The Under Secretary of Energy
Washington, DC 20585

March 3, 2006

The Honorable A. J. Eggenberger
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, NW, Suite 700
Washington, DC 20004-2901

Dear Mr. Chairman:

The purpose of this letter is to transmit approved Site Action Plans to improve work planning and work control (Commitment 23) and to improve feedback and improvement (Commitment 25), as delineated in the *U.S. Department of Energy's Implementation Plan to Improve Oversight of Nuclear Operations*. This Implementation Plan was in response to the Defense Nuclear Facilities Safety Board Recommendation 2004-1, *Oversight of Complex, High-Hazard Nuclear Operations,* issued on May 21, 2004. The enclosed Site Action Plans complete the Energy, Science and Environment portions of Commitments 23 and 25 in the Implementation Plan.

In fulfillment of each of these commitments, the sites have all conducted assessments to identify areas for improvement in their work planning and work control processes and implementation and their feedback and improvement processes and implementation. The results of those assessments were used, in part, to develop the enclosed Site Action Plans. The full reviews and assessments have been provided to your technical staff.

If you have any questions, please call me at (202) 586-7700 or have a member of your staff contact Mr. Richard H. Lagdon at (202) 586-9471.

Sincerely,

David K. Garman

Enclosures

Commitment 23
Site Action Plans

SEPARATION

PAGE

Portsmouth/Paducah Project Office

Site Action Plan

February 2006

Commitment 23, Work Planning and Control

DNSFB Recommendation 2004-1

Approved, William Murphie, Manager
Portsmouth/Paducah Project Office

Note: Change Control for this Site Action Plan (SAP) resides with the PPPO Manager, with a cc to EM-3.2.

Site Action Plan
February 2006
Commitment 23, Work Planning and Control – DNFSB Recommendation 2004-1

Executive Summary

The Department of Energy (DOE) Chief Operating Officer for Environmental Management (EM) requested via memorandum, dated November 18, 2005 that EM sites take specific actions to address the Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, Commitment 23. These actions are in support of the DOE Under Secretary for Energy, Science and Environment memorandum, dated November 9, 2005, that establishes the path forward for meeting Commitment 23 of the DOE Implementation Plan for DNFSB 2004-1, *Oversight of Complex, High Hazard Nuclear Operations*.

This action plan documents the corrective actions to be taken based upon the results of an assessment conducted as an on-site review of field element performance. The Portsmouth Paducah Project Office (PPPO) conducted a review of the Criteria and Review Approach Documents (CRADs) provided with the memoranda to determine which CRADs might actually be assessed and those that could be addressed using information in the PPPO Oversight Database.

The PPPO and their Contractors' have demonstrated partial compliance with the work planning and work control oversight performance objectives. This action plan incorporates report results from activities associated with work planning and work control oversight conducted at both the Portsmouth and Paducah sites during calendar year 2005. Oversight activities include scheduled assessments, routine surveillances and Implementation Validation Reviews (IVRs) conducted at both sites. Limited site assessment activities were also conducted in late November and early December to address performance objectives where no clear evidence existed that the objectives had been assessed.

Overall Evaluation Summary

The following table provides the results of this assessment.

Commitment 23 Criteria and Review Approach Document	Work Planning and Control - 1	Work Planning and Control - 2	Work Planning and Control - 3	Work Planning and Control - 4	Work Planning and Control - 5	Work Planning and Control - 6	Work Planning and Control - 7
DOE PPPO	Partially Met (1 Opportunity for Improvement (OFI))	Partially Met (2 OFI's)					
Uranium Disposition Services, LLC			Met	Met	Partially Met	Met	Met
LATA/Parallax Portsmouth, LLC			Partially Met (3 OFI's)	Partially Met (1 OFI)	Partially Met (1 OFI)	Partially Met (2 OFI's)	Partially Met (1 OFI)
Theta Pro2Serve Management Company, LLC			Partially Met (1 OFI)	Met	Met	Partially Met (1 OFI)	Partially Met (2 OFI's)
Bechtel Jacobs Company			Partially Met (1 OFI)	Met	Met	Met - 1 OFI	Met
Swift and Staley Mechanical Contractors, Inc.			Partially Met (1 OFI)	Met	Partially Met (1 OFI)	Met	Partially Met (1 OFI)

Section I- DOE Oversight

Performance Objective WPC-1: Work Planning and Control Oversight

Opportunity for Improvement #1
Formalize the PPPO processes that provide oversight of the contractors' work planning and control processes.

DOE Action	Deliverable	Due Date	Owner / Org
Revise existing PPPO requirements to clearly identify PPPO staff roles and responsibilities to conduct oversight of all stages of the Contractors' work planning and work control process on a routine basis.	Revise PPPO Management Plan.	05/31/06	D. Kozlowski/ PPPO R. Underwood/ PPPO
Develop PPPO procedure(s) to implement work planning and work control oversight to include the methods for documenting oversight activities and results.	Procedure to cover conduct audit assessments and surveillances.	05/31/06	D. Kozlowski/ PPPO R. Underwood/ PPPO
Provide training, unless exempted by previous experience and knowledge, to PPPO staff designated to conduct work planning and work control oversight.	Provide training on surveillance/assessment techniques and the methods for documenting surveillance/assessment results.	06/30/06	L. Maghrak/ PPPO J. Saluke/ PPPO
Integrate DOE O 226.1, *Implementation of Department of Energy Oversight Policy*, into PPPO procedures.	Revise PPPO-M-414.1, Quality Assurance Program Plan.	05/31/06	J. Gambrell/ PPPO

Responsible Manager: Rachel Blumenfeld

Performance Objective WPC-2: Work Planning and Control Oversight

Opportunity for Improvement #1

Incorporate all stages of work planning and control into scheduled oversight activities and use those results to improve the contractors' work control processes.

DOE Action	Deliverable	Due Date	Owner /Org
Incorporate PPPO oversight activities for the contractors' work planning and work control process into the PPPO surveillance schedule.	Prepare and implement the surveillance schedule.	03/31/06	R. Underwood/ PPPO
Develop process or procedure to track and trend oversight results with a goal to improve the work planning and work control process.	DOE PPPO QAP Plan Associated Procedure	05/31/06	R. Underwood/ PPPO
Evaluate effectiveness of improvements made in the contractors' work planning and control processes.	Conduct follow-up assessment using the work planning and control criteria.	10/31/06	J. Saluke/ PPPO L. Maghrak/ PPPO

Responsible Manager: Rochelle Underwood

Opportunity for Improvement #2
Incorporate DOE Directive on oversight requirements into contracts.

DOE Action	Deliverable	Due Date	Owner / Org
Revise the PORTS and PAD contracts to include DOE O 226.1, *Implementation of Department of Energy Oversight Policy.*	Add DOE O 226.1 to List B in the PPPO contracts.	6/30/06	L. Parsons/ PPPO P. Thompson/ PPPO R.J. Bell/ PPPO

Responsible Manager: Rachel Blumenfeld

Performance Objective WPC-3: Work Control Program Documentation

No opportunities for improvement noted at this time.

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification

No opportunities for improvement noted at this time.

Performance Objective WPC-5: Work Planning and Control Process

No opportunities for improvement noted at this time.

Performance Objective WPC-6: Work Planning and Control Oversight

No opportunities for improvement noted at this time.

Performance Objective WPC-7: Work Planning and Control Oversight

No opportunities for improvement noted at this time.

Section II – UDS

Performance Objective WPC-1: Work Planning and Control Oversight
No opportunities for improvement noted at this time

Performance Objective WPC-2: Work Planning and Control Oversight
No opportunities for improvement noted at this time

Performance Objective WPC-3: Work Control Program Documentation
No opportunities for improvement noted at this time

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification
No opportunities for improvement noted at this time

Performance Objective WPC-5: Work Planning and Control Process
No opportunities for improvement noted at this time.

Performance Objective WPC-6: Work Planning and Control Process
No opportunities for improvement noted at this time.

Performance Objective WPC-7: Work Planning and Control Oversight
No opportunities for improvement noted at this time

Section III – LPP

Performance Objective WPC-1: Work Planning and Control Oversight

No opportunities for improvement noted at this time

Performance Objective WPC-2: Work Planning and Control Oversight

No opportunities for improvement noted at this time

Performance Objective WPC-3: Work Control Program Documentation

Opportunity for Improvement #1:
LPP-PQ-1107, *Performance Document Process* needs to be revised to fully comply with the work control and work planning requirements.

LPP Action	Deliverable	Due Date	Owner /Org
As an interim action, issue written direction to preparers of technical procedures to comply with the appropriate work planning and work control criteria.	Correspondence providing direction to preparers of technical procedures.	02/10/06	Eric Stacey Procedures
Revise LPP-PQ-1107 to incorporate the appropriate criteria from the Work Planning and Work Control CRADS.	LPP-PQ-1107, *Performance Document Process*	04/30/06	Eric Stacey Procedures

Responsible Manager: Dave Kent

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Commitment 23, Work Planning and Control – DNFSB Recommendation 2004-1

Opportunity for Improvement #2:
A formal process needs to be developed for the turnover of responsibilities when line managers or Superintendents are transferred. (This item also addresses PPPO observation on turnover requirements.)

LPP Action	Deliverable	Due Date	Owner /Org
Revise LPP-GM-2000 to incorporate turnover of responsibilities.	LPP-GM-2000, *Conduct of Operations for Facilities, Projects and Activities*	04/30/06	Eric Stacey Procedures

Responsible Manager: Tim Larabee, Work Control Manager

Opportunity for Improvement #3:
LPP Training Position Descriptions need to be developed and implemented for the Work Control Manager and for all personnel performing planning activities.

LPP Action	Deliverable	Due Date	Owner /Org
Develop approved Training Position Description (TPD) for Work Control Manager Position	Approved TPD for Work Control Manager	02/15/06	Moore Training Dept
Work Control Manager completes required training	Training records that demonstrate completion of training by the Work Control Manager required by TPD	05/01/06	Moore Training Dept
Revise TPD for Planner Position	Approved TPD for Planners	02/15/06	Moore Training Dept
Planners complete required training	Training records that demonstrate completion of training by personnel who perform prepare/plan work packages.	05/01/06	Moore Training Dept

Responsible Manager: Jerry Moore, Training Manager

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification

Opportunity for Improvement #1:
LPP-PO-1001, *Work Control Process* needs to be revised to fully comply with the work control and work planning requirements. Enhancements are being developed to address consideration of upset conditions, selection of controls based on an established hierarchy, ensuring that the hazards are adequately addressed through-out performance of the work, and the possibility of creating an additional hazard due to a selected control. (This item addresses PPPO observation on documenting unexpected conditions and their resolution.)

LPP Action	Deliverable	Due Date	Owner /Org
As an interim action, issue written direction to personnel who perform work package planning activities to comply with appropriate Work Control and Work Planning criteria.	Correspondence providing direction to preparers of technical procedures.	02/10/06	Tim Larabee Work Control
Develop LPP-0043 for improving work control for all LPP activities and operations	LPP-0043 *Work Control Improvement Plan*	1/30/06	Tim Larabee Work Control
Revise LPP-PO-1001 to incorporate the appropriate criteria from LPP-0043, *Work Control Improvement Plan*	LPP-PO-1001 *Work Control Process*	3/13/06	Tim Larabee Work Control

Responsible Manager: Tim Larabee, Work Control Manager

Performance Objective WPC-5: Work Planning and Control Process

Opportunity for Improvement #1:
A document needs to be developed which enables planners and procedure writers to take the complexity and risk of a task and using the knowledge and training of the individuals performing the task, develop appropriate instructions. Once issued, training needs to be held with all personnel that develop work instructions in work packages or procedures to assure a consistent implementation.

