Branch, Facility Manager for the Waste Reduction Operations Complex, Operations Oversight Specialist, Facility Director for Radioactive Waste Management Complex and the Waste Reduction Operations Complex, and Deputy Director of the Waste Management Operations Division.

Mr. Beausoleil was certified as an NQA-1 Lead Auditor in 1992, however, this certification has lapsed. Mr. Beausoleil participated in numerous Quality Assurance Audits at the INEEL and at the West Valley Demonstration Project. Mr. Beausoleil has performed compliance audits in various disciplines, such as hoisting and rigging, radiological protection, conduct of operations, conduct of maintenance, and environmental regulations.

Mr. Beausoleil is a qualified as Senior Technical Safety Manager for the DOE. Mr. Beausoleil is a Registered Environmental Manager (REM9712) with the National Registry of Environmental Professionals. As collateral duties, Mr. Beausoleil is the DOE-ID Representative on the DOE Departmental Standards Committee and acts as the Quality Assurance Officer for the DOE-ID Office of Environmental

Colette Broussard joined the DOE in November 1983 as a Quality Engineer. She performed this duty at the Pinellas Plant for almost 5 years. She held a Certified Quality Engineer certificate. She was detailed in 1986 to assist the DOE ES&H manager at Pinellas while still performing her QA Engineer duties. She later was assigned as the DOE Safety Engineer for the Pinellas Plant. In 1991, she took a 1year detail to DOE HQ as the DNFSB Recommendation 90-2 Program Manager for the Rocky Flats Program Office, within Defense Programs (DP). One year later (1992) she was promoted and re-assigned as an HQ employee, and took over as the HQ Program Manager for the entire 90-2 Program for DP. In April 1994, Colette was laterally hired as an employee of DOE/EM, in the Environmental Restoration office, where she was the HQ Program Manager for Environmental Restoration sites (Pinellas, Sandia AL, and Sandia Livermore). She was extremely involved, as an EM representative, with the response to and implementation for DNFSB Recommendation 95-2. She was involved with numerous reviews

and iterations of the DNFSB Rec 95-2 Policies (e.g., DOE G 450.4-1, and DOE P 450.5). She is the co-author of the EM FRAM, (as well as the EM-40 S/RID Templates, and EM-40 S/RID) and developed and presented ISM and EM FRAM training to all EM technical and budget personnel at HQ from Sept 98 through Sept 99. She is currently working as a HQ Program Manager for Idaho Spent Nuclear Fuel for the Idaho Team in the Office of Project Completion, EM-41 in the new EM organization. She has participated in four separate ISM Verifications (i.e., OR Y-12; Sandia National Lab in Albuquerque, NM.; Fernald in Ohio; and ANL East in Chicago, IL.)

Colette graduated in 1983 from the University of South Florida with a Bachelors degree in Chemical Engineering, and is currently pursuing a Masters in Environmental Engineering at John's Hopkins University. She expects to complete her Masters degree by Sept '01. Her extensive training and work activities while a DOE employee have been in safety and health, as well as in the environmental field, including waste management and involving laws such as RCRA, CERCLA, OSHA and DOT.

Richard Dickson is a Certified Health Physicist with 24 years of experience at the Department of Energy in Idaho. He earned a Bachelor of Science Degree in Physics from the University of Southern Colorado in 1974, and a Master of Science Degree in Radiation Protection and Radioecology from the School of Veterinary Medicine at Colorado State University in 1975. From 1975 through 1985, he worked as a health physicist at the Radiological and Environmental Sciences Laboratory. In this capacity he assisted with the monitoring and evaluation of radiological and non-radiological effluents released to the environment by facilities at the Idaho National Environmental and Engineering Laboratory (INEEL), prepared assessments of internal and external doses to occupational workers, and co-authored three journal articles on radioecology. In 1985, Mr. Dickson transferred to the Occupational Safety Division and became responsible for assessment and oversight of occupational radiation protection programs at nuclear facilities at the INEEL, West Valley Project Office in New York and the Grand Junction Project Office in Colorado. From 1988 through 1991, Mr. Dickson was a member of the Idaho National Engineering Laboratory Historical Dose Evaluation Task Group. The Task Group prepared *the Idaho National Engineering Laboratory Historical Dose Evaluation* report that compiled, documented and evaluated radiation doses as a result of radiological effluents from routine operations, tests, experiments, and accidents from 1952 through 1989. In January of 1997, Mr. Dickson received the Secretary's Gold Award for participation on the Human Radiation Experiments Team. This team identified and made records of human radiation experiments conducted by the department available to the public. During the last 4 years, Mr. Dickson has taken a leadership role in the conduct of Environment, Safety, Health and Quality Assurance (ESH&QA) management systems assessments at the INEEL. These included assessments of the effectiveness of the ESH&QA oversight program, work control program, safety authorization basis, and PAAA Act Implementation. Mr. Dickson served as the Acting Director of the Policy and Assurance Division during fiscal year 1999. Mr. Dickson completed the DOE Technical Qualification Program in the functional area of radiation protection in 1998. He completed a NQA-1 Lead Auditor Training Course in 1997 and an ISO 14000 Advanced Environmental Management Systems Auditors Course in 1998. He was a member of the INEEL ISMS Phase I and Phase II Verification Teams, and the RESL Phase II Verification Team.

Peter Dirkmaat has thirty-two years of nuclear experience as a DOE employee. He has served as a facility representative at the EBR-II and TREAT Reactors. At various times he managed Idaho Operations Office efforts in nuclear and criticality safety, radiological safety, and special programs. He managed the field aspects of the New Production Reactor program, at both the Idaho and Savannah River sites. He served as senior technical advisor for the Programmatic Spent Nuclear Fuel EIS issued in 1995. Mr. Dirkmaat initiated the National Spent Nuclear Fuel program, which prepares DOE fuel for a national repository. He is presently director of the INTEC Programs Division. Mr. Dirkmaat holds an undergraduate degree in electrical engineering, and advanced degrees in nuclear engineering and business administration.

Thomas Helms is a senior environmental scientist with the Legin Group and has a doctorate in geochemistry with technical expertise in the development/application of numerical and analytical models for understanding fluid, chemical and heat transfer, and the consequences of radiogenic heat generation in differing geologic/kinematic environments. Dr. Helms has over ten years practical experience in providing independent reviews and assessments of a variety DOE projects and operations, including nuclear operations, decommissioning projects, and environmental restoration projects. He currently serves as the lead consultant to Office of Environmental Management (EM) Office of Safety, Health and Security for the development and maintenance of the EM Functions, Responsibilities and Authorities Manual, issued in response to Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 95-2. He is responsible for the development and updating of the Office of Safety, Health and Security Integrated Safety Management System & EM Functions, Responsibilities and Authorities training for EM employees. Dr. Helms also tracks and analyzes progress of ISMS implementation and safety performance indicators of sites under the cognizance of EM for the Office of Safety, Health and Security and provides reviews and analysis of safety management directives for the Office of Safety, Health and Security.

Recent reviews and assessments have included the management and conduct of an independent six month review of Standards and Requirements Implementation for DOE-Savannah River, analyzing the flow-down of requirements and the extent to which manuals, procedures and plans were tailored to facility hazards. Participated in an independent review of the Savannah River Site Defense Waste Process Facility, including an analysis of the current safety basis and their maintenance management program. Other recent independent reviews include the DOE EM Office of Project Management Independent Review of the DOE INEEL WAG 3 Environmental Restoration Project, providing a review and analysis of safety preparedness and planning at the project-level.

Consulting activities over the past decade have included a broad spectrum of regulatory and technical support to commercial and government clients. These included risk and hazard analyses, including a hazard and liability assessment of U.S. Army Kwajalien Atoll waste disposal options for PCB contaminated liquids, a quantitative analysis for DOE EM of the impact land use assumptions have on risk-based cleanup levels for uranium and plutonium contaminated soils, and a geostatistical analysis of groundwater contaminants at the Oak Ridge Reservation. Provided technical/regulatory reviews for the DOE of over 175 environmental

compliance documents including Remedial Investigation and RCRA Facility Investigation Work Plans, Remedial Investigation and RCRA Facility Investigation Reports, Feasibility Studies, Remedial Action Plans, RCRA Part B Permits, Proposed Plans, and Records of Decision. Served as the subject matter expert in the Functional Areas of Facility Safety and Packaging and Transportation for the Standards/Requirements Identification Document assessment team for the Enriched Uranium Deposit Removal Project at the Oak Ridge K-25 Plant and was the lead consultant to DOE EM in the development DOE Office of Environmental Restoration Standards/Requirements Identification Document.

Dr. Helms received a B.S. from Emory University (1982) and a Ph.D. from the University of Tennessee (1991); is currently the manager of the Legin Group's Oak Ridge, Tennessee office; and provides technical, regulatory, and management support to the US Department of Energy, Office of Environmental Management Office of Safety Health and Security and Legin Group, Inc.'s other government and commercial clients.