LPP Action	Deliverable	Due Date	Owner /Org
Revise LPP-EH-2010 to incorporate the appropriate criteria from LPP-0043, *Work Control Improvement Plan*	LPP-EH-201 *Hazard Assessment*	03/13/06	Tim Larabee Work Control
Training of appropriate personnel as outlined in LPP-0043, *Work Control Improvement Plan*	Training records that demonstrate completion of training of appropriate personnel to LPP-EH-2010.	03/30/06	Moore Training Dept

Responsible Manager: Tim Larabee, Work Control Manager

Performance Objective WPC-6: Work Planning and Control Oversight

Opportunity for Improvement #1:
LPP-PO-1001 *Work Control Process* and LPP-GM-N001, *Plan of the Week (POW) and Plan of the Day (POD)* need to be revised to reflect the involvement by Facility Managers in approving work packages and subsequent authorization to perform the work.

LPP Action	Deliverable	Due Date	Owner /Org
Revise LPP-PO-1001 to incorporate the appropriate criteria from LPP-0043, *Work Control Improvement Plan*	LPP-PO-1001 *Work Control Process*	03/13/06	Tim Larabee Work Control
Revise LPP-PO-1001 to incorporate the appropriate criteria from LPP-0043, *Work*	LPP-GM-N001, *Plan of the Week (POW) and Plan of the Day (POD)*	03/13/06	Tim Larabee Work Control

LPP Action	Deliverable	Due Date	Owner /Org
Control Improvement Plan			

Responsible Manager: Tim Larabee, Work Control Manager

Opportunity for Improvement #2:
LPP-PQ-1107, *Performance Document Process* needs to be revised to involve the appropriate Facility Managers in review and approval of procedures that result in work being performed in their facility.

LPP Action	Deliverable	Due Date	Owner /Org
Revise LPP-PQ-1107 to require Facility Manager to approve a Technical Procedure when the operational activity is being performed in their facility.	LPP-PQ-1107, *Performance Document Process*	04/30/06	Eric Stacey Procedures

Responsible Manager: Dave Kent

Performance Objective WPC-7: Work Planning and Control Oversight

Opportunity for Improvement #1:
A systematic approach needs to be developed and implemented to assess the effectiveness of work planning and work control using measurable indicators as much as possible. (This item also addresses PPPO observation on implementation of routine assessment of work control processes and trending results of the oversight activities.)

LPP Action	Deliverable	Due Date	Owner /Org
Determine what elements of Work Planning and Work Control are most important to the overall effectiveness of the program	An internal memorandum that identifies the important elements.	02/20/06	Tim Larabee Work Control
Determine the methods that will be used to measure important elements	An internal memorandum to the QA Manager identifying the methods to measure the important elements.	02/20/06	Tim Larabee Work Control

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LPP Action	Deliverable	Due Date	Owner /Org
Revise/Develop documents that documents the results of the measurements	Revised oversight plan Performance Indicator charts	03/17/06 03/17/06	Mike MacCrae, QA Mike MacCrae, QA

Responsible Manager: Mike MacCrae

Section IV – TPMC

Performance Objective WPC-1: Work Planning and Control Oversight

No opportunities for improvement noted at this time

Performance Objective WPC-2: Work Planning and Control Oversight

No opportunities for improvement noted at this time

Performance Objective WPC-3: Work Control Program Documentation

Opportunity for Improvement #1: Performance documents were cover sheeted from the previous Contractor and have not been revised to be fully integrated into the TPMC system to accurately reflect organization roles and other administrative differences.

TPMC Action	Deliverable	Due Date	Owner/Organization
Managers prioritize (0, 1, 2 and 3, with 1 as the highest priority) assigned performance documents for revision, and provide lists to Procedure Manager.	Prioritized lists of assigned performance documents.	January 16, 2006	Managers (collectively under Buck Sheward, President)
Procedure Manager combine Manager prioritized lists into one list.	Combined prioritized list of performance documents	January 23, 2006	Chip Stanizzo, Procedure Manager, Environmental, Safety, Health and Quality
Procedure Manager meet with Managers to develop Performance Documents Work-Off Plan to revise prioritized performance documents [Priority 1 and 2, including those needed to implement the Integrated Safety Management System (ISMS), by June 30, 2006, and Priority 3 by December 31, 2006].	Performance Documents Work-Off Plan	February 15, 2006	Chip Stanizzo, Procedure Manager, Environmental, Safety, Health and Quality
Quality Assurance (QA) Specialist enter rolling 30-day look-ahead action assignments to implement the	Tracker 30-day look-ahead Performance Documents Work-Off Plan action assignments.	February 20, 2006	Cathy Forshey, QA Specialist, Environmental, Safety, Health and Quality

TPMC Action	Deliverable	Due Date	Owner/Organization
Performance Documents Work-Off Plan into the Commitment Tracking System (Tracker) for closure tracking.			
Complete Priority 1 and 2 performance document revisions.	Tracker action assignments closure documentation.	June 30, 2006	Managers (collectively under Buck Sheward, President), and Chip Stanizzo, Procedure Manager, Environmental, Safety, Health and Quality
Complete Priority 3 performance document revisions.	Tracker action assignments closure documentation.	December 31, 2006	Managers (collectively under Buck Sheward, President), and Chip Stanizzo, Procedure Manager, Environmental, Safety, Health and Quality
PPPO Contractors' applying a graded approach, review and revise their work control procedure to include a formal documented process for turning over requirements when line management and/or first line supervisor responsibilities are transferred. (PPPO Observation)	Revise FS-1026, Personnel Turnovers.	June 31, 2006	Chris Ondera, O&M, Operations and Maintenance

Responsible Manager: Elise Allison, ESH&Q Manager

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification

No opportunities for improvement noted at this time.

Performance Objective WPC-5: Work Planning and Control Process

No opportunities for improvement noted at this time.

Performance Objective WPC – 6. Work Planning and Control Process

Opportunity for Improvement #1: Some documentation, such as pre-job safety meetings attendance and job walkdowns, is inconsistent. Some documents fully reflect attendance and subjects of discussion and others appear incomplete or unavailable, when it can be independently confirmed that the activity took place. Formal activities (meetings, walkdowns, etc.) described in the work control and supporting procedures need to be fully documented (agendas, attendance sheets, meeting notes, etc.), and reflect all personnel in attendance to ensure objective evidence of completion.

TPMC Action	Deliverable	Due Date	Owner/Organization
Operations and Maintenance (O&M) Manager work with Supervisors to identify work control activities requiring written documentation, and aids (e.g., logs, forms, etc.) for providing documentation.	Memo to file of list of work control activities requiring written documentation, and aids for providing documentation.	January 27, 2006	Chris Ondera, O&M Manager, Operations and Maintenance
O&M Manager work with Supervisors to develop and implement aids (e.g., logs, forms, etc.) for the activities requiring written documentation.	Memo to file of development and implementation of aids.	March 6, 2006	Chris Ondera, O&M Manager, Operations and Maintenance
QA Program Lead conduct assessment to verify aids (e.g., logs, forms, etc.) for the activities requiring written documentation have been implemented and are effective.	Assessment report.	April 21, 2006	Dan Longpre, QA Program Lead, Environmental, Safety, Health and Quality

Responsible Manager: Chris Ondera, O&M Manager, Operations & Maintenance

Performance Objective WPC – 7. Work Planning and Control Oversight

Opportunity for Improvement #1:
The Oversight Plan is in "Draft" completion and will be issued by January 2006.

TPMC Action	Deliverable	Due Date	Owner/Organization
QA Program Lead issue Oversight Plan	Oversight Plan	January 31, 2006	Dan Longpre, QA Program Lead, Environmental, Safety, Health and Quality

Responsible Manager: Elise Allison, ESH&Q Manager

Opportunity for Improvement #2: The QA Trending Program is in development and will periodically (expected Quarterly, beginning March 2006) compile selected assurance data into a summary report for review by management and DOE to help in focusing on improvement areas, where needed.

TPMC Action	Deliverable	Due Date	Owner/Organization
QA Program Lead meet with Managers and DOE to identify trending criteria.	Memo to file of list of Trending Criteria	February 3, 2006	Dan Longpre, QA Program Lead, Environmental, Safety, Health and Quality
QA Program Lead meet with Information Technology (IT) Programmer and QA Specialist to develop Trending System Plan.	Trending System Plan	February 20, 2006	Dan Longpre, QA Program Lead, Environmental, Safety, Health and Quality
3. IT Programmer work with QA Specialist to complete Trending System Plan, and enter trending data into database, as appropriate.	Tracker action assignments closure documentation.	April 3, 2006	Tim Burton, Computing and Telecommunications Manager
4. QA Specialist work with IT Programmer to generate first Quarterly Trending Report	Trending Report	April 17, 2006	Cathy Forshey, QA Specialist, Environmental, Safety, Health and Quality

Responsible Manager: Elise Allison, ESH&Q Manager

Section V – BJC

(NOTE: BJC is transitioning out as the Remediation Contractor for the Paducah Site. PRS will assume responsibility on April 24, 2006)

Performance Objective WPC-1: Work Planning and Control Oversight

No opportunities for improvement noted at this time

Performance Objective WPC-2: Work Planning and Control Oversight

No opportunities for improvement noted at this time

Performance Objective WPC-3: Work Control Program Documentation

Opportunity for Improvement #1:
Turnover of line management and/or first line supervisor responsibilities not specified in contractors procedure/instructions.

BJC Action	Deliverable	Due Date	Owner/Organization
Revise PA-1001, "Paducah Work Control Process", to include attachment for Line management and/or first line supervisor responsibility transfer.	Revised PA-1001 procedure includes attachment for Line Management and/or First Line supervisor responsibility transfer.	March 1, 2006	BJC–Randy Crawford Facility/Operations Manager

Responsible Manager: Randy Crawford, Facility/Operations Manager

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification

No opportunities for improvement noted at this time

Performance Objective WPC-5: Work Planning and Control Process

No opportunities for improvement noted at this time.

Performance Objective WPC–6: Work Planning and Control Oversight

Opportunity for Improvement #1:
The review of project work packages identified that worker training matrices were not always incorporated into the work packages.

BJC Action	Deliverable	Due Date	Owner/Organization
1.Revise PA-1001, Paducah Work Control Process to include a requirement to incorporate the worker training matrices or document where the matrices are locate	Revised PA-1001, Paducah Work Control Process includes a requirement to incorporate the worker training matrices or document where the matrices are locate	March 1, 2006	BJC–Randy Crawford Facility/Operations Manager

Responsible Manager: Randy Crawford, Facility/Operations Manager

Performance Objective WPC-7: Work Planning and Control Oversight

No opportunities for improvement noted at this time.

Section VI – SST

Performance Objective WPC-1: Work Planning and Control Oversight

No opportunities for improvement noted at this time

Performance Objective WPC-2: Work Planning and Control Oversight

No opportunities for improvement noted at this time

Performance Objective WPC-3: Work Control Program Documentation

Opportunity for Improvement #1

SST Procedure 6.1.1 does not specifically call out turnover requirements with respect to transfer of line management/first line supervisor responsibilities. SST will add those requirements when the procedure is next revised.

SST Action	Deliverable	Due Date	Owner / Org
Revise SST Procedure 6.1.1 to add turnover requirements.	Revised Procedure 6.1.1. approved and issued. Notify local DOE representative.	06/30/06	S. Smith, SST

Responsible Manager: S. Smith, SST

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification

No opportunities for improvement noted at this time

Performance Objective WPC-5: Work Planning and Control Process

Opportunity for Improvement #1

SST does not specify in the work control documents the work steps for activities unless the activity is associated with work on a system that requires proper sequencing to safely perform the tasks. Work sequencing is discussed during the planning stage of the work and during the pre-job briefings.

SST Action	Deliverable	Due Date	Owner /Org
SST to evaluate the appropriateness of providing sequencing steps in their work control documents.	Update SST work control procedures to require sequencing of steps in work control documents as appropriate.	06/30/06	S. Smith, SST

Responsible Manager: S. Smith, SST

Performance Objective WPC-6: Work Planning and Control Process

No opportunities for improvement noted at this time

Performance Objective WPC-7: Work Planning and Control Oversight

Opportunity for Improvement #1

Currently, audit and assessment results (findings and observations) are not being tracked in a database suitable for tracking, retrieval, and trending.

SST Action	Deliverable	Due Date	Owner /Org
Backfit assessment results into the SST Corrective Action Tracking System.	Provide status report to local DOE representative.	03/30/06	T. Stanberry, SST

Responsible Manager: T. Stanberry, SST

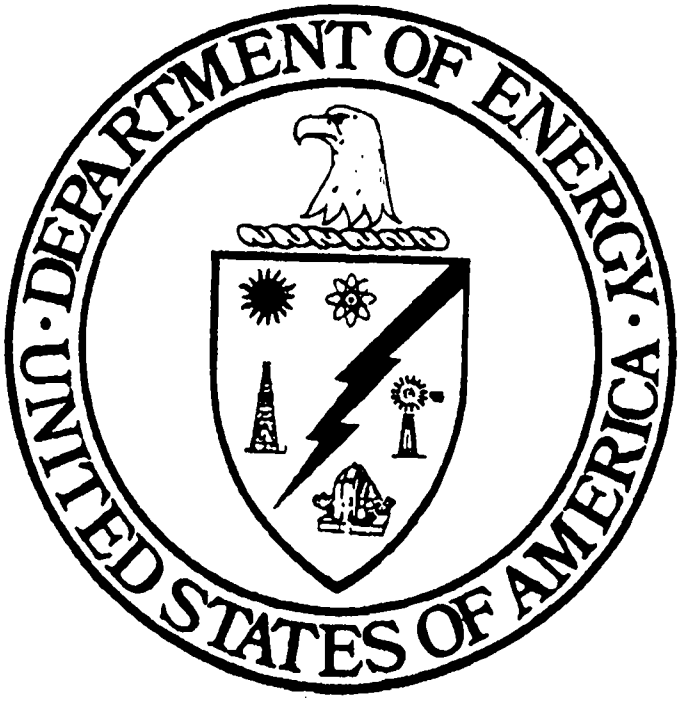
Work Planning and Control Good Practices

Although good practices were identified by DOE and the Contractors, these good practices lacked adequate justification or specificity to be included. DOE will identify future good practices as part of our oversight program.

SEPARATION

PAGE

January 6, 2006
Site Action Plan
WP&C Commitment 23 – DNFSB Recommendation 2004-1



DNSFB Recommendation 2004-1
Commitment 23, Work Planning and Control
Corrective Action Plan

Approved, Jeffrey M. Allison, Manager
Savannah River Site

Note: Change Control for this Site Action Plan (SAP) resides with the Site Office Manager, with a cc to NA-10.

Executive Summary

Evaluation Process

This assessment was conducted as part of the Savannah River Site (SRS) response to Commitment #23 of the Department of Energy's Implementation Plan (IP) for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, "Oversight of Complex, High-Hazard Nuclear Operations". The assessment is the product of a joint effort of a DOE-SR/WSRC assessment team. Two members of the team were directly associated with the NNSA workshop responsible for the development of Criteria and Review Approach Documents (CRADS) and associated criteria intended for evaluation of a contractor's integrated work planning and control process, and to evaluate the DOE field office oversight of the activities associated with this process. The team applied the Work Planning and Control (WP&C) CRADS and their associated criteria, provided by Assistant Secretary of Environmental Management memorandum dated November 9, 2005, to all work planning and control processes utilized at SRS. This included the WSRC 2S Manual, Conduct of Operations, WSRC 1Y Maintenance Manual, WSRC C2 Site D&D Administrative Procedures, Procedure 2.05, "Site D&D Work Control Procedure", WSRC D3 Site Utilities Department Practices and Procedures, Procedure 4.2, "Maintenance Management Process Program Exception", and WSRC-IM-97-00024, "Savannah River National Laboratory Conduct of Research and Development".

The WP&C CRADS and associated criteria were thoroughly reviewed by the team in preparation to conduct the assessment. Additionally, the team reviewed developments in the area of work planning and control evaluation guidelines available from the NNSA work shop for this DNFSB commitment as well as the recently approved NNSA "Activity Level Work Planning and Control Processes Manual", which provides the attributes, best practices, and guidance for effective incorporation of integrated safety management and quality assurance in activity level work planning and control processes. The assessment team experienced some initial issues with the use of the terms "work planning" and "work control" in the performance of this assessment due to the established use of these terms connected with the performance of nuclear maintenance work. This required the team to consciously maintain a broader context of planning work and controlling work than a more narrow view of work planning and work control that is associated with nuclear maintenance.

This assessment was conducted in accordance with the instructions provided in the November 18, 2005 DOE Headquarters memorandum from the Chief Operating Officer for Environmental Management. Specific direction was provided to perform a review of the DOE field office and contractor in the area of work planning and control. The assessment team determined that a combination of existing assessment data and the conduct of a focused assessment would be required to fully evaluate all work planning and control processes utilized by WSRC. Facility Evaluation Board (FEB) assessment reports for Integrated Safety Management Evaluation (ISME) were available for three of the four WSRC WP&C processes. The FEB reports selected for use by this assessment report were chosen not only for their date of execution, which was within that allowed by the WP&C guidelines, but also for their inclusion of the

personnel interviews, document reviews, and observation of activities that fully support the HQ WP&C recommended approaches for assessing the provided CRADS. The remaining WSRC WP&C process not addressed by using the FEB reports was assessed through interviews, focused observations of work being performed and assessment of the work control process and procedures, both administratively and work planning, per the performance objectives and criteria in CRADs 3 through 7.

Overall Evaluation Summary

The results of this assessment determined that DOE-SR meets the objectives for CRAD-1 and CRAD-2 with opportunities for improvement noted in both CRAD assessment areas. WSRC was found to meet the objectives of CRAD-3 through CRAD-7 with opportunities for improvement noted in the assessment area of CRAD-3 and CRAD-7. The following table provides the results of this assessment.

CRAD #	Objective Met	Objective Partially Met	Objective Not Met	Comments
1	X			3 OFI's Noted
2	X			2 OFI's Noted
3	X			4 OFI's Noted
4	X			No issues noted
5	X			No issues noted
6	X			No issues noted
7	X			2 OFI's Noted

This review found no central DOE requirements document similar to DOE-O-433.1, "Maintenance Management Program for DOE Nuclear Facilities" that provides focused program requirement for work planning and control of work like that provided for a maintenance program for nuclear facilities. A matrix was developed to aid in the evaluation of how the WP&C CRADS were "nested" from the contract, through the S/RIDS (Standards and Requirements Document), and finally to the programs, procedures and polices for implementation. It was readily apparent, following development of this matrix, that unlike the contractor's functional area for the site Maintenance Program, which is internally reliant on compliance with the 18 elements of conduct of maintenance, the work planning and control processes for task level work such as D&D, non-nuclear site utilities and infrastructure, R&D, and many variations of subcontracted work, rely on the synergistic process that is a product of merging source requirements from numerous program functional areas (e.g., quality assurance, occupational safety and health, management systems (ISMS), project management, etc.). Multiple contract requirements generate these various program functional

areas which are the Environmental, Safety, and Health related DOE, Federal, State or local regulation and requirements applicable to WSRC work and implemented through company-level programs, procedures, and policies. The team recognized this as a challenge to developing contracts that consistently will result in a proper work planning and control process for non-maintenance work that is for example as effective as that generated for SRS D&D work, especially when flowing down requirements through a subcontract. While the assessment did not find an indication that this had hampered the ability to get SRS work done safely and consistently, the team recommended that a review be done to determine the effect that this has to the self and independent assessment, and track/trend processes of maintaining and improving performance of these non-maintenance based work planning and control processes.

This assessment determined that both WSRC and DOE-SR were able to meet the WP&C CRADS when applied to various work (e.g., operations, maintenance, construction/destruction, research and development, etc.) being performed at the Savannah River Site, and its oversight. This outcome appears to be more a result of mature contractor safety management programs supporting the accomplishment of work, the effectiveness of the enhanced assisted hazard analysis (AHA) WSRC 8Q122, a well developed Conduct of Research and Development, and experienced contractor and DOE-SR personnel. The opportunities for improvement noted by this assessment were generally not the result of a need to align current programs polices or practice to that of the expectations of improved incorporation of integrated safety management and quality assurance into work planning and control processes, but the reasonable maintenance and continual improvement of these items. As an additional opportunity for improvement, and borrowing from the NNSA suggested site action plan content, the team concluded that to enhance the ability to implement the intent of 2004-1 Commitment #23 that a recommendation be made to change DOE Order 5480.19 "Conduct of Operations for DOE Facilities" to add a 19th element for "Integrated Work Planning and Control" and to change DOE-STD-1063 to describe the facility representative oversight of work beyond the currently described as facility maintenance. These change recommendations will be provided to the SRS ISMS Champion to discuss in the complex wide ISMS reinvigoration team meetings.

Section I – DOE Deliverables, and Due Dates for WP&C Corrective Actions

Section II – Contractor Actions Deliverables, and Due Dates for WP&C Corrective Actions

Section III - WP&C "Good Practices"

SECTION I

Performance Objective WPC-1: Work Planning and Control Oversight

Opportunity for Improvement #1
Review of DOE-SR FRAP, FR PDs, and SRIP 430.1 by DOE management to determine if changes should be made to these documents to ensure the consistent utilization of FRs and to add clarity in the expectation of oversight of all aspects of the contractor's work planning and control process.

DOE Action	Deliverable	Due Date	Owner/Org
Review the DOE-SR FRAP to see if changes are needed to ensure the consistent utilization of FRs and to add clarity in the expectation of FR oversight of all aspects of the contractor's work planning and control process.	Completion of review and approval of change package to FRAP if required.	7/30/06	Terry O. Frizzell Director, Human Resources Management and Development Division
Review the FR position descriptions (PDs) to ensure consistent utilization of FRs and to add clarity in the expectation of FR oversight of all aspects of the contractor's work planning and control process.	Completion of review and approval of change package(s) if required.	7/30/06	Terry O. Frizzell Director, Human Resources Management and Development Division

Responsible Manager: Frank Wright, Manager, Office of Human Capital Management

DOE Action	Deliverable	Due Date	Owner/Org
Review SRIP 430.1 for clarity of expectation for FR oversight responsibilities for work planning and control processes using 2004-1 Commitment #23 as a guide	Completion of review and approval of change package if required.	5/30/06	Carl A. Everatt Site Facility Representative Champion

Responsible Manager: Carl A. Everatt, Acting, Assistant Manager for Waste Disposition Projects (AMWDP)

Opportunity for Improvement #2

A review should be conducted of those organizations assigned contractor oversight responsibility to determine if there is a need to expand work planning and control oversight responsibilities beyond the FR position.