Nicole K. Hernandez is a Facility Representative at the Radioactive Waste Management Complex/Waste Reduction Operations Complex (RWMC/WROC) for the Department of Energy Idaho Operations Office (DOE-ID). She has recently completed her Facility Representative 93-3 Qualifications at DOE-ID for RWMC/WROC. She holds a Bachelor of Science in Engineering with a major emphasis in Nuclear Science and Thermal Fluids (1993) and is currently pursuing a Master of Science in Environmental Engineering, both from the ABET accredited engineering program at Idaho State University, Pocatello, Idaho. She has been certified as an Engineer-in-Training (EIT) by the State of Idaho Board of Registration of Professional Engineers and Professional Land Surveyors since 1994. She has 6 years of professional environmental experience and has been employed with the DOE for 4 years.

As an employee of DOE-ID, Ms. Hernandez has worked as a Facility Representative at RWMC/WROC, as an auditor in the Office of Policy, Assurance and Resource Management Division (OPA&RM), and as an INEEL Environmental Compliance Specialist at the Central Facilities Area/Test Area North/Specific Manufacturing Complex . While working in OPA&RM, Ms. Hernandez participated in several assessments/appraisals of the INEEL including: the ESH&QA oversight program, the work control program, HAZWOPER program, the Independent Safety Review Group (ISRG) at the IRC, and various waste management programs. As an Environmental Compliance Specialist, she was the team leader for the INEEL Release Reporting/Emergency Planning and Community Right-to-Know Act (EPCRA) assessment. Additionally, she has participated in the following Readiness Assessments (RAs) and Operational Readiness Assessment (ORRs) for the start-up and restart of INEEL facilities: the Idaho Chemical Processing Plant (ICPP) Tank Farm RA, the ICPP High Level Liquid Waste Evaporator (HLLWE) ORR, and the TRA ARMF/CFRMF RA.

Ms. Hernandez previously worked for Newport News Reactor Services at the Naval Reactors Facility at the INEEL for 2 years as a Senior Environmental Compliance Engineer. Her responsibilities there included interpreting environmental regulations; developing environmental programs including an audit and surveillance program, sampling program, and waste

characterization and management program; performing technical and management assessments; and evaluating and implementing proposed and final environmental rules and regulations.

Ms. Hernandez has completed supplemental training in various areas such as: PCB waste management, environmental sampling, DOE environmental auditing, environmental laws and regulations, EPCRA, CERCLA site remediation, RCRA regulations and waste management, RCRA LDR requirements, pollution prevention, nuclear criticality safety, HAZWOPER, Management Oversight and Risk Tree/DOE Accident Investigation, project management, conduct of operations, and radiological control.

Charles A. Jones has been with the Department of Energy, Idaho Operations Office since 1987. With the Department of Energy, he completed 93-3 qualification for Facility Representative and facility specific qualification as a Facility Representative at the Advanced Test Reactor/Test Reactor Area. From 1995 to 1997, Mr. Jones worked in the Occupational Safety Division of the Idaho Operations Office in the areas of general industry and construction safety. During that time he completed 93-3 qualification in Occupational Safety. Since 1987, Mr. Jones has served as either the team leader or a team member for various assessments including the Type A accident investigation of the CO_2 accident at the Test Reactor Area, four Operational Readiness Reviews for various facility restarts at the INTEC, full and partial Conduct of Operations assessments at all INEEL facilities, and many others. Mr. Jones has completed various training courses in such areas as OSHA, criticality safety, conduct of operations, environmental compliance, accident investigation and radiological controls. Prior to the Department of Energy, Mr. Jones served twenty years in the Naval Nuclear Power Program. In this capacity, Mr. Jones was responsible for all aspects of nuclear power plant operations, maintenance, and training in both operating submarines and nuclear prototype reactors. Mr. Jones was qualified as Engineering Officer of the Watch and Engineering Watch Supervisor.

Richard Kauffman is an Environmental Engineer for DOE-Idaho working in the areas of water and TSCA. He has just completed a detail assignment as the Deputy to the RWMC Facility Director where his duties included oversight of ISMS management systems. He holds a Bachelor of Science degree in Mechanical Engineering, and is a Registered Environmental Manager. Mr. Kauffman previously worked for the Naval Nuclear Propulsion Program at Mare Island Naval Shipyard. His responsibilities there included, monitoring and evaluation of radiological and non-radiological effluents released to the environment, preparing assessments of internal and external doses to occupational workers, participating in emergency preparedness, directing the processing of radioactive liquid wastes, and establishing the mixed waste management program at the Naval Shipyard. At DOE-Idaho, Mr. Kauffman completed 93-3 qualification in the areas of Facility Representative and Environmental Compliance. He has been a qualified Facility Representative at the Waste Reduction Operations Complex and the Central Facilities Area, a INEEL-wide Environmental Compliance Specialist, and oversaw the development of the Test Reactor Area environmental management system. He has completed training in various areas such as OSHA, conduct of operations, environmental compliance, radiological control, project management and supervision, and the ISO 14000 Advanced Environmental Management Systems Auditors course. Mr. Kauffman has been involved in various readiness, compliance, and management system assessments.

Bill Leake is currently the Division Director of the Office of Infrastructure Management at the Idaho Operations Office. This office is responsible for ensuring the Idaho National Engineering and Environmental Laboratory (INEEL) maintains the necessary facilities, utilities, support structures, and services to support the assigned missions. The infrastructure consists of over 500 buildings, 1,000 support structures, 146 miles of paved roads, 56 miles of electrical transmission lines, several support laboratories; and fleet of several 100 vehicles. Additionally this office is responsible for the Deactivation, Decommissioning, and Decontamination of excess and surplus INEEL facilities. Currently this office is managing the removal of spent nuclear fuel from the Power Burst Facility, the Materials Test Reactor and the Three Mile Island fuel from the Test Area North fuel pool. Another major area of responsibility for this office is the establishment of a single, integrated maintenance management and work control process for the INEEL.

Previous to this current assignment, Mr. Leake was the Division Director for the Engineering and Construction Management Division. This Division was responsible for all construction of new facilities, systems and upgrades at the INEEL. Key accomplishments during his tenure in this position include building the highway overpass to enable traffic to more safely egress the INEEL; addition of several office buildings across the site; construction of a state-of-the-art transportation complex facility for maintaining the fleet of over 100 buses, several hundred light vehicles, and a large array of heavy equipment; constructed several laboratories, RCRA waste storage buildings and numerous utility system upgrades.

Other positions held at DOE-Idaho include Branch Chief of the Nuclear Safety and Quality Assurance Branch, DOE-ID Team Lead for the INEEL Post Tiger Team Review, and Quality Assurance Engineer.

Prior to coming to work at DOE-Idaho, Mr. Leake was a maintenance and operations consultant who's clients included: Arizona Public Service Company (Palo Verde Nuclear Generating Stations and Four Corner Fossil Power Plant); GPU Oyster Creek Nuclear Generating Plant; Los Angeles Department of Water and Power; Northwest Pipeline; Stauffer Chemical and Mining Company; TRANE Manufacturing; Wheeling-Pittsburgh Steel; Howmett Turbine; Dunlop Tire to name a few. Also Mr. Leake was selected by the Electric Power Research Institute to provide training to several utility companies across the United States on how to implement effective Maintenance Management Programs. Mr. Leake also, worked for Bettis Atomic Power Laboratory at the Naval Reactors Facility and was a qualified Engineering Officer of the Watch and Senior Shift Supervisor at the S5G Prototype. Prior to that Mr. Leake was an Electrician Mate First Class, Submarine Qualified, on the U.S.S. Skate SSN-578 and a candidate for assignment to the nuclear powered deep submergence vehicle Naval Reactors 1 (NR-1). Mr. Leake was also a crew member for the support of bathyscaph Trieste.

Mr. Leake has a Bachelor of Science Degree in Mechanical Engineering and graduated magna cum laude.

Chuck Ljungberg is a Senior Environmental Scientist with the DOE Idaho Operations Office Integration and Process Management Division. He holds a B.S. in Environmental Science from

the State University of New York College of Environmental Science and Forestry. He has 22 years of professional environmental experience and has been employed with the DOE for the past 13 years. He currently functions as the ID Environmental Management Systems (EMS) subject matter expert, and oversees development and implementation of the INEEL EMS and the effort to secure registration to the ISO14001 EMS voluntary consensus standard. Mr. Ljungberg is also the INEEL Pollution Prevention Program coordinator. He formerly held the positions of Chief, Environmental Compliance Branch, Deputy Director and Director Environmental and Quality Assurance Division at DOE Idaho, and Environmental Program Manager at the DOE West Valley Demonstration Project. He sits on the DOE EMS Topical and Steering committees. He has extensive environmental and management systems oversight experience. Mr. Ljungberg is a Registered Environmental Manager, Certified Environmental Auditor, Certified Environmental Systems Manager, and an ISO14000 Lead Auditor-in-training.

Mr. Ljungberg previously worked for the US. EPA as an Enforcement Inspector with the Region 8 Air and Toxics Division; with Ecology and Environment's Field Investigation Team characterizing uncontrolled hazardous waste sites; the State of New York as a Fish and Wildlife Technician; and with the Carborundum Company as an Environmental Technician. He was a member of the INEEL Phase I and Phase II Verification Team.

Lawrence E. Miller has over nine years experience at the Department of Energy as a nuclear engineer within the Office of Nuclear Facilities Management (NE-40) within the Office of Nuclear Energy, Science and Technology (NE). Since joining the Department, he has served as the Headquarters Program Manager for the Advanced Test Reactor and the Idaho Test Reactor Area. He graduated from Duke University in 1965 with a Bachelor of Science Degree in Math and Physics. He entered the Navy Nuclear Power Program upon graduation, and served 26 years as an officer in the U.S. Navy nuclear propulsion and nuclear weapons programs. During his Navy Career, he received a total of over three years of formal courses of instruction in nuclear and general power plant engineering at the post-graduate level. While in the Navy, he gained extensive experience in the areas of: conduct of operations, maintenance and training associated with nuclear power plants; nuclear waste management; radiation health; nuclear disaster control; nuclear weapons design, maintenance, security and delivery systems; and nuclear weapons command and control. He served in various assignments on five nuclear submarines including as Commanding Officer of the nuclear fleet ballistic missile submarine USS JAMES MADISON SSBN 627 Gold. Prior to command, he served two shore assignments. The first was on the staff of the S1W Navy nuclear power prototype plant in Idaho as an instructor and later as the Academic Director at a major submarine training command managing over 100 technical courses of instruction for Navy nuclear submarine personnel. After command, he served as Assistant Chief of Staff for Operations for Commander Submarine Group SIX. He completed his Navy career at the Pentagon as officer in charge of strategic nuclear submarine command and control analysis and assessment. Upon retirement from the Navy in 1991, he joined the Department, and, in addition to his primary assignment noted above, he routinely performs special assignments involving conduct of operations management at other DOE test and research reactors under NE. Significant collateral duties while at DOE include being the NE representative on the Department's Radiological Control Coordinating Committee and the Code of Federal Regulations Nuclear Safety Rule Implementation Steering Group. He also serves as

the NE point of contact on Defense Nuclear Facilities Safety Board matters. In this capacity, he served as the NE representative on the Department wide team that drafted the Implementation Plan for Board Recommendation 95-2, and has since served as the NE point of contact on Integrated Safety Management System implementation issues.

Matea H. McCray has a Bachelor of Science in General Engineering and 12.5 years of Project/Program Manager for the DOE Idaho Operations Office. In her current capacity, Ms. McCray is the team lead for DOE-ID review and approval of Advanced Mixed Waste Treatment Facility (AMWTF) Safety Analysis Reports (SARs) including preparation of the Safety Evaluation Reports. She has eight years of Project Management Experience controlling project scope, schedule and cost covering a gambit of projects from small construction projects to a large spent fuel facility. From 1990 to 1992 as the DOE-ID Program Manager for INTEC separations processes, she reviewed and obtained DOE-ID approval on countless Plant Safety Documents (PSDs) which were individual sections of the INTEC Reprocessing Safety Analysis in support of INTEC's then mission of reprocessing spent uranium fuel. In 1988 through 1989, she was the DOE-ID Program manager responsible for preparation, review and approval of the Special Isotope Separation (SIS) Environmental Impact Statement (EIS). Over her 13 years of DOE-ID experience, she has performed oversight on three significant contractor operational readiness reviews (ORRs), and participated in one DOE-ID readiness assessment (RA). Ms. McCray has completed extensive training in multiple programmatic areas such as Safety Analysis, OSHA, Conduct of Operations, Project Management, Program Management and Supervisory.

Glenn Morton, P.E., is a Fire Protection Engineer with the Department of Energy Savannah River Site (DOE-SR) in the Safety Division. He holds a B.S. in Mechanical Engineering from the University of Tennessee and has completed graduate studies in Industrial Hygiene (IH) from the University of South Carolina and similar courses in IH from the Medical University of South Carolina. He has 12 years of experience in the fire protection and safety field, and is a registered Professional Engineer in Fire Protection. Mr. Morton spent the first 2 years of his career with the Tennessee Valley Authority (TVA) where he served as a fire protection engineer during the restart of Sequoyah Nuclear Plant, Units 1 and 2, after TVA had shut down it nuclear program due to safety concerns. His assignments included 10CFR50.59 Safety Evaluations, 10CFR50 Appendix R reviews and design of fire protection systems. Mr. Morton left TVA in 1989 to take a position as a fire protection engineer with Chas T. Main, Inc., a private A&E firm. His assignments included Fire Hazards Analysis and design of fire protection systems for New York Power Authority and DOE Savannah River Operations Office. In 1991 he assumed a position with DOE, where he provided technical support for fire protection to the DOE Waste Operations and Technical Support Division. Currently he is providing technical oversight for fire protection, safety, and industrial hygiene to the Assistant Manager for Health Safety and Technical Support. He is matrix to the DOE-SR line organizations, Assistant Manager for High Level Waste and Assistant Manager for National Security where his duties include technical oversight in the areas of safety and health. Mr. Morton served on the DOE-SR Operational Readiness Evaluations for FB-Line, E-Area Burial Vaults, and H-Canyon. He has also served as a team member of the DOE-SR Startup Validations Assessments for the In-Tank-Precipitation and Defense Waste Processing Facility. He performed the industrial safety and hygiene review for the Integrated Safety Management System (ISMS) Phase II Assessment of FB-Line and more

recently the safety and health portions of the Hanford, Tank Waste Remediation System (TWRS) ISMS Phase I verification. He has performed the safety and health portions of the Operational Readiness Reviews (ORR) for Savannah River Site H-Canyon, HB-Line, and Tritium Facilities and on the ORR for the Waste Isolation Pilot Project (WIPP). He was a member of the INEEL Phase I and Phase II Verification Team.

Douglas Outlaw is an experimental nuclear physicist with a broad background in technical assessment and policy analysis of ES&H issues and problems for DOE, NRC, NASA and other Federal agencies. His principle efforts with SAIC have been supporting DOE, NRC and NASA Headquarters and the major contractor operating the DOE sites in safety and environmental analysis. This has included preparation of safety analysis reports and various environmental documents, such as environmental assessments and impact statements. He is currently serving as a senior program manager and senior scientist at SAIC. For DOE Headquarters, he is serving as a technical nuclear safety expert for facility and criticality safety program reviews of ongoing operations, Integrated Safety Management (ISM) implementation reviews, and Operational Readiness Reviews (ORRs) for the startup or restart of DOE nuclear facilities. His principal areas of review include safety assessment, safety basis for operation, nuclear criticality safety, and Integrated Safety Management. He has recently served as a safety expert for ISM reviews at FB-Line at the Savannah River Site and the Superblock and Phase IA/IIA Sitewide reviews at LLNL. He is also serving as the Senior Advisor for the LLNL Phase IB/IIB site wide ISM reviews. Dr. Outlaw also served as a technical expert in eight DOE-HQ/DP sponsored Technical Safety Appraisals of major DOE facilities, as well as 19 DOE Headquarters sponsored ORRs. His areas of review have included safety basis, criticality safety, engineering support, emergency preparedness, and DOE support. Dr. Outlaw has also recently supported NRC Headquarters in 20 criticality safety inspections of licensed fuel fabrication facilities.

Patrick Smith is the Industrial Safety Branch Chief for the Department of Energy in Idaho. He earned his Bachelor of Science Degree in Fire Protection and Safety from Oklahoma State University and his Masters of Science at the University of Idaho in Safety. Patrick has completed DOE technical qualifications in the disciplines of fire protection and industrial safety. Currently he serves as the first line supervisor for the technical disciplines of industrial safety, industrial hygiene, construction safety, fire protection, life safety, explosive safety, fire department operations and firearm safety. Since beginning employment with DOE in 1991, Patrick has served as the DOE-ID Fire Protection Engineer, “Authority Having Jurisdiction” for fire protection and life safety matters and the Deputy Director of the Operational Safety Division. General and nuclear industry experience includes facility design, construction and operation. Mr. Smith served as a Systems Engineering Fire Protection Engineer for a DOE M&O Contractor for two years. His responsibilities included the configuration control of the fire protection program. Other tasks included the design review of new and upgraded facilities for fire protection and life safety concerns, coordination of fire department response capabilities, technical evaluation of plant conditions and review and approval of automatic fire protection system upgrades at a nuclear fuel processing complex. He also was assigned to a nuclear power facility under construction. Activities included the development of code compliance evaluations and reports for various NFPA standards. Other responsibilities include the review and approval of fire suppression system drawings and calculations. Involvement also included the development of

the fire protection related configuration control program. Operational Readiness Review (ORR) responsibilities included the ANL-W Fuel Cycle Facility and the RWMC Type I Storage Facility. Other activities include field performance of performance based operational assessments ad served as a team technical advisor to the 1998 TRA-648 CO_2 fatality investigation and team member to the 1991 ICPP Coal Fired Plant Bunker Explosion. Patrick is an instructor for the University of Idaho for both undergraduate and graduates courses in fire protection and life safety.