DOE Action	Deliverable	Due Date	Owner/Org
Organizations assigned contractor oversight responsibilities should review FR oversight responsibilities to determine if there is a need to expand work planning and control oversight responsibilities beyond the FR position. Review entails analysis of current work force against 2004-1 Commitment #23 WP&C oversight expectations.	Complete review of the DOE-SR 5-Year Workforce Management Plan and approval of change package if required	6/30/06	Jim Folk Contractor Human Resources and Organizational Evaluation Team (CHROET)

Responsible Manager: Frank Wright, Manager, Office of Human Capital Management

Opportunity for Improvement #3

Recommend revision to DOE-STD-1063 and DOE Order 5480.19, to establish consistent DOE expectation of FR oversight of work planning and control at the task level for all nature of work (i.e., operations, maintenance, construction/destruction, research and development, etc.) and to extend conduct of operations to include the integrated work planning and control process requirements.

DOE-SR Action	Deliverable	Due Date	Owner/Org
Propose change to DOE-STD-1063 and DOE Order 5480.19 to the ISMS Champions Council for consideration.	Provide a position paper for proposed DOE directive changes, based on the WP&C assessment report, to the SRS ISMS Champion to support submittal of the recommended changes to the ISMS Champions Council for consideration.	4/30/06	Randall J. Clendenning Director, Safety and Radiation Protection Division

Responsible Manager: Karen L. Hooker, Manager, Office of Environment, Safety, and Health

Performance Objective WPC-2: Work Planning and Control Oversight

Opportunity for Improvement #1

Extend the Site Issues Management and Technical Assessment System (SIMTAS) to include a Work Planning and Control (WP&C) Process assessment area that uses the HQ WP&C CRADS, and the associated WP&C criteria as lines of inquiry (LOIs).

DOE-SR Action	Deliverable	Due Date	Owner/Org
Extend SIMTAS to include an assessment area for Work Planning and Control using HQ WP&C CRADS, and the associated WP&C criteria as lines of inquiry (LOIs).	Change to SIMTAS and an implementing e-mail notification to SIMTAS users	5/30/06	Donna A. Jackson DOE-SR Technical Assessment Program Manager

Responsible Manager: Randall J. Clendenning, Director, Safety and Radiation Protection Division

Opportunity for Improvement #2

Review SRIP 430.1 "Facility Representative Program" to determine the need to standardize the expectation of including the Track and Trend assessment in the annual assessment plan and to use SIMTAS to document the Track and Trend assessment.

DOE-SR Action	Deliverable	Due Date	Owner/Org
Change SRIP 430.1 "Facility Representative Program" to standardize the expectation of including the Track and Trend assessment in the annual assessment plan and to use SIMTAS to document it.	Completion of review and approval of change package if required.	5/30/06	Carl A. Everatt Site Facility Representative Champion

Responsible Manager: Carl A. Everatt, Acting, Assistant Manager for Waste Disposition Projects (AMWDP)

SECTION II

Performance Objective WPC-3: Work Control Program Documentation

Opportunity for Improvement #1

WSRC 1Q, Procedure 5.1 "Instructions, Procedures, and Drawings", Section B "Preparing Procedures/Instructions", Step (4) needs to clearly identify the various Site work control processes for activities such as Operations, Maintenance, Research & Development, D&D, etc.

WSRC Action	Deliverable	Due Date	Owner/Org
Revise 1Q Procedure 5.1 to identify the various types of work control processes used for all types of work (operations, maintenance, research & development, D&D, etc.)	Review & revise 1Q, Procedure 5.1 to further identify and clarify the various processes contained in Site manuals & procedures for work planning and control (operations, maintenance, research & development, D&D, etc.)	3/31/06	Lori Vaught/Site Quality Services Mgr.

Responsible Manager: Lori Vaught/ Site Quality Services Manager

Opportunity for Improvement #2

Currently 8Q, Procedure 122, Assisted Hazard Analysis (AHA) is the site process for identifying hazards, specifying controls, and work authorization and release for the safe execution of work. This procedure includes requirements for work scope definitions, hazard analysis, development and implementation of hazard controls, performance of work within controls, feedback, applicability to new and revised procedures, and applicability to subcontractor work. The Hazard Category Determination (HCD) process within AHA provides a method for grading hazards associated with an activity so the appropriate hazard analysis tool can be applied and the corresponding level of management review and approval can be obtained. This is implemented via facility Standing Orders which vary from facility to facility as determined by the Facility Manager. The effectiveness of this HCD process via Standing Orders is to be evaluated in an effectiveness review of the facilities in March 06. Additionally, WSRC has recognized the inconsistency in implementation of AHA feedback and post work reviews.

WSRC Action	Deliverable	Due Date	Owner/Org
1. Include the HCD process in the upcoming facility effectiveness review for the implementation of 8Q, 122 AHA.	1. Perform the facility effectiveness reviews for the implementation of 8Q, 122, AHA.	3/31/06	Bill Rigot, CBU Engineering & QA
2. Revise 8Q, 122 AHA to specify what types of AHA's require a post review.	2. Revise 8Q, 122 to specify post reviews required for "full", and "team" AHAs, and optional for "pre-screened" AHAs.	3/31/06	Jim Tisaranni, CBU Safety Mgr.
3. Improve the AHA feedback mechanism.	3. Rewrite the AHA software to place mandatory controls that require post reviews to be completed on "full" and "team" AHAs before the AHA can be closed.	3/31/06	Jim Tisaranni, CBU Safety Mgr.

Responsible Manager: Jim Tisaranni, Closure Business Unit Safety Manager

Opportunity for Improvement #3

WSRC 8Q15 "Subcontractor Safety Requirements" specifies requirements for oversight of subcontractors. SDD exceeded the requirements of 8Q15 by developing a SDD Subcontractor Review Team to establish consistent safety performance of their subcontractors. This noteworthy practice may be considered for sitewide application.

WSRC Action	Deliverable	Due Date	Owner/Org
Review 8Q15 for possible change based on "best practices" by SDD in the development WSRC-RP-2004-4540 administrative procedure that exceeds the oversight requirements for subcontractors.	Review the SDD WSRC-RP-2004-4540 best practice and determine if this practice should be incorporated in 8Q15 for sitewide application.	3/31/06	Kevin Smith, Owner 8Q15

Responsible Manager: Mark Schmitz, Site ESH Manager

Opportunity for Improvement #4

Documenting turnover is not specifically required by the requirements listed for the CRADS provided by DOE-HQ other than for operations. Turnover requirements for work and maintenance appear to be a good practice for these types of activities. Generally the various projects, such as the nuclear facilities and non-nuclear operations follow 2S Manual, Conduct of Operations. Site D&D Manual, C2, Procedure 2.05 needs to be changed to incorporate the documentation of the turnover to provide objective evidence of performing the management expectation of turnover of responsibilities.

WSRC Action	Deliverable	Due Date	Owner/Org
SDD will revise C2, Procedure 2.05 to incorporate requirements for documentation of turnover.	Revise C2, 2.05 to define responsibilities and expectations for turnover.	3/31/06	Terry Hunter, SDD Work Control Mgr.

Responsible Manager: Terry Hunter, Site D&D Work Control Manager

Performance Objective WPC-7: Work Planning and Control Oversight

Opportunity for Improvement #1

Independent and Self Assessment processes of WSRC 12Q Assessment Manual and SCD-4 currently encompass the Work Planning and Control requirements through multiple functional areas. 12Q Manual describes WSRC's self-assessment process and defines the minimum requirements for the process. The goal of the self-assessment process is to identify and correct problems that hinder the organization from achieving its objectives and to prevent the recurrence of more serious problems. The program consists of assessments that are contractually required, required by procedure, and assessments that are based on management discretion. In reviewing several self-assessment plans (SUD & SDD) it was noted that the existing self-assessment process could result in one or more functional areas not being assessed due to the discretion allowed by the procedure. This discretion needs to be reviewed to determine if the results meet the expectations of the 12Q process.

Currently the primary area for assessing work planning and control is SCD-4 Functional Area 10, Maintenance. However there are other functions that have processes for work planning and control that are not fully integrated with other applicable site procedures. While there is no DOE requirement to have a central system or single functional assessment for WP&C assessments, WSRC has an integrated approach that inter-relates the contractual requirements to the functional area requirements. Even though this process did not hamper work being performed safely or consistently, it was difficult to evaluate the CRAD criteria for WP&C. This appears to be an opportunity where WSRC could further integrate the various work planning and control processes into functional area assessments and site procedures.

WSRC Action	Deliverable	Due Date	Owner/Org
1. Review 12Q Assessment Manual and SCD-4 to determine if this flexibility is intended and acceptable.	1. Review 12Q to determine if the current criteria for management discretion needs to be revised.	3/31/06	Lori Vaught, Site Quality Services Mgr.
2. Review applicable functional areas and Site QA procedures to incorporate the various work planning and control processes.	2. Review functional areas and 1Q procedures to define various work control processes and include CRAD criteria for WP&C as appropriate.	4/30/06	Lori Vaught, Site Quality Services Mgr. Dennis Booth, Site Maintenance Services Mgr.

Responsible Manager: Lori Vaught, Site Quality Services Manager

Opportunity for Improvement #2

Review facilities and projects for consistent use of Site Tracking Analysis and Reporting System Issue Reports (STAR) to capture issues for assignment of corrective actions, tracking corrective action to completion, effectiveness review of the corrective action(s), and for tracking and trending. This is a focus area by the WSRC President and is scheduled for another effectiveness review in 2006.

WSRC Action	Deliverable	Due Date	Owner/Org
Perform a site effectiveness review of the consistent utilization of STAR by facilities and projects.	Included in DNFSB 2004-1 Commitment 25, Feedback and Improvement Corrective Action Plan.	NA	NA

SECTION III

WP&C "Good Practices"

	Good Practice	Point of Contact
1.	WSRC Assisted Hazard Analysis procedure 8Q122 and associated Safety Work Permit (SWP) – The assisted hazard analysis process has been enhanced and provided a work authorization control in the form of the SWP. Piloting of the new 8Q122 and the associated SWP has improved the job hazards analysis and the changes have been well received by the work force, particularly the SWP. The WP&C assessment team found 8Q122 and the SWP to satisfy a predominate portion of the WP&C attributes.	Jim Tisaranni WSRC lead for WSRC Manual 8Q, Procedure 122 "Assisted Hazard Analysis" (803)208-3171
2.	WSRC Site Tracking, Analysis, and Reporting (STAR) system and the associated Performance Analysis (PA) system. These relatively new WSRC processes have markedly improved the ability to capture operational information which in turn is improving tracking, trending and feedback abilities. Systems are effective at the facility /project level and at the site/program level.	William Luce WSRC lead for WSRC, Manual 1B, Procedure MRP-4.23 "STAR" WSRC, Manual 12Q, Procedure PA-1 "Performance Analysis"
3.	WSRC "Point Of Entry" (POE) process provides controls for subcontractors, vendors, and visitors to ensure personnel entering the site are properly screened prior to entry to determine the nature of their work and to document who on site that is responsible for them. The process is included in the WSRC 8Q "Safety Manual, Procedure 15, "Workplace Safety and Health Program for SRS Visitors, Vendors, and WSRC/BSRI Subcontracts".	Kevin Smith WSRC lead for WSRC 8Q "Safety Manual", Procedure 15 "Workplace Safety and Health Program for SRS Visitors, Vendors, and WSRC/BSRI Subcontracts". (803)952-9924
4.	WSRC "Time Out" policy provides the ability of workers to place activities in abeyance without resorting to the "Stop Work" action. This has been well received by the work force and is actively promoted by management, including positive recognition of those utilizing the policy. The "Time Out" policy is included in the WSRC 8Q "Safety Manual", Procedure 1, "Safety Policy and Program Responsibilities"	Kevin Smith WSRC lead for WSRC 8Q "Safety Manual", Procedure 1, "Safety Policy and Program Responsibilities" (803)952-9924

SEPARATION

PAGE

Office of River Protection

Site Action Plan

Commitment 23, Work Planning and Control

DNFSB Recommendation 2004-1

for Approved, Roy J. Schepens, Manager
Office of River Protection

NOTE: Change Control for this Site Action Plan resides with the Field Office Manager (or designee), with a cc: to EM-3.2.

Executive Summary

Evaluation Process

The U.S. Department of Energy (DOE), Office of River Protection (ORP) conducted work planning and control assessments in response to Commitment #23 of the DOE's Implementation Plan for Defense Nuclear Facilities Safety Board Recommendation 2004-1, "Oversight of Complex, High-Hazard Nuclear Operations." ORP conducted these assessments in accordance with the instructions provided in the November 18, 2005 DOE Environmental Management (EM) memorandum, Chief Operating Officer for Environmental Management to Distribution, "Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 23," dated November 18, 2005. Specific direction was provided to perform a review of the DOE field office and contractors in the area of work planning and work control (WP&C). The assessment teams determined that a combination of existing assessment data and conduct of new assessments would be required to fully evaluate all WP&C processes used by ORP and ORP prime contractors.

WP&C oversight of the Hanford Tank Waste Treatment and Immobilization Plant (WTP) project was evaluated by two experienced DOE project management and field oversight personnel using the criteria review and approach documents (CRADs) in the EM memorandum. The team performed the assessment in December, 2005. The ORP Tank Farm Operations Division used the EM Line Management Oversight Assessment Report and a Facility Representative Self-Assessment Report to fulfill the EM CRADs for WP&C oversight.

In December, 2005, a team comprised of four Washington Safety Management Solutions (WSMS) consultants, two Bechtel National, Inc. (BNI) personnel, and two ORP personnel completed a thorough WP&C assessment of the WTP project using the EM CRADs. The assessment focus areas were also derived from the CRADs in the DOE-HDBK-3027-99, *Integrated Safety Management Systems (ISMS) Verification Team Leader's Handbook*, and were compared with National Nuclear Security Administration (NNSA) guidance.

One month prior to issuance of the EM memorandum CRADs, the ORP Deputy Manager led an Integrated Safety Management System (ISMS) review of the tank farm prime contractor CH2M HILL. The assessment team included four independent senior technical personnel, one senior ORP facility representative, a member of the Hanford Atomic Trades Council (HAMTC), and an experienced technical editor, and was observed by a member of the Hanford Advisory Board (HAB). This team used the draft EM work planning and control CRADs, and provided feedback to EM and the other site managers on their effectiveness.

The EM WP&C CRADs provided logical evaluation criteria for assessing contractor work control programs and associated DOE and contractor oversight of WP&C. The CRADs addressed each component of a contractor's work control program in a sequence similar to the process for developing work control documents. DOE offices typically do not have formal work control oversight programs

like other safety management programs such as radiological protection, quality assurance, and fire protection. The primary means of WP&C oversight has been through the facility representative program with a focus largely on the implementation of work control documents. The ORP is considering expansion of that focus to include the identification of a WP&C subject matter expert, and incorporation of the EM CRADs into assessment plans and guides.

The EM CRADs could be improved by adding criteria to the DOE and contractor objectives to focus attention on transition activities – such as when work moves from design to construction or construction to operations. As another improvement suggestion, Objective 6, criteria 3 should be expanded to state, "Effective pre-job walk-downs and pre-evolutionary briefings are performed." Contractors have demonstrated different methods of implementing pre-evolutionary briefings and it is possible that not all workers on a given day would attend the briefing, but a pre-job walk-down by all involved workers each day prior to work would better ensure all workers are more familiar with the tasks and hazard controls.

Overall Evaluation Summary

The ORP and its prime contractors CH2M HILL for the tank farms and BNI for the WTP project were evaluated against the EM CRADs by three different assessment teams, and the results show that whether or not the WP&C objectives were considered met, each organization has several opportunities for improvement (OFI).

For ORP, the assessment team identified three OFIs with a total of six action items.

CRAD #	Objective Met	Objective Partially Met	Objective Not Met	Comments
1	X			Two OFIs Noted
2	X			One OFI Noted

For CH2M HILL, the assessment team identified four OFIs with a total of thirteen action items.

CRAD #	Objective Met	Objective Partially Met	Objective Not Met	Comments
3		X*		No OFIs Noted*
4		X		Two OFIs Noted
5		X		One OFI Noted
6		X		One OFI Noted

* This CRAD objective 3 was determined to be partially met during the team assessment partly because of a finding related to an inadequate hazard analysis. During compilation of this action plan, the OFI to address this finding fit better under the results for CRAD objective 5.

For Bechtel National, Inc., the assessment team identified four OFIs with a total of ten action items.

CRAD #	Objective Met	Objective Partially Met	Objective Not Met	Comments
3		X		One OFI Noted
4		X		One OFI Noted
5		X		One OFI Noted
6		X		One OFI Noted

Each assessment team used different terminology to identify which issues required higher prioritization and thus corrective actions for this action plan, and which issues could be effectively dealt with in the individual organization's corrective action management processes.

The ORP portion of the action plan provides responses to the three "recommendations" in the assessment of ORP WTP oversight. The CH2M HILL portion of the action plan describes actions to address the four "findings" in the ISMS review and leaves the "observations" for tracking and correction in the contractor's Problem Evaluation Request (PER) system. The BNI portion of the action plan provides actions to address the eight "observations" (comparable to "findings" in the CH2M HILL system) in the WP&C assessment and the thirteen "recommendations" (comparable to "observations" in the CH2M HILL system) are to be resolved within the contractor's Recommendations and Issues Tracking System (RITS).

CH2M HILL performs nuclear operations in the Hanford Waste Tank Farms, and engages in the storage, retrieval, and transfer of nuclear waste from the Cold War production of nuclear weapons materials, as well as construction projects improve the tank farm infrastructure and prepare for transfer of the nuclear waste to treatment facilities currently in design and construction. The ISMS assessment team determined that the CH2M HILL ISMS is implemented and, with some exceptions, is effective. Although the tank farm contractor has made significant progress since the October 2004 ISM Improvement Validation Review, additional improvements are warranted to address deficiencies in this most recent assessment and to fully address previously identified findings from the October 2004 and March 2005 reviews.

The CH2M HILL OFIs detail necessary improvements in Unreviewed Safety Question evaluations, the conduct of pre-job walk-downs with the assigned workers, performance of a more integrated project hazard analysis for the C-200 series tank retrievals, and worker compliance to the job hazard analysis controls in a work package.

BNI does not perform nuclear operations and is not currently involved in the storage, handling, processing, or disposal of nuclear materials. Their scopes of work are engineering, procurement, construction and start up/commissioning of the WTP. At this point in the WTP project, BNI's overall safety performance is within the norms for construction work. Their safety performance has been marred in the past by recurring events involving dropped or falling objects in the vicinity of workers and more recently by a series of hazardous energy control lapses. Both now and in the future as construction forces push toward system testing and turnover, BNI recognizes the need to have in place a strong nuclear safety culture and mature systems which will easily transition to the operations phase of the program. The focus is on energized systems and high risk areas of work associated with the construction utilities systems (electrical power distribution, compressed gases, combustible gases, sewer, confined spaces, and excavations).

The BNI OFIs describe the creation of a Central Utilities Group to manage WP&C for "life critical" activities on the systems described immediately above. BNI seeks to increase worker participation in the front end development of job hazard analyses and hazardous work permits as well as in the causal analysis and corrective action development portions of their feedback processes. In

between, BNI will work to improve processes for maintaining up-to-date, understandable work packages with the applicable job hazard analyses included in the package and followed by the construction crafts.

Following submittal of the draft action plan (Letter 06-WTP-004, dated January 12, 2006), ORP contracted with the human performance improvement consultant firm *BushCo* to complete a Human Performance Assessment/Accident Investigation of selected hazardous energy control related occurrence reports from 2005 at the WTP construction site. The investigation took place from January 30 through February 3, 2006. The investigation resulted in one supplemental OFI with two actions related to comparing the investigation results with the causal analyses for the subject occurrence reports and modifying the analyses and corrective actions as appropriate.

(Note: The Feedback and Improvement Site Action Plan attached to ORP letter 06-ESQ-011, dated February 8, 2006, contained one opportunity for improvement with three action items regarding development of a Human Performance Improvement strategic plan, training, and contract direction. Those items are not repeated in this action plan.)

Each organization displayed strengths and these were summarized in Section IV of this action plan. The actions described in this plan will provide greater safety assurance as well as consistently effective job performance.

Action Plan Organization

Sections I-III contain those actions important to improving the effectiveness of WP&C.

Section IV contains WP&C "Good Practices" for sharing across the DOE.

Section V contains the supplemental OFI identified by ORP and the WTP contractor.

SECTION I – DOE Oversight

Performance Objective WPC-1: Work Planning and Control Oversight

Opportunity for Improvement: **WPC-ORP-OFI-1**

To promote consistent, effective oversight of the contractors, ORP personnel who perform assessments should be qualified per the ORP procedure, and facility representatives should also complete a site-specific qualification process.

ORP Action	Deliverable	Due Date	Owner/Org
a. ORP personnel performing assessments shall document their qualification in accordance with ORP M 220.1, *Integrated Assessment Program*.	ORP oversight personnel have documented their assessor qualification using the ORP Assessment Qualification Record from ORP M 220.1.	April 30, 2006	Patrick Carier, Office of Environmental Safety and Quality
b. The WTP Project Manager shall issue and approve a WTP facility specific qualification card.	The WTP Project Manager has approved and placed under configuration control the WTP facility specific qualification card.	February 28, 2006	John Eschenberg, WTP Project Manager
c. Facility representatives assigned to the WTP project shall complete cross-qualification to the approved WTP facility specific qualification card.	The assigned WTP facility representatives have completed cross-qualification to the WTP facility specific qualification card.	December 30, 2006	John Eschenberg, WTP Project Manager

Responsible Manager: Shirley Olinger / Deputy Manager, Office of River Protection

Opportunity for Improvement: **WPC-ORP-OFI-2**

Facility Representative Instructions (FRI) should be updated to reflect expectations for documentation of assigned assessment items, and to reflect the latest program and reference updates.