Terry Smith is the Director of Operational Safety Division in the Office of Environmental Management for the Idaho Operations Office, Department of Energy. He has a Bachelor of Science Degree in Chemical Engineering and a Masters of Science Degree in Nuclear Science and Engineering. Mr. Smith has been with the Idaho Operations Office for nine years and has served as a Facility Representative and Facility Engineer at the Advanced Test Reactor and as the Technical Lead for Nuclear Safety. He has participated and led numerous operational readiness reviews, safety analysis report and technical surveillance requirements review, and managed various projects for DOE-ID. He participates on the DOE Secretarial Officer Working Group on Safety Analysis and the INEEL Occupational Health and Safety Council. Mr. Smith is also a member of the Nuclear Reactor Safety Committee for Idaho State University.

Previous to his employment for DOE he worked as the Manager of Isotope and Nuclear Chemistry Group 5 (INC-5), the Research Reactor Group, (Facility Manager, Operations Manager, Maintenance Manager of the Omega West Reactor) Isotope and Nuclear Chemistry Division, Los Alamos National Laboratory. Mr. Smith also served on the Los Alamos National Laboratory Reactor Safety Committee. INC-5's mission was to provide Nuclear Reactor Physics support to the nuclear weapons program at Los Alamos National Laboratory. The major services included; isotope production; neutron activation analysis; neutron radiography; neutron spectroscopy; and filtered beams for radiation electron instrument calibrations.

Mr. Smith also served in the capacity of Radiation Safety Officer and Operations Manager for the Nuclear Reactor Laboratory at Idaho State University. As Safety Officer, he was responsible for ensuring that radioactive materials, hazardous chemicals and radiation producing machines were procured, used and disposed of in accordance with all NRC license conditions, state and Federal laws, and university policy. He developed the radiation protection program for ISU and provded standard calibrated dosimetry to users at ISU and standard calibrated radiation measuring instruments. He also taught graduate level courses on radiation detection and control. While at ISU he represented the State of Idaho on the Northwest Region Task Force for the disposal of low level radiation waste.

Mr. Smith is a graduate of the United States Navy Nuclear Propulsion Program and served as a commissioned officer on board three nuclear powered submarines. He was a member of the INEEL Phase I and II Verification Team.

Stephen Somers is a Physical Scientist working in the Operational Safety Division of DOE-Idaho. Current assignments are Technical Lead for Operational Training at the INEEL and the Price Anderson Enforcement Coordinator. Prior to working for DOE-Idaho he was staff instructor at the S5G Prototype, qualified as Engineering Officer of the Watch/Engineering

Watch Supervisor, and served as S5G Plant Leading Petty Officer for Reactor Controls Division. In the seventeen years with DOE-Idaho he has been the Facility Representative for the Power Burst Facility and Program Manager for the Severe Fuel Damage Test Program. He has participated in and lead numerous Operational Readiness Reviews and various assessments conducted at the INEEL. He was a team member for the review of the 10CFR830.120 Quality Assurance Program/ Implementation Plan submitted by Lockheed Martin Idaho Technologies Company and the review team leader for the 10CFR Part 835 Radiation Protection Program submittal by Lockheed Martin Idaho Technologies Company and the DOE-ID Radiological & Environmental Sciences Laboratory. He is qualified under the 93-3 Technical Qualification Program in the Functional Area of Technical Training. He has coordinated each of the Price Anderson enforcement investigations at the INEEL and has been a team member on two of the enforcement investigations.

Kenneth Whitham is the Radiological Controls program Manager and the alternate Price Anderson Amendments Act Coordinator in the Operational Safety Division for the Idaho Operations Office, Department of Energy. He has a Bachelor of Science Degree in Physics, emphasis in Health Physics and 30 credit hours towards a Masters of Science in Health Physics. Mr. Whitham has been with the Idaho Operations for six years and has served as the Health Physics Technical Lead for the Operations Office and a DOE Staff Health Physicist at the Radioactive Waste Management Complex. He has participated and led numerous operational readiness reviews, regulatory reviews, safety analysis report and technical reviews and managed various projects within the Department. He is a member of the DOE Radiological Controls Coordinating Committee and has supported various DOE-HQ programs in technical assessments and regulatory investigations.
Previous to his employment with the Department he worked as a staff Health Physicist at the Idaho State University. He developed the University's Radioactive Material Source Control and procurement program, Radioactive Waste Management program and the External Dosimetry Program. Mr. Whitham is also the University's first NRC Type A Broad Scope Materials License application.

Mr. Whitham is a graduate from the United States Navy Nuclear Propulsion Program where he served as a Nuclear Reactor Operator on board a nuclear powered submarine and served as a staff instructor at the U. S. N

Alice C. Williams has been with the Department of Energy since 1987 and is currently the Deputy Assistant Manager for the DOE-ID Office of Technical Support. This organization has responsibility for Safeguards and Security, Quality Assurance Oversight, Environmental Technical Support (compliance), Performance Assurance, and cross-cutting programs such as project management, and NEPA. Before this assignment she was the Deputy Assistant Manager for the Office of Program Execution. In this capacity, she was responsible for the programmatic aspects of the Environmental Management activities at the INEEL (Environmental Restoration, Waste Management (LLW, MLLW, and TRU), -High Level Waste, and Spent Nuclear Fuel). Before her -EM assignments, she worked in the New Production Reactor Program for DOE-HQ in support of the High Temperature Gas Reactor design concept for production of tritium and plutonium, as well as on the DOE/SDIO programs to develop space nuclear power systems to

meet defense needs. She has experience as a Contracting Officer's Representative, served as a technical member of the Source Evaluation Board for the selection of BBWI as the M&O contractor for the INEEL, supported DOE-HQ in complex-wide reviews, and chaired an accident investigation team.

Before she began working for DOE, she worked for EG&G Idaho, Inc. for eleven years. During this time she was involved with developing and testing instrumentation to support nuclear reactor safety test programs (high temperature, high radiation fields, and two-phase flow regimes), as well as moving into the ranks of engineering management. She also supported the analysis of the TMI-2 accident, with emphasis on thermocouple and resistance thermal device (RTD's) performance.

She has a bachelor's degree in chemistry, and a master's degree in chemical engineering. She is a fully qualified Senior Technical Safety Manager and a qualified Management Duty Officer.

Appendix II

Criteria and Review Approach Document

Phase II ISMS Core Expectations

The following eight Core Expectations (CE) will be considered during the Phase II assessment of INEEL ISMS implementation. This set of CEs is based on the fact that the ID Manager has formally approved the ISMS Description. This acknowledges that contractor ISMS programs are satisfactory at the corporate or site level. Any comments that affect the adequacy of the safety management programs should be resolved and incorporated before the Phase II review occurs.

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)

2. The full spectrum of hazards associated with the Scope of Work is identified, analyzed, and categorized. Those individuals responsible for the analysis of the environmental, health and safety, and worker protection hazards are integrated with those personnel assigned to analyze the processes. (CE II-2)

3. 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 help ensure adequate protection of the public, worker, and the environment and are established as agreed upon by DOE. These mechanisms provide integration, which merge together at the workplace. (CE II-3)

4. An integrated process has been established and is utilized to effectively plan, authorize and execute the identified work for the facility or activity. Both workers and management demonstrate a commitment to ISMS. These mechanisms demonstrate effective integration. (CE II-4)

5. A process has been established and is utilized which ensures that mechanisms are in place which can 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)

6. Clear and unambiguous roles and responsibilities are defined and maintained at all levels within the facility or activity. 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)

7. DOE ISMS procedures and mechanisms are established which can 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)

8. DOE ISMS procedures and mechanisms are established which can ensure those hazards are analyzed, controls are developed, and that feedback and improvement programs are in place and effective. DOE line managers are using these processes effectively, consistent with FRAM and FRA requirements. (CE II-8)

Each CRAD objective includes a reference to the specific ISMS CE that it addresses. The referenced CE, as delineated in the ISMS Guide 450.4-1 and the ISMS Verification Team Leader's Handbook, is included in parenthesis after the statement of the objective.

DEPARTMENT OF ENERGY (DOE)

OBJECTIVE: DOE.1 DOE procedures and mechanisms are established to help ensure that hazards are analyzed; controls are developed; work is formally and appropriately authorized and performed safely; and feedback and improvement programs are in place and effective. DOE line managers are using these processes effectively, consistent with FRAM and FRA requirements, and are involved in the review of safety issues and concerns and have an active role in authorizing and approving work and operations. (CE II-7, CE II-8)

CRITERIA:

DOE procedures and/or mechanisms are in place that establish a process for confirming readiness and authorizing operations.