ORP Action	Deliverable	Due Date	Owner/Org
a. Revise the FRIs to include expectations for the weekly report input related to the performance of surveillances and facility walkthroughs. The FRI should specify the level of detail required to meet the objectives of the Integrated Assessment Program.	Revised Facility Representative Instructions	September 26, 2005	Complete
b. Revise the FRIs to reflect the latest program and reference updates.	Revised Facility Representative Instructions	September 30, 2005	Complete

Responsible Manager: T. Zack Smith / Assistant Manager, Tank Farms Project

Performance Objective WPC-2: Work Planning and Control Oversight

Opportunity for Improvement: **WPC-ORP-OFI-3**

ORP should ensure an extent of condition review is conducted for recurring issues, and that corrective action effectiveness is verified.

ORP Action	Deliverable	Due Date	Owner/Org
a. Revise the FRIs to include expectations for performance of extent of condition reviews for recurring issues, and for verification of corrective action effectiveness.	Revised Facility Representative Instructions	March 30, 2006	Mark Brown, Tank Farm Operations Division

Responsible Manager: T. Zack Smith / Assistant Manager, Tank Farms Project

SECTION II – CH2M HILL

Performance Objective WPC-3: Work Control Program Documentation

No opportunities for improvement noted.

Performance Objective WPC-4: Work Planning and Control Activity

Opportunity for Improvement: **WPC-CH2-OFI-1**

CH2M HILL should ensure the Unreviewed Safety Question (USQ) evaluations are prepared with consideration of ORP-approved safety basis amendments that have not yet been implemented in the tank farms.

CH2M HILL Action	Deliverable	Due Date	Owner/Org
a. Issue a safety basis bulletin to ensure USQ evaluators address safety basis amendments upon ORP approval of the amendments.	Safety basis bulletin issued.	October 13, 2005	Complete
b. Review USQ evaluations conducted between August 5, 2005 and October 13, 2005 to determine potential impacts of safety basis amendments on USQ evaluations.	USQ evaluation review report completed.	October 18, 2005	Complete
c. Revise TFC-ENG-SB-C-01, *Safety Basis Issuance and Maintenance*, to require safety basis bulletins to be issued upon receipt of the ORP approval of safety basis amendments.	Procedure TFC-ENG-SB-C-01 revised.	December 1, 2005	Complete

d. Issue TFC-CHARTER-33, *Safety Basis Change Review Charter.*	TFC-CHARTER-33 issued.	December 14, 2005	Complete
e. Train personnel on the revised documents.	Training performed and documented.	March 1, 2006	Ron Stevens, Nuclear Safety and Licensing Director

Responsible Manager: Vic Pizzuto / Senior Vice President, Nuclear Operations

Opportunity for Improvement: **WPC-CH2-OFI-2**

Tank farm field work organizations should perform final pre-job walk-downs with the work team prior to work execution as required by the work control procedure.

CH2M HILL Action	Deliverable	Due Date	Owner/Org
a. Brief all field work supervisors on walk-down requirements and expectations as noted in TFC-OPS-MAINT-C-01, *Tank Farm Contractor Work Control*, Section 4.5.1.	Briefing performed and documented.	October 14, 2005	Complete
b. Conduct a follow-up assessment to determine effectiveness.	Follow-up assessment performed and documented.	March 30, 2006	Tony Jennings, Work Planning Director

Responsible Manager: Vic Pizzuto / Senior Vice President, Nuclear Operations

Performance Objective WPC-5: Work Planning and Control Process

Opportunity for Improvement: **WPC-CH2-OFI-3**

CH2M HILL should perform a more integrated project hazard analysis for the C-200 series tank retrievals to evaluate the hazards throughout the project life-cycle, to include detailed analysis of equipment disconnect/reconnect when moving the retrieval system from tank to tank.

CH2M HILL Action	Deliverable	Due Date	Owner/Org
a. Perform a supplemental hazard evaluation for the C-200 vacuum retrieval to provide a more integrated project hazard evaluation.	Supplemental hazard evaluation completed and additional controls incorporated into work documents.	November 11, 2005	Complete
b. Append the supplemental hazard evaluation to RPP-17190, *Safety Evaluation of the Waste Retrieval Vacuum System for 241-C Tank Farms 200-Series Tanks.*	Supplemental hazard evaluation appended to RPP-17190.	December 30, 2005	Complete
c. Revise TFC-ENG-SB-C-06, *Safety Basis Development*, to require consideration of project life-cycle and detailed analysis of the hazards associated with equipment disconnect/transport/reconnect with the tank farms.	Procedure TFC-ENG-SB-C-06 revised.	December 21, 2005	Complete

Responsible Manager: Vic Pizzuto / Senior Vice President, Nuclear Operations

Performance Objective WPC-6: Work Planning and Control Oversight

Opportunity for Improvement: **WPC-CH2-OFI-4**

CH2M HILL should brief tank farm maintenance personnel regarding a work package where job hazard analysis (JHA) controls were not followed. The briefing and follow-on activities should emphasize the importance of familiarity with the JHA and compliance with the hazard controls.

ORP Action	Deliverable	Due Date	Owner/Org
a. Brief maintenance personnel on the unsatisfactory performance of work order WO-05-001346 (workers did not follow controls for use of knives.)	Briefing performed and documented.	November 1, 2005	Complete
b. Counsel personnel who performed WO-05-001346 on the proper use of personal protective equipment.	Counseling performed.	November 1, 2005	Complete
c. Conduct an extent of condition assessment and identify additional corrective actions.	Extent of condition assessment performed and documented and any additional corrective actions entered into the contractor tracking system.	March 30, 2006	Rob Cantwell, Industrial Safety Senior Director

Responsible Manager: Vic Pizzuto / Senior Vice President, Nuclear Operations

SECTION III – BNI

Performance Objective WPC-3: Work Control Program Documentation

Opportunity for Improvement: **WPC-BNI-OFI-1**

BNI should develop and implement a more comprehensive work planning and control organization to manage construction work involving hazardous energy or conditions, and require subcontractors to work to the site standard process for this type of work.

BNI Action	Deliverable	Due Date	Owner/Org
a. Develop a work control center (as part of the new Central Utilities Group) complete with procedures, staffing, and space to manage work planning and control for "life critical" activities associated with electrical, water, sewer, and gas systems used during construction.	Functioning work control center in the Central Utilities Group.	June 2, 2006	Simon Wright, Central Utilities Group Manager
b. Revise the construction work package process to require construction subcontractors to work to a site standard process.	Revised procedure 24590-WTP-GPP-CON-1201, *Construction Work Packages.*	March 31, 2006	Scott Neubauer, Field Engineering Manager

Responsible Manager: Mike Lewis / WTP Manager of Construction

Performance Objective WPC-4: Work Planning and Control Activity

Opportunity for Improvement: **WPC-BNI-OFI-2**

BNI should revise the hazard analysis and control procedures to increase construction craft participation in development and review of job hazard analyses, to consider the appropriate hierarchy of hazard controls, and to ensure appropriate review of hazardous work permits.

BNI Action	Deliverable	Due Date	Owner/Org
a. Revise procedure 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA/Safety Task Analysis Risk Reduction Talk (STARRT))*, to increase craft participation in develop and review of hazard analyses.	Revised procedure 24590-WTP-GPP-SIND-002.	March 31, 2006	Jess Hinman, Field Safety Assurance Manager
b. Issue a new procedure for the Central Utilities Group to clearly explain the hierarchy of hazard controls to be applied during development of construction work packages.	Issue and implement the new procedure.	March 31, 2006	Simon Wright, Central Utilities Group Manager
c. Revise procedure 24590-WTP-GPP-SIND-013, *Hazardous Work Permit*, to require the appropriate reviews from groups such as safety and health, industrial hygiene, and engineering, and to require approval from the appropriate level of construction management to prevent opportunities for single point failures.	Revised procedure 24590-WTP-GPP-SIND-013.	March 31, 2006	Simon Wright, Central Utilities Group Manager

Responsible Manager: Mike Lewis / WTP Manager of Construction

Performance Objective WPC-5: Work Planning and Control Process

Opportunity for Improvement: **WPC-BNI-OFI-3**

BNI should implement improved processes for work control documentation.

BNI Action	Deliverable	Due Date	Owner/Org
a. Together with the construction craft, perform an assessment of the current work package process including location of work packages during work, contents of work packages, and ease of use by the crafts, and develop improvement actions.	Assessment completed and documented and improvement actions developed.	March 31, 2006	Mike Hood, Site Superintendent
b. Develop a work package management process to ensure all design documents required for construction work are legible and readily available to the craft.	Work package management process developed, documented, and implemented.	June 2, 2006	Mike Hood, Site Superintendent
c. Revise procedure 24590-WTP-GPP-CON-1201, *Construction Work Packages*, to ensure JHAs are included with all work packages and are kept current.	Revised procedure 24590-WTP-GPP-CON-1201, *Construction Work Packages*.	March 31, 2006	Scott Neubauer, Field Engineering Manager

Responsible Manager: Mike Lewis / WTP Manager of Construction

Performance Objective WPC-6: Work Planning and Control Oversight

Opportunity for Improvement: **WPC-BNI-OFI-4**

BNI should improve the timeliness of the root cause analysis process to aid in timely reporting of event causes and corrective actions.

BNI Action	Deliverable	Due Date	Owner/Org
a. Revise procedure 24590-WTP-GPP-MGT-015, *Root Cause Analysis*, to streamline the process and increase employee involvement in problem solving and corrective action development.	Revised procedure 24590-WTP-GPP-MGT-015.	March 31, 2006	Dale Lindsay, Root Cause Analysis Coordinator
b. Increase the availability of trained root cause analysis team leaders.	Additional personnel identified and training conducted.	April 28, 2006	Dale Lindsay, Root Cause Analysis Coordinator

Responsible Manager: Mike Lewis / WTP Manager of Construction

SECTION IV – ORP Site WP&C Good Practices

Good Practice(s)	Site Point of Contact
Good Practice #1: Inspection files produced by the ORP WTP project facility representatives and on-site construction quality inspectors are well maintained. The files contain specific construction activity inspection documentation as well as event reports, investigations, and corrective action follow-up verifications. The detail is sufficient to facilitate effective understanding by independent investigators.	Jim McCormick-Barger, (509) 373-8500
Good Practice #2: The ORP FY2006 Assessment Plan provides an integrated schedule to provide oversight for all areas and groups of the WTP project, including the work control processes.	Pat Carier, (509) 376-3574
Good Practice #3: The CH2M HILL Production, Planning, and Control Group implemented a mature job hazard analysis development process with improved worker involvement. Work planners were retrained to breakdown all jobs to identify activities at the individual task level. This detail proved to be very helpful in group job hazard analysis sessions, because the workers took a greater interest in refining the work steps and identifying all applicable hazards. Furthermore, the radiological planners bring their completed ALARA management worksheets to these group sessions so radiological hazards can be combined with the rest of the hazards into one job hazard analysis document. This enhances worker understanding and compliance with the controls.	Tony Jennings, (509) 373-3447
Good Practice #4: CH2M HILL incorporates a second worker walk-down of the job site after the pre-job briefing and just prior to conducting the work to verify conditions at the job site are as expected and to verify the workers understanding of the work instructions.	Tony Jennings, (509) 373-3447

Good Practice #5: The CH2M HILL Executive Safety Review Board provides an excellent forum for communication of the health of safety programs and management expectations. The Safety Basis Change Review Board provides an effective forum for integrated analysis of safety analysis changes.	Vic Pizzuto, (509) 373-5320
Good Practice # 6: The CH2M HILL tank farm industrial hygiene database provides an excellent tool to make data-driven hazard control determinations.	Rob Cantwell, (509) 373-7209
Good Practice # 7: BNI worker safety standards and expectations are communicated through numerous mechanisms including work crew briefings, peer to peer safe work reinforcement and feedback programs, and lessons learned/safety bulletins.	Jess Hinman, (509) 373-8214
Good Practice #8: The BNI Safety Task Analysis and Risk Reduction Talk (STARRT) card program is a good process for reviewing hazards prior to the commencement of work each day.	Jess Hinman, (509) 373-8214

SECTION V – Supplemental Goals

Supplemental Goal WPC-1: Human Performance Improvement (HPI)

(Note: The Feedback and Improvement Site Action Plan attached to ORP letter 06-ESQ-011, dated February 8, 2006, contains one opportunity for improvement with three action items regarding development of a Human Performance Improvement strategic plan, training, and contract direction. These items will not be repeated here.)