DOE procedures and/or mechanisms are established to help 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.

DOE procedures and/or mechanisms require day-to-day operational oversight of contractor activities through Facility Representatives.

DOE procedures and/or mechanisms are established to help ensure the implementation of quality assurance programs and ensure that contractors implement quality assurance programs.

DOE procedures and/or mechanisms are in place to help ensure that the contractor's hazard analysis covers the hazards associated with the work and is sufficient for selecting standards.

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

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

DOE procedures and/or mechanisms are in place 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.

DOE procedures and/or mechanisms require that contractors develop a lessons-learned program and monitor its implementation. A process is established 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 in order to profit from prior experience and the lessons learned. DOE provides effective line oversight of the contractor's self-assessment programs.

APPROACH:

Record Review: Review ID documents pertaining to the implementation of ISM for DOE at INTEC, such as the "DOE Integrated Safety Management Functions, Responsibilities and Authorities" at INTEC to assess that line management is responsible for safety, and that their responsibility is clearly defined in roles and responsibilities.

Review ID documents relating to the implementation of DOE programs at INTEC related to "Environment, Safety, Health and Quality Assurance Oversight" and "Independent Assessment." As possible, sample select surveillance reports for INTEC to determine if mechanisms are established to help line management performs oversight of the contractor's ISMS. Review documentation pertaining to the ID Oversight, Review Schedules, and reported results to assess the adequacy of this oversight at INTEC. Review ID Facility Representative (FR) Position Descriptions, Performance Agreements, and FR reports and oversight documentation to determine if mechanisms are in place to require day to day operational oversight by FRs at INTEC.

Review documentation pertaining to the implementation of INTEC documentation on the "Quality Assurance Program" and Quality Program Plans (QPPs) to determine if they help the implementation of quality assurance program by ID and the Contractor. Review documents such as "Safety Basis Review and Approval Process" to determine if this mechanism is sufficient and tailored to facility work and hazards.

Review documentation related to the implementation at INTEC of activities such as "DOE-ID Performance Measure, Trend Analysis, and Communications" to determine if this mechanism assists contractors to develop a lessons-learned program and monitor its implementation. Review the documentation pertaining to the results of the implementation for INTEC, "DOE-ID INTEC Issue Management," to evaluate adequacy of implementation to continuously improve efficiency and quality of operations. Review documentation such as the "DOE-ID Self-Assessment" at INTEC to determine the adequacy of the implementation of the ID management self-assessment program at INTEC.

Interviews: Interview the INTEC Facility DOE Management and Site Area Directors and discuss work authorization and performance to determine if there are adequate mechanisms to ensure that work is properly authorized for INTEC.

Interview DOE and Contractor Line Management personnel at all levels and discuss the INTEC oversight programs. Discuss the Facility Representative (FR) programs with facility

representatives and contractor personnel to determine if the FR program is effective at INTEC. Discuss oversight and assessment programs with DOE INTEC staff, to assess their understanding of line management responsibility for safety and clear roles and responsibilities.

As possible, interview DOE personnel such as other Division Directors to assess their review and approval of the results of the contractor's ISMS implementation, their understanding of the ISMS procedures and principles, their oversight of the contractor's self-assessment programs, and the DOE-ID management self-assessment program at INTEC.

Observations: As possible, observe INTEC facility representative and DOE staff oversight activities. These activities could include such activities as: "Environment, Safety, Health and Quality Assurance Oversight" activity, "walkdowns" of the facilities with the FRs, as possible, Facility Director Conference Calls, Facility Director staff meetings, and interface with the contractor to determine line management understanding and awareness of operations.

HAZARD IDENTIFICATION AND STANDARD SELECTION (HAZ)

OBJECTIVE: HAZ.1 The full spectrum of hazards associated with the Scope of Work is identified, analyzed, and categorized. Those individuals responsible for the analysis of the environmental, health and safety, and worker protection hazards are integrated with personnel assigned to analyze the processes. 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 are used to ensure adequate protection of the public, worker, and the environment and are established as agreed upon by DOE. These mechanisms demonstrate integration, which merge together at the workplace. (CE II-2, CE II-3)

CRITERIA:

8. Procedures and/or mechanisms are in place and utilized by personnel to ensure hazards associated with the 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 environmental, health and safety concerns are integrated with those assigned to analyze the hazards for the facility or activity. The use of these mechanisms ensure direction and approval from line management and integration of the requirements.

9. Procedures and/or mechanisms are in place and utilized by personnel that describe the interfaces, 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.

10. Procedures and/or mechanisms are in place to develop, review, approve and maintain current all elements of the facility Authorization Basis Documentation with an integrated workforce.

11. Procedures and/or mechanisms that identify and implement appropriate controls for hazards mitigation within the facility or activity are developed and utilized by workers and approved by line managers. These procedures/mechanisms reflect the set of safety requirements agreed to by DOE.

12. The implementation of Standards and requirements is appropriately tailored to the hazards.

13. Procedures and/or mechanisms are in place to effectively and accurately implement all aspects of the Authorization Basis.

14. Workers actively participate in hazard identification, analysis, and mitigation processes.

APPROACH:

Record Review: Review the documents that govern the conduct, review, and approval of facility hazard analysis such as: Technical Safety Requirements MCP-2450 "Technical Safety Requirements", Fire Hazards Analysis (FHA) MCP-579 "Fire Hazards Analysis", Safety Analysis PDD-22 "Safety Analysis" and PRD-164 "Safety Analysis for Other than Nuclear Facilities", and MCP-3680 "Environmental Aspects and Evaluation" (EAE) to verify that these documents conform to the hazard analysis requirements.

Review a sample of hazard control documents 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, Safety Analysis Reports (SARs), Technical Safety Requirements (TSRs), Health and Safety Plans (HASPs), Auditable Safety Analysis (ASA), Fire Hazards Analysis (FHA), Criticality Safety Evaluation (CSE), etc.

Review procedures and documentation such as that pertaining to field verifications for activities/processes such as: STD-101 "Integrated Work Control Process," Radiological Work Permits (MCP-7 "Radiological Work Permit"), operations procedures (such as MCP-3480 "Environmental Instructions for Facilities, Processes, Materials, and Equipment), Hazards Identification and Control documents (MCP-3562 "Hazards Identification, Analysis & Control of Operational Activities" or MCP-3571 "Independent Hazard Review") to ensure accurate and effective implementation of Authorization Basis documentation requirements. In particular, note the integration of hazard identification and controls (i.e. chemical, radiological, wate streams, environmental) into the work planning process.

Where appropriate, review the process used to resolve Unreviewed Safety Questions (USQs) to ensure new tasks are being evaluated against the approved authorization basis as required by MCP-123, "Unreviewed Safety Questions." Review completed USQ or in progress USQ implementation documentation.

The primary focus of this section of the review (HAZ) is the identification of hazards, development of controls, the review, and approval of Authorization Basis documentation at the facility level. Implementation of controls for individual work items or activities will be evaluated using the Operations (OP) CRAD.

Interviews: Interview personnel responsible for the identification and analysis of work hazards including personnel responsible for ALARA review requirements. For example, this should include personnel responsible for USQ determination, procedure technical reviews, etc. 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, FHA, CSE, and EAE preparations and implementation.

Observations: As possible, observe the actual preparation and field implementation of the hazard analysis. In nuclear facilities, this should include an Unreviewed Safety Question Determination (USQD), preparation of a Job Safety Analysis (JSA), and a job walk down.

As possible, observe the actual processes development, review, approval, and implementation of SAR/TSR, and other Authorization Basis Documents as available. Where appropriate, observe that new tasks are being evaluated to determine if the tasks fall within the safety envelope described in the approved authorization basis as required by MCP-123, “Unreviewed Safety Questions.”

MANAGEMENT (MG)

OBJECTIVE: MG.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. An integrated process has been established 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-1, CE II-5)

CRITERIA:

9. 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.

10. Procedures and/or mechanisms are in place and utilized by personnel to 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.

11. 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 these roles are competent to execute these responsibilities.

12. Procedures and/or mechanisms are in place that develops 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. Corrective actions include identifying the causes and working to prevent recurrence.

13. 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.

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

15. Procedures and/or mechanisms are in place, which include a process for oversight that ensures that regulatory compliance is maintained.

16. The contractor has mechanisms in place to direct, monitor, and verify the integrated implementation of ISMS as described in the ISMS Description. Implementation and

integration expectations and mechanisms are evident throughout all institutional line and support organizational functions.

APPROACH:

Record Review: Review the facility or activity long-range planning documentation. This should include such items as summary schedules, plan of the week schedules, long-range schedules, modification schedules, etc.

Review the implementation of the mechanisms that line managers utilize to identify and prioritize mission-related tasks and processes, modifications, and work items. All direct funded work is controlled by procedures found in MCP-14, "Graded Approach to Defining Project Controls."

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. Standards and requirements are rolled down to the facility level for implementation utilizing the process described in MCP-2447, "Requirements Management." Review facility processes for ensuring standards and requirements promulgated by the MCP-2447 process are reflected in activities at the facility.

Review the implementation of INEEL Configuration Management Program described in PLN-485, "Project Plan for the Configuration Management Project," PRD-115, "Configuration Management" and STD-107, "Configuration Management Program." Review MCP-2811, "Design and Engineering Change Control," MCP-3630, "Computer System Change Control," MCP-3572, "System Design Descriptions," MCP-3573, "Validating, Controlling, Using, and Revising Vendor Data" and MCP-2377, "Development, Assessment and Maintenance of Drawings," to establish the facility/activity level configuration management processes at the INEEL. Review training records of personnel in the configuration management subject area to determine that they meet competency standards.

Review the performance monitoring documentation for the feedback and continuous improvement process. This should include such documents as occurrence reports, deficiency reports, results of post-job reviews, safety observer reports, Issue Communication and Resolution Environment (ICARE) reports and reports of self-assessments and independent assessments. Ensure occurrence reports and ICARE entries are being completed in accordance with the requirements specified in MCP-190, "Event Investigation and Occurrence Reporting" and MCP-2723, "Reporting and Resolving Employee Safety Concerns & Suggestions," respectively. Process deficiencies should be addressed by following the process described in MCP-598, "Deficiency Screening and Resolution."

Lessons learned are managed and processed in accordance with the requirements described in MCP-192, "Lessons Learned Program." Management self-assessments are conducted in accordance with MCP-8, "Self-Assessment Process for Continuous Improvement." The process

of independent assessment of facilities and activities is described in MCP-552, "Conduct of Independent Oversight Assessments." The FY-00 schedule of independent oversight assessment ativities can be found on the QA and Conduct of Operations internal homepage at URL: http://home.inel.gov/qa&coo/ipa.html. The Facility Excellence Program, described in PDD-1011, is a structured means of regularly assessing facilities for compliance in any of these areas.

Review procedures and documentation for work control to determine that adequate feedback and improvement mechanisms are in place at the individual maintenance or activity level. This should include documentation pertaining to the implementation of MCP-3003, “Performing Pre-Job Briefings and Post-Job Reviews,” as the activity-level requirements document.

Review actual reports, results, schedules, and available data from these processes, as well as corporate processes and procedures, to evaluate the effectiveness of the implementation of these mechanisms. Additionally review charters and output documentation from any corporate/site wide ISMS coordinating committees.

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

Interview personnel responsible for administering the feedback and continuous improvement process. This should include personnel such as those responsible for occurrence reporting, lessons learned preparation, ICARE entries, self-assessment, and oversight. Interview personnel responsible for capturing and utilizing feedback and improvement information during individual maintenance or other work activities. Interview line management to determine level of knowledge and involvement in the implementation of programs and activities such as the ICARE process.

Interview personnel and responsible managers in the configuration management subject area. Interview line managers to assess the establishment of clear roles and responsibilities and the understanding of the configuration management support provided to line managers. Interview chairman and key members of ISMS coordinating committees.

Observations: Observe work definition and planning activities to ensure that requirements specified by documents such as the Requirements Management process (MCP-2447) are considered and implemented at the activity level.

As possible, observe an Operational Safety Board (OSB) meeting. If possible, observe a program or project Change Control Board meeting. Observe a Pre-Job Briefing and a Post-Job Review. Observe any critiques, which may arise throughout the course of the observation process.

Observe events such as the development of an Engineering Change Form (ECF), Computer System Change Form (CSCF), or Document Action Request (DAR) for a technical document.

Observe any site-level ISMS committee meetings.

MANAGEMENT (MG)

OBJECTIVE: MG.2 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:

7. 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.

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

9. Facility or activity procedures specify that line management is responsible for safety.

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

11. Procedures and/or mechanisms are in place and utilized to ensure that personnel performing work are competent to safely perform their work assignments.
12. The contractor is using a process to establish, document and implement safety performance objectives, performance measures, and commitments in response to DOE program and budget execution guidance.

APPROACH:

Record Review: Review contractor organization charts and documents describing the contractor matrix management concept. Review organizational documentation such as PDD-1015 "Research and Development Operations,", PRD-5060, “Occupational Safety Functions, Roles, Responsibilities, and Interfaces,” MCP-3680, “Central Facilities Area Operations Information, Roles and Responsibilities,” and MCP-3776, “INTEC Roles and Responsibilities,” and other similar documents. Ensure roles and responsibilities for personnel responsible for safety are clearly defined and understood and properly executed. This review could include position descriptions, Form-325.01 “Employee Position Description (EPD)” and other applicable MCPs that describe roles and responsibilities related to ensuring safety are 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 such as PDD-13 “Conduct of Training,” MCP-27 “Preparation and Administration of Individual Training Plans,” and MCP-33 “Personnel

Qualification and Certification" to ensure that managers and workers are competent to safely perform work. Review the personnel records which should include the "Training and Implementation Matrix" (TIM), "Individual Training Plans" and "Employee Training History," to identify the individual qualifications that meet the elements of the position descriptions. Review the applicable records of qualification and certification. Review any training or qualification material, including training and qualification manuals such as Manual 12 and the associated processes that support gaining or verifying competence to fill the positions.

Review the process to establish, document and implement safety performance objectives that support DOE program and budget execution guidance.

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 to determine their understanding of competency requirements and their commitment to performing work safely. Interview senior contractor management at the facility to determine their knowledge of the ISM process and their commitment and participation in the process. Interview contractor line managers who are responsible for the establishment and implementation of the safety performance measures and safety objectives.

Observations: As possible, observe training being delivered for key programs such as hazards identification and analysis. 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.

As possible, observe activities such as weekly planning meetings, plans of the day, event critiques, safety training, OSB meetings, Pre-job briefs, Site Operations Council (SOC) meetings, Corrective Action Review Boards (CARBS) and safety meetings that may provide good examples of the safety training and decision making process. Activities such as facility/process operations, testing, and maintenance also provide opportunities to observe personnel in the execution of roles and responsibilities, their understanding of procedures, awareness of hazards and management commitment to safety.

OPERATIONS (OP)

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

CRITERIA:

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

7. 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.

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

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

10. Procedures and/or mechanisms are in place and utilized which ensure those adequate performance measures and indicators, including safety performance measures are established for the work, and the controls to mitigate hazards are observed while work is being performed.

6. Workers actively participate in the work planning process.

APPROACH:

Record Review: As applicable, review documentation and/or mechanisms that govern the work control process for planning, authorizing, and conducting work such as STD-101 "Integrated Work Control Process," MCP-3562 "Hazard Identification, Analysis & Control of Operational Activities," PRD-5043 "Operational Safety Boards", PDD 1012 "INEEL Environmental Management System" and MCP-3480 "Environmental Instructions for Facilities, Processes, Materials and Equipment." This review should assess the adequacy of the documents and the status of their implementation, to meet the requirements listed above and determine that the maintenance and work control process is effectively integrated into the facility/activity procedures. Review documentation that describes roles and responsibilities for the work control process, worker involvement in all aspects of the activity, and the work authorization process. Controls for individual work items or activities such as Job Safety Analysis (JSA), Radiation Work Permits (RWP), Hazard Profile Screen Checklist (HPSC), Work Control Forms (WCF), Confined Space Entry Permit, and operating procedures should also be evaluated.

As applicable, review the ALARA process to ensure the basic concepts of ALARA as well as any ALARA Committee recommendations are incorporated into the work control documentation.

Review the integration of subcontractor work control into the facility work control process. Evaluate the review of subcontractor work control documentation, the approval of the documentation, work authorization, and the oversight of subcontractor work in the facility.

Review the performance measures and performance indicators using the "INEEL Performance Measures and Trending Report," MCP-3521 "Trending Center," self -assessments conducted in accordance with MCP-8 "Self-Assessment Process for Continuous Improvement," or the Facility Excellence Program PDD-1011 "Facility Excellence Program." Determine if these tools provide information that is truly a direct indicator of how safely the work is being performed.

Review the process used to prepare Authorization Agreements, MCP-3567 "Authorization Agreements with Authorization Basis List" and TEM-2, "Template for Authorization Agreement with Authorization Basis List." As applicable, review the Authorization Agreements for the selected facilities 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 preparing, authorizing, performing, and measuring the performance of the work. This should include personnel such as those responsible for preparing and maintaining work control documents, hazard identification and control documents, the Plan of the Day (POD), equipment status files, pre-job briefings, and the conduct of facility or activity operations.

Interview personnel responsible for individual activity procedures and controls (e.g. JSAs, RWPs, HPSCs, WCFs, etc.) Verify adequate worker involvement at each step of the process.