ORP contracted with the human performance improvement consultant firm *BushCo* to complete a Human Performance Assessment/Accident Investigation of selected hazardous energy control related occurrence reports from 2005 at the WTP construction site. The investigation took place from January 30 through February 3, 2006.

Opportunity for Improvement: **WPC-ORP-OFI-4**

As a follow-up to the Human Performance Assessment/Accident Investigation, ORP and BNI should evaluate the investigation results, compare the results with previous causal analyses for the subject events, and determine if any modified or additional analyses and corrective actions are necessary.

ORP Action	Deliverable	Due Date	Owner/Org
a. Evaluate and compare investigation results with previous causal analyses and upgrade the root cause analysis of the recurring events as appropriate.	Report describing the evaluation and comparison of the existing causal analyses with the Human Performance Assessment/Accident Investigation, and a modified root cause analysis document if appropriate.	March 31, 2006	Mike Thomas, ORP Operations and Commissioning Team Lead Mike Lewis, WTP Manager of Construction
b. Develop any modified or additional corrective actions as appropriate.	Revised or additional corrective actions entered into the contractor's tracking system.	April 28, 2006	Mike Lewis, WTP Manager of Construction

Responsible Manager: John Eschenberg, WTP Project Manager

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Richland Operations

Site Action Plan

Commitment 23, Work Planning and Control
DNSFB Recommendation 2004-1

Approved, Keith Klein, Manager
Richland Operations

NOTE: Change Control for this Site Action Plan resides with the Field Office Manager (or designee), with a cc: to EM-3.2.

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Executive Summary

Evaluation Process

This assessment was conducted as part of the U.S. Department of Energy, Richland Operations Office (RL) response to Commitment #23 of the Department of Energy's Implementation Plan (IP) for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, "Oversight of Complex, High-Hazard Nuclear Operations." This assessment was conducted in accordance with the instructions provided in the November 18, 2005, DOE Headquarters memorandum from the Chief Operating Officer for Environmental Management. Specific direction was provided to perform a review of the DOE field office and contractor in the area of work planning and control. RL staff determined that the best approach to evaluate against the CRAD was to perform an RL self-assessment for DOE performance and a Core Surveillance, described below, performed against Fluor Hanford, Inc. (FHI) projects. Washington Closure Hanford, LLC (WCH) was not evaluated at this time due to the recent contract transition and impending ISMS verification scheduled for FY 2006. WCH ISMS verification actions have been incorporated into this action plan.

Work planning has been a focus area of RL oversight throughout FY 2005. Efforts to improve hazardous energy control identified weaknesses in the work control program and the need for additional oversight in this area. RL performed an assessment and core surveillance of work planning/work control in the last year. In each case, a surveillance guide was developed and performed simultaneously at a number of FHI projects to determine individual and sitewide issues. RL had a core surveillance scheduled for March 2006 that was rescheduled to December 2005 to perform the 2004-1 directed oversight of contractor work planning implementation. To support planning for this oversight, RL incorporated the 2004-1 WPC CRAD and considered for incorporation elements of the NNSA "Activity Level Work Planning and Control Processes Manual" into the existing RL work planning surveillance guide and directed the DOE Facility Representatives to perform the requested oversight against the seven RL Federal projects. The results of the individual surveillances were evaluated for crosscutting or programmatic issues in the form of a roll-up evaluation. The roll-up and individual surveillance reports were transmitted to FHI for action. This action plan contains the actions to address the programmatic opportunities for improvement and does not include the individual facility resolution of specific issues identified in each surveillance report. Those items will be evaluated and resolved at the facility level through the corrective action management process.

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Overall Evaluation Summary

The results of this assessment determined that RL meets the objectives for CRAD-1 and CRAD-2 with one opportunity for improvement noted. FHI was found to meet the objectives of CRAD-3 through CRAD-7 with opportunities for improvement noted in the assessment area of CRAD-5. Actions were incorporated into the plan to address performance of an ISMS verification for WCH to include work planning and control aspects of ISMS implementation. The following table provides the results of this assessment.

CRAD #	Objective Met	Objective Partially Met	Objective Not Met	Comments
1	X			2 OFIs noted
2	X			No issues noted
3	X			1 OFI noted
4	X			No issues noted
5		X		1 OFI noted
6	X			No issues noted
7	X			No issues noted

Summary of Results for WPC 1 and 2:

WPC-1 and -2 Work Planning and Control Oversight: RL performed a self-assessment against the CRADS to evaluate this area. The self-assessment found processes are in place to ensure evaluation and oversight of contractor work planning. Oversight planning includes consideration of risk, hazards and complexity of the work activity, and the identification of performance issues. Evidence exists that oversight is performed and used to support trending and tracking of issues, continuous improvement, and contractual actions, when necessary. Based upon the results of the self-assessment, RL has adequate mechanisms to perform oversight of all aspects of work planning, including processes to document, trend. and resolve issues. No weaknesses were identified by the self-assessment, however, an opportunity for improvement is identified to incorporate this CRAD into the existing RL work planning surveillance guide for use during the annual Core Surveillance. Following the completion of the assessments related to this commitment, the DNFSB performed work planning oversight for two FHI projects. The discussions related to this oversight highlighted the need for RL to have a work planning Subject Matter Expert to provide continuous leadership and expertise to support a rigorous and effective site work planning program. Thus, an additional OFI has been captured in this action plan to establish an RL work planning SME.

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Summary of Results for WPC 3 through 7:

In December 2005, RL completed eight surveillances on FHI facilities utilizing Surveillance Guide MAS 10.4, "Work Planning and Work Control." The surveillance guide that was used had been revised to incorporate the 2004-1 work planning and control CRAD. The surveillances resulted in nine Findings and sixteen Observations which were evaluated for crosscutting issues/concerns. The evaluation resulted in a concern related to weaknesses in the process for identifying hazards and implementation of controls into work instructions. This concern and two others were identified by RL in June 2005, and FHI addressed in a Corrective Action Plan (CAP) submitted to RL in August 2005. One action in the CAP was for FHI to perform an assessment of the adequacy of field work at all projects to determine whether work is performed in accordance with requirements. The outcome of each Performance Objective is summarized below:

WPC-3 Work Control Program Documentation: FHI has established a documented work planning and control program in HNF-PRO-12115, Work Management and HNF-PRO-079, Job Hazard Analysis, and individual projects have implementing procedures. Personnel are trained to the work control requirements. The program includes a post-job review and a vehicle for incorporation of lessons learned into work packages. Qualification requirements for Work Control Managers and Planners have not been established, but this is included in the FHI CAP and was incorporated in this Action Plan. The December 2005 RL surveillances did not identify any additional concerns.

WPC-4 Work Planning and Control Activity (Definition and Hazard Identification): FHI utilizes the Automated Job Hazard Analysis (AJHA) program to identify hazards and their associated controls. RL observed AJHA development and field walk-downs for activity for varying complexities. In general, the AJHA tool is effectively utilized in conjunction with a walk-down of the proposed activity by an integrated team. Upset conditions are being considered. Information from the walk-downs is used to develop the work package, but additional attention is needed as discussed in WPC-5. RL review found isolated instances of projects not integrating hazard information into a recovery plan, changes made to a completed AJHA during ALARA committee review, and an AJHA that did not reflect work conditions. These isolated events did not represent a programmatic concern.

WPC-5 Work Planning and Control Process: RL reviewed the work package development process, completed work packages, and interface between the identification of controls, and incorporation into the work package. Most work packages included a clear scope, proper sequencing, incorporated requirements, and controls which were identified prior to the applicable step in the procedure. A review by RL identified issues at different facilities with inadequate identification of isolation boundaries for Lockout/Tagout. A finding and several observations were identified related to controls not being incorporated adequately into the AJHA and associated work package. This weakness was identified as a repeat concern. However, no additional actions are deemed to be warranted at this time because FHI is in the process of implementing corrective actions. RL will continue to monitor corrective action progress as part of routine oversight. The following issues associated with this CRAD were identified in the surveillances:

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- **S-06-OOD-CENTPLAT-002-O01** Lack of timely reviews/approvals of work packages.
- **S-06-OOD-SWOC-002-O03** Actual man-hours worked was double the planning estimate.
- **S-06-OOD-SNF-002-O01** Planners consistently underestimated craft and support personnel hours.
- **S-06-OOD-CENTPLAT-002-F01** Poor work planning evident in insufficient LO/TO isolation boundary identification.
- **S-06-OOD-SWOC-002-F01** The two lockout points identified in W1-05-06596 were inadequate to completely isolate the electrical power and remove the potential hazards to personnel who would be performing the task described in the Work Document.
- **S-06-OOD-PFP-002-O02** Vague work instructions or controls were identified in two work packages.
- **S-06-OOD-200LWP-LPCS-002-O01** Work package did not contain all necessary information.
- **S-06-OOD-SNF-002-F02** 105-KE management personnel failed to recognize and apply the Unreviewed Safety Question (USQ) process.
- **S-06-OOD-FFTF-002-F01** Controls identified during the work package planning process (Automated Job Hazard Analysis) were not being consistently incorporated into work instructions.
- **S-06-OOD-CENTPLAT-002-O03** Lack of specific precautions/limitations specified in work package regarding weight limitations of equipment.

WPC-6 Work Planning and Control Oversight: RL performed considerable oversight of performance of work activities during the completed surveillances. Reviews indicated supervisors and workers were knowledgeable of their work control documents and processes. Operations work control authorities at FHI facilities reviewed work documents to ensure scheduled work activities could be performed safely, and authorized release of work documents prior to commencement of work. Pre-job briefings are being performed on a consistent basis, the level of detail of the briefings is appropriate for the scope of the work and found to be satisfactorily conducted. First line supervisors and workers understand their stop-work authority. A couple of instances were noted with fieldwork supervisors and workers not following work control document instructions as written, nor following their change control process to make required changes to work documents when discrepancies were noted. One example was noted where personnel were not using the Activity Level Feedback Database of the Automated Job Hazard Analysis (AJHA) to provide lessons learned to other users. These isolated events were not of significance to be deemed a programmatic concern.