Interview personnel responsible for the development and implementation of the self-assessment program including individuals who participate in self-assessments. As applicable, interview those individuals responsible for development, maintenance, and approval of the Authorization Agreement. Interview members of the management team charged with adherence to the requirements listed within the Authorization Agreement.

Observations: Observe the actual authorization and performance of work activities. Observe a plan of the day or plan-of-the-week meeting. As possible, attend an Operational Safety Board (OSB) meeting or an Independent Hazard Review Group (IHRG) meeting with field verification that hazard controls specified by the hazards control documents are being implemented. As possible, team members should observe the development of a maintenance work package as well as the field execution of a maintenance work package. Observation could include the pre-job brief, authorization by the managers to proceed, command and control of the work, review of safety requirements, post-job review, etc.

As possible, observe work hazard identification activities (e.g. JSAs, RWPs, etc.) and the application of MCP-3562 during an operational procedure walk-down and review. Observe worker involvement in these processes.

SUBJECT MATTER EXPERTS (SME)

OBJECTIVE:

SME.1 Within the radiological controls 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 the radiological controls subject area, 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:

6. Procedures and/or mechanisms for the radiological control area require adequate planning of individual work items to ensure that hazards are analyzed and corrective actions are identified.

7. Procedures and/or mechanisms for radiological control area contain clear roles and responsibilities. The radiological controls subject area is effectively integrated with line support managers to ensure that line managers are responsible for safety.

8. Procedures and/or mechanisms for the radiological control area require controls to be implemented that these controls are effectively integrated, and readiness is confirmed prior to performing work. Workers are involved in planning of radiological controls.

9. Procedures and/or mechanisms for the radiological control area require that personnel who are assigned to the radiological controls subject area have a satisfactory level of competence.

10. Procedures and/or mechanisms for the radiological control area require that within the radiological control area feedback and continuous improvement results.

APPROACH:

Record Review: The INEEL Radiological Control Program is described by PRD-183 "Radiological Protection-INEL Radiological Control Manual." Associated MCPs are located in Manuals 15A, 15B, and 15C. Review Manuals 15A, 15B, & 15C and selected records that define the procedures and interactions required for the radiological controls at the facility or activity level. Assess the adequacy of the documents, such as Manual 15A, Chapter 3 "Conduct Of Radiological Work," to effectively integrate the radiological controls into the facility work control process. Review requirements of MCP-91 "ALARA Program and Implementation." Evaluate the program's success in reducing individual and collective radiation exposure of the worker. Review ALARA Committee documents such as ALARA reviews for radiological work,

Radiological Performance Goals, and recommendations for exposure reduction. Review the facility's success in maintaining exposure below established goals. (The inability to maintain radiation exposure at or below established goals may indicate a serious weakness in the hazards identification and control area.) Evaluate if adequate consideration has been given to ALARA reviews and recommendations during the development of work control documents. Review work control documents noted in the Operations CRAD to ensure proper integration of radiological controls in the work control documentation. Review radiological work control documents to assess whether lessons learned have been effectively used within the radiological control area. Review training records of personnel in the Radiological Control organization and the site work force to determine if they meet competency standards listed in Chapter 6 of Manual 15A. Review the worker involvement in the ALARA processes.

Interviews: Interview personnel and responsible managers in the Radiological Control Organization to assess the establishment of clear roles and responsibilities and the understanding of the radiological controls support provided to line managers. Interview Rad-Con personnel to determine their understanding of the hazards identification and controls process and their input to this process. Interview personnel assigned to the Radiological Control Organization and the general site work force to assess the level of understanding and compliance with the ALARA program. Interview Rad-Con managers and technicians to determine their level of competency commensurate with assigned responsibilities. Interview members of the ALARA Committee to determine their understanding of their roles and responsibilities, as well as their competence, for being an ALARA Committee member. Interview the facility line management to assess the establishment of clear roles and responsibilities.

Observations: Observe events such as the development of work control documents, development of a radiological hazards analysis such as a radiological work permit or job safety analysis. Observe the review and approval process for radiological work control documents and individual work activities. Review the interactions between radiological control personnel and other facility personnel such as operations or maintenance during the execution of work activities. Attend any ALARA reviews or committee meetings. Observe work activities to ensure the controls specified by the hazards control documents are being implemented and complied with as the work occurs.

SUBJECT MATTER EXPERTS (SME)

OBJECTIVE: SME.2 Within the issues management functional area, the planning of issues management includes an integrated analysis of issue, and development and specification of necessary corrective actions. There is an adequate process for the identification, tracking and resolution of the issue, and a process for identifying opportunities for feedback and continuous improvement. Within the issues management functional area, line managers are responsible for issues management; clear roles and responsibilities have been established; and there is a satisfactory level of competence. (CE II-4, CE II-5, CE II-6)

CRITERIA:

2. Procedures and/or mechanisms for issues management require adequate planning of individual work items to ensure that issues are analyzed and corrective actions are identified.

3. Procedures and/or mechanisms for issues management contain clear roles and responsibilities. The issues management subject area is effectively integrated with line support managers to ensure that line managers are responsible for safety.

6. Procedures and/or mechanisms for the issues management area require that fundamental causes are determined, that corrective actions be implemented, that these corrective actions are effectively integrated, and that the corrective action effectiveness is confirmed prior to closing the issue. Workers are involved in the correction of issues.

7. Procedures and/or mechanisms for the issues management area require that personnel who are assigned to the issues management subject area have a satisfactory level of competence.

8. Procedures and/or mechanisms for issues management area require that within the issues management area feedback and continuous improvement results.

APPROACH:

Record Review: Review INTEC company procedures and mechanisms to determine if management has implemented the reporting criteria for issues or problems, procedures or mechanisms for reporting issues, mechanisms for prioritizing issues, timeliness expectations for addressing corrective actions, and roles and responsibilities for performing these functions. Review INTEC company procedures and mechanisms determine if a structured and consistent approach has been implemented for identifying root and contributing causes, and developing corrective

Sample investigation reports developed in accordance Event Investigation and Occurrence Reporting. If possible, sample reports for different categories of events (emergency, unusual,

off-normal, and non-reportable) to dewtermine if they are entered into the ICARE tracking system.

Review INTEC facility self-assessment reports to determine if the Self-Assessment Coordinator is reviewing these reports and entering results into appropriate tracking systems. Review results of INTEC post-job reviews and determine if appropriate issues are being entered into the deficiancy screening and resolution process. Review externally generated reports and surveillances (e.g., DOE-ID surveillance reports) to determine if issues are identified and entered into tracking systems.

Review INTEC company processes and mechanisms for reporting of performance measures, process indicators, performance goals and continuous improvement. Review INTEC reports to determine if feedback on appropriate performance measures and trending information is periodically and consistently provided to line management. Review INTEC company processes and mechanisms to determine if the issue management and associated trending activities are effectively integrated with the lessons learned program. Review INTEC processes for "rolling up" related issues, extending corrective action due dates, and then providing feedback (e.g. tracking and trending) of these activities.

Review the reports and minutes from the INTEC Corrective Action Review Board meetings to determine if they are adequate for prioritization , root cause determination, corrective action planning, timeliness of processing, and corrective action.

Review INTEC documentation of self-assessments of the Issue Management at INTEC to determine if the program is periodically monitored and assessed for effectiveness. Review documentation of any independent assessments of the effectiveness and performance of issue management program.

Interviews: Interview INTEC line managers to evaluate their involvement in the approval prioritization, timely completion, and closure verification of corrective actions. Determine if managers are receiving periodic feedback concerning issues management performance and trending results, and acting. Determine if issues management performance is addressed as part of the position descriptions and annual performance review. As possible, interview other individuals involved in the issue management process, such as the INTEC issue management coordinator, CARB coordinators, CARB members, and self-assessment coordinators to assess their understanding of roles and responsibilities. As possible, interview workers to determine their level of knowledge of the issue management program and their responsibilities for reporting at INTEC.

Observations: As possible, observe a Corrective Action Review Board meeting. As possible, observe the analysis of select issues, development of corrective actions, and/or closure of selected issues

Appendix III

ID Manager Appointing Memorandum

United States Government Department of Energy

memorandum

Idaho Operations Office

Date: April 17, 2000

Subject: Appointment of Mr. Terry Smith as Team Leader for the Idaho National Engineering and Environmental Laboratory Integrated Safety Management System Phase II Verification, Part III (ISM-07-00)

To: Terry Smith, Director
Operational Safety Division

In accordance with the requirements of the Department of Energy (DOE) Acquisition Regulations (DEAR), Section 9.2.2.6 of the DOE Manual of Safety Management Functions, Responsibilities and Authorities (M411.1-1), and contracts associated with operation of the Idaho National Engineering and Environmental Laboratory (INEEL), you are selected to be the Team Leader for the Phase II Integrated Safety Management System (ISMS) Verification (ISMSV-II).

1.0 Description of Activity: The review will verify the adequacy of the implementation of the ISMS for operation of a selected set of INEEL facilities and activities managed and operated by Bechtel BWXT Idaho, LLC (BBWI) under DOE Contract NO. DE-AC07-99ID13727. The review will include implementation of the DOE Idaho Operations Office (DOE-ID) responsibilities associated with the contract ISMS.

2.0 Background and History: Contracting Officer guidance on development of the Safety Management System Description Document and ISMS implementation was issued on April 2, 1998 and updated July 29, 1998. In response to the July 1998 direction, the previous M&O contractor, LMITCO, submitted the proposed Safety Management System Description Document (PDD-1004, Revision 1) for approval on March 10, 1999, (Letter WJD-28-99) in accordance with the direction provided and the provisions of the DEAR. The ISMS Description Document (PDD-1004, Revision 2) was approved by the ID Manager on April 28, 1999 (Letter OPE-ISM-99-035) after successful completion of a Phase I ISMS Verification and successful incorporation of Verification Team comments. The current ISMS Description Document is PDD-1004, Revision 4, which was approved by the ID Manager on February 18, 2000 (Letter ISM-04-00).

The INEEL completed the first Phase II Verification of five pilot facilities in September 1999. The facilities reviewed by the September Phase II verification were the Advanced Test

Reactor, the Transportation Complex, the Idaho Research Center, the Waste Experimental Reduction Facility, and the Radioactive Waste Management Complex. Volume I of the Phase II final report stated:

"Our recommendation to the DOE-ID Manager is that the INEEL ISMS Description PDD-1004 has been implemented at ATR, WERF, IRC, and Big Shop. At RWMC, implementation progress was sufficient to meet five of six objectives reviewed. The Operations objective was not met at RWMC where additional progress is needed to demonstrate an appropriate level of rigor in execution of procedures and written instructions….Therefore, we recommend that the DOE-ID Manager direct a re-verification of the Operations objective at RWMC to be conducted separately or in conjunction with one of the follow-on Phase II verifications."

A copy of the September Phase II ISMS Verification report is available on the DOE-HQ Integrated Safety Management web page, and a copy can be provided for your use while on-site.

On October 1, 1999, BBWI became the Management and Operating contractor for the INEEL. DOE-ID required BBWI to continue to implement the approved INEEL ISMS Description Document, PDD-1004, throughout the remainder of INEEL facilities. The BBWI contract contains the ISM DEAR clause (DEAR 970.5204-2) Integration of Environment, Safety, and Health Into Work Planning and Execution (June 1997), the Laws Clause (DEAR 970.5204-78) Laws, Regulations, and DOE Directives (June 1997), and the Conditional Payment of Fee clause (48 CFR 970.5204-86), established as a final rule in April, 1999.

The INEEL completed a second Phase II Verification of three facilities in March 2000. The facilities reviewed by the March Phase II Verification were all facilities at the Specific Manufacturing Capability (SMC), including the integration with the ID; Idaho Falls Facilities (IFF) not covered during the September 1999 Phase II review; and the Operations CRAD at the Radioactive Waste Management Complex (RWMC). Volume I of the Phase II Part II Final Report stated:

"The team concludes that ISMS is implemented at SMC, IFF, and RWMC and that there is a management commitment to continue to strive for improvements (excellence) and thereby raise the standard for operational excellence."

Complementing ISM, the INEEL has been working toward recognition in the DOE Voluntary Protection Program since October 1994. During the summer and fall of 1999, an independent contractor reviewed INEEL facilities and designated all eleven INEEL VPP units as "STAR" Ready. This is an interim level of recognition designed to sustain the contractor's VPP efforts, and to identify areas requiring additional attention prior to applying for sitewide VPP recognition. BBWI anticipates submitting an application for INEEL recognition in the DOE-VPP in September 2000 following the final ISMSV-II.

The maturity of the ISMS implementation varies among the individual facilities at INEEL. The INEEL ISMS Phase II Verifications (ISMSV-II) are being sequenced in groups of facilities, and are scheduled for completion by June 2000. This appointment memorandum is for you to lead the Phase II Verification Team for review of ISMS implementation at the final group of facilities to have implemented the described ISMS.

The INEEL facilities and activities within the scope of your review include: Idaho Nuclear Technology and Engineering Center (INTEC), with the exception of the Three Mile Island Unit 2 (TMI-2) Independent Spent Fuel Storage Installation (ISFSI); all facilities and activities at the Test Area North (TAN); balance of facilities and activities at the Test Reactor Area (TRA) not reviewed during the September 1999 Phase II review; balance of facilities and activities at Central Facilities Area (CFA) not reviewed during the September Phase II review; all facilities and activities at the Power Burst Facility (PBF); and all facilities and activities at the Waste Reduction Operations Complex (WROC).

All category 1 and 2 nuclear facilities have approved Authorization Agreements.

The standards and requirements baseline for the INEEL ISMS is defined in List A (laws and regulations) and List B (DOE Applicable Directives) developed per DEAR 970.5204-78.

3.0 Phase II ISMS Verification: You are appointed as the INEEL ISMSV-II Team Leader. You are to assemble and train the ISMSV-II Team, develop and approve a Review Plan, and conduct the review. The scope and special considerations of the review are discussed below.

4.0 Scope and Special Considerations for the Phase II ISMS Verification: The purpose of this review is to verify satisfactory implementation of the ISMS Description Document (PDD-1004) in selected facilities, and provide a recommendation to me concerning implementation of ISMS. Your report should delineate any areas in which implementation does not conform to the approved ISMS Description.

Aspects of INEEL ISMS were reviewed as part of the September 1999 and March 2000 Phase II reviews. Your team should review the Phase I ISMS Verification report, and the previous Phase II Verification reports, so that previously identified issues and strengths can be taken into account during your ISMSV-II review. The following specific guidance is provided:

a. The scope of the ISMSV-II review includes the following INEEL Site Area/facilities and activities managed and operated by BBWI under Contract DE-AC07-99ID13727, including the integration with the ID: Idaho Nuclear Technology and Engineering Center (INTEC), with the exception of the Three Mile Island Unit 2 (TMI-2) Independent Spent Fuel Storage Installation (ISFSI); all facilities and activities at the Test Area North (TAN); balance of facilities and activities at the Test Reactor Area (TRA) not reviewed during the September 1999 Phase II review; balance of facilities and activities at Central Facilities Area (CFA) not reviewed during the September Phase II review; all facilities

and activities at the Power Burst Facility (PBF); and all facilities and activities at the Waste Reduction Operations Complex (WROC).Other INEEL Site Areas and facilities are excluded

from the scope of this review.

b. The Radiological Controls areas should receive special emphasis on the review at TRA, and is therefore a candidate for subject matter expert evaluation.

c. The Issues Management Process being used by the contractor should receive special emphasis, and is therefore a candidate for subject matter evaluation.

5.0 DOE Implementation of ISMS: The scope of your review should include verifying that the responsibilities, activities, and processes for my staff have been implemented and integrated with the BBWI ISMS. These responsibilities are defined in DOE-ID directives and guidance, and in the Idaho Operations Office Safety Management Functions, Responsibilities,

and Authorities Manual (FRAM). The DOE-ID FRAM was approved by the DOE-ID Manager in August 1998, and updated in February 1999. The ID FRAM is currently undergoing revision based on the recently issued DOE-HQ FRAM, and the revision will be approved when your team arrives for the Phase II Verification in June.

6.0 Desired Deliverables from the Review: The Phase II ISMS Verification Team should document the review with a report written in accordance with the guidance of Appendix 7 to the ISMS Verification Team Leader's Handbook. The report should include the recommendation concerning implementation of ISMS, an assessment of the adequacy of the supporting program and process documents and implementation at the Site Area/facilities level, and, as appropriate, noteworthy practices and opportunities for improvement.

7.0 Prerequisite for Phase II ISMS Verification: The prerequisite for the review is that the INEEL ISMS Description Document be approved and implemented in the selected Site Area/facilities, or that implementation plans be in place with significant progress having been made.

8.0 Estimated date for Commencement: The ISMSV-II should commence approximately June 5, 2000 and complete June 16, 2000.

9.0 Point of contact: The point of contact for the Phase II ISMS Verification is Mr. Roger Wilbur. Copies of all the documentation and reports discussed above are available and will provide additional information to assist you in preparing for and conducting the verification.

Beverly A. Cook
Manager

Attachment

cc w/o att:
C. Huntoon, DOE-HQ, EM-1, 5A-014/FORS
W. D. Magwood, IV, DOE-HQ, NE-1, 5A-143/FORS
R. G. Lange, DOE-HQ, NE-40

D. M. Michaels, DOE-HQ, EH-1, 7A-097/FORS
M. B. Whitaker, Jr., DOE-HQ, S-3.1, 6H-025/FORS
T. A. Wyka, DOE-HQ, S-3.1, 6H-025/FORS