WPC-7 Work Planning and Control Oversight: FHI has an established process to perform timely assessments/surveillances of the work planning and control process. As part of each surveillance, an evaluation of the contractors' self-assessment program in the area under review is required. Of the eight surveillances conducted as part of the work planning and work control review, only the PFP Project self-assessment process was found to be inadequate in this area. The contractor generally schedules and performs self-assessments and independent assessments of the work control process. These assessments are included in the Integrated Evaluation Plan which is reviewed by RL. Issues that are identified in these assessments are processed through corrective action management

and the contractor tracks and trends the results of the oversight activities. Line managers periodically review approved work control documents and perform surveillances of in-field activities. Other than a minor issue with the lack of self assessments at the Plutonium Finishing Plant (PFP), this was not an area noted as weak or needing improvement.

Conclusion:

In general, work planning and control at FHI facilities is being performed adequately to ensure work at the activity level is controlled. FHI's work control program is documented, and staff members are training to the automated job hazard analysis process. Proposed work activities are adequately defined, but continued weakness was observed in the process for identifying hazards and the implementation of controls into work instructions. RL believes the FHI activities in the Action Plan will adequately address the programmatic weakness. Contractor personnel generally perform work in accordance with approved work control documents and line management assesses performance of their work against work control programmatic requirements. No weaknesses in the RL oversight program were identified.

In addition, in January, the DNFSB performed an assessment of work planning and control at two RL projects, K-Basins and PFP, using the NNSA "Activity Level Work Planning and Control Processes Manual." Initial feedback validated RL oversight results, although the formal outbrief is scheduled for February 8, 2006. The review did highlight a potential need for a RL work planning subject matter expert. RL management has added this opportunity for improvement and corresponding action to this action plan to support continuous improvement of work planning.

Section I contains those actions important to improving the effectiveness of the RL work planning and control oversight.

Section II contains those actions necessary to verify WCH ISMS, including work planning, implementation.

Section III contains those actions important to improving the effectiveness of FHI work planning processes.

Section IV contains RL work planning and control "Good Practices" for sharing across the DOE.

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SECTION I – DOE Oversight

Performance Objective WPC-1: DOE Work Planning and Control Oversight

Opportunity for Improvement #1

RL uses an existing work planning surveillance guide and core surveillance approach to regularly perform oversight of contractor work planning program implementation. The 2004-1 CRAD will be incorporated into the existing surveillance guide to strengthen RL oversight.

DOE Action	Deliverable	Due Date	Owner/Org
Incorporate the 2004-1 work planning and control CRAD into the RL work planning surveillance guide for use during future Core Surveillance oversight.	Updated surveillance guide for use by RL staff.	Complete	Rob Hastings, RL

Responsible Manager: Operations Oversight Division

Opportunity for Improvement #2

Performance of the 2004-1 work planning assessment and subsequent DNFSB oversight have highlighted the need for a RL work planning subject matter expert to maintain work planning expertise and drive programmatic continuous improvement.

DOE Action	Deliverable	Due Date	Owner/Org
Establish a RL work planning subject matter expert	Revisions to RIMS to identify and define a RL work management subject matter expert	July 28, 2006	Rob Hastings, RL

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Responsible Manager: Operations Oversight Division

Performance Objective WPC-2: DOE Work Planning and Control Oversight

No opportunities for improvement noted at this time.

SECTION II – Washington Closure Hanford (WCH)

Performance Objective WPC-3: Work Control Program Documentation

Opportunity for Improvement #1

WCH recently received the contract for RL River Corridor Closure workscope and is, therefore, in the process of developing an ISMS system description for all WCH workscope. Based upon this process, an opportunity for improvement has been identified to capture the need for ISMS verification of WCH in FY 2006.

DOE Action	Deliverable	Due Date	Owner/Org
Complete the WCH ISMS phase I verification	Phase I ISMS verification report	May 30, 2006	Doug Shoop, RL
Complete WCH ISMS Phase II verification	Phase II ISMS verification report	September 30, 2006	Doug Shoop, RL

Responsible Manager: Assistant Manager for Safety and Engineering

Performance Objective WPC-4: Work Planning and Control Activity; Definition and Hazard Activity

No opportunities for improvement noted at this time.

Performance Objective WPC-5: Work Planning and Control Oversight Process

No opportunities for improvement noted at this time.

Performance Objective WPC-6: Work Planning and Control Oversight

No opportunities for improvement noted at this time.

Performance Objective WPC-7: Work Planning and Control Contractor Oversight

No opportunities for improvement noted at this time.

SECTION III – Fluor Hanford, Inc. (FHI)

Performance Objective WPC-3: Work Control Program Documentation

No opportunities for improvement noted at this time.

Performance Objective WPC-4: Work Planning and Control Activity; Definition and Hazard Activity

No opportunities for improvement noted at this time.

Performance Objective WPC-5: Work Planning and Control Oversight Process

Opportunity for Improvement #1

RL reviewed the work package development process, completed work packages, and interface between the identification of controls and incorporation into the work package. Most work packages included a clear scope, proper sequencing, incorporated requirements, and controls which were identified prior to the applicable step in the procedure. RL's review identified issues at different facilities with inadequate identification of isolation boundaries for Lockout/Tagout. A finding and several observations were related to controls identified in the AJHA not being incorporated adequately into the work package. This weakness was identified as a repeat concern. However, no additional actions are deemed to be warranted at this time because FHI is in the process the implementing corrective actions. RL will continue to monitor progress as part of routine oversight and continue to document in the Operational Awareness database. Based upon the continued weaknesses in hazard identification and control, an opportunity for improvement has been identified to capture the need for a systematic set of actions to improve performance.

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FHI Action	Deliverable	Due Date	Owner/Org
Perform assessment of adequacy of fieldwork. This action is intended to determine the extent of the weakness to ensure actions will be effective.	Copy of the completed assessment.	February 28, 2006	R. Kaldor
Develop performance indicators to evaluate effectiveness of work management program. These indicators are intended to provide routine evaluation of work planning performance for early identification and resolution of issues.	Copy of the approved indicators.	Complete	R. Kaldor
Develop an Implementation Plan based upon results of the assessment. It is expected that some additional actions will result from the assessment to define the full extent of the condition.	Copy of the implementation plan and incorporation of additional action into deficiency tracking system.	April 15, 2006	R. Kaldor
Update training needs analysis and qualification standards for planners. It is clear that additional rigor in training and qualification requirements for planners is necessary to ensure consistent performance of work planning in accordance with site procedures.	Copy of the updated needs analysis.	May 30, 2006	R. Kaldor
Reinforce management's expectations for completing work record entries. Immediate communication of expectations is expected to provide immediate improvement in consistent documentation of work record entries.	Copy of the work record management expectation as communicated to staff.	Complete	G. Griffin

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Reinforce management's emphasis on importance of post job reviews. Immediate communication of post job expectations is expected to provide initial improvement in performance and use of post job information.	Copy of the post job information communicated to staff.	Complete	G. Griffin
Conduct self assessment of conduct of post job reviews. This assessment is designed to determine the extent of the weakness and effectiveness of management communication of effectiveness.	Copy of the self-assessment	February 28, 2006	R. Kaldor
Determine method of documenting decision on hazards analysis. This action is intended to establish consistency in how hazard analysis decisions are documented and communicated.	Copy of the hazard analysis decision document.	Complete	G. Griffin
Communicate expectations for a hazards analysis to support work planning. This action reiterated the expectation for hazards analysis while the overall process is improved.	Copy of the hazards analysis expectations communicated to staff.	Complete	D. Wiatrak
Reinforce requirements for electrical work into work planning hazard identification and control. This action reiterated how electrical hazards are evaluated and controls identified in the work planning process	Copy of the electrical work planning requirements communicated to staff.	Complete	P. Garello

Responsible Manager: FHI Vice President of Safety and Health

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DOE Action	Deliverable	Due Date	Owner/Org
Perform RL verification of work control and hazardous energy control integration action plan effectiveness.	DOE-RL verification documentation.	June 15, 2006	Doug Shoop, RL

Responsible Manager: Operations Oversight Division

Performance Objective WPC-6: Work Planning and Control Oversight
No opportunities for improvement noted at this time.

Performance Objective WPC-7: Work Planning and Control Contractor Oversight
No opportunities for improvement noted at this time.

SECTION IV – DOE-RL WP&C Good Practices

Good Practice(s)	Site Point of Contact
Good Practice #1: FHI has been recognized in the past for excellent worker involvement in work planning and the implementation of Enhanced Work Planning using the Automated Job Hazards Analysis tool.	Reed Kaldor, FHI: (509)-372-1992
Good Practice #2: Consistent with Behavior Based Safety Training, FHI has implemented a strong Zero Accident Council at the contractor and project level with noteworthy commitment across management and the bargaining unit that drives safety throughout FHI	Tony Umek, FHI: (509)-373-5983
Good Practice #3: RL uses a Core Surveillance process to evaluate multiple facilities simultaneously against a common surveillance guide/CRAD. The results of the oversight are evaluated for cross-cutting and programmatic issues that are then transmitted to the contractor for evaluation and action.	Rob Hastings, RL: (509)-376-9824

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Idaho Operations Office and

Idaho National Laboratory Site

Site Action Plan

Commitment 23, Work Planning and Control
Commitment 25, Feedback and Improvement
DNSFB Recommendation 2004-1

ED Sellers

Approved, E. D. Sellers, Manager

Executive Summary

Evaluation Process

Three of the Performance Objectives (PO), consisting of nineteen individual review criterion, associated with Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, Oversight of Complex, High-Hazard Nuclear Operations, Commitment 23 and Commitment 25, pertain specifically to Department of Energy Idaho Operations Office (DOE-ID) performance. A team consisting of fifteen DOE-ID employees performed a self-assessment of those Performance Objectives using review criteria provided in memoranda issued by Under Secretary Garman.

Overall Evaluation Summary

The DOE-ID self-assessment team concluded that Work Planning and Control (WPC) PO-1 Criterion 3, WPC PO-1 Criterion 4, Feedback and Improvement (F&I) PO-3 Criterion 1, F&I PO-3 Criterion 6, F&I PO-3 Criterion 8, F&I PO-3 Criterion 9, F&I PO-3 Criterion 10, and F&I PO-3 Criterion 11 were Fully Met; WPC PO-1 Criterion 1, WPC PO-1 Criterion 3.a, WPC PO-2 Criterion 1, WPC PO-2 Criterion 2, WPC PO-2 Criterion 3, F&I PO-3 Criterion 2, F&I PO-3 Criterion 3, F&I PO-3 Criterion 4, F&I PO-3 Criterion 5, and F&I PO-3 Criterion 7 were Partially Met, and WPC PO-1 Criterion 2 was Not Met.

For each instance when full compliance with a review criterion was not obtained, the DOE-ID self-assessment team provided a recommendation that could be used for developing a corrective action plan. The DOE-ID self-assessment team also concluded that, in most instances, a process for obtaining full compliance with the review criteria exists within DOE-ID and is available for implementation.

There were 17 recommendations (opportunities for improvement) identified. These recommendations were presented to Idaho Issues Review Board (IIRB) on January 18, 2006, for evaluation. All recommendations were accepted by the IIRB and were assigned responsible and issue managers to prepare action plans.

SECTION I – DOE-ID Oversight

Performance Objective WPC-1: DOE-ID Work Planning and Control Oversight

Opportunity for Improvement #1
DOE-ID should provide guidance on the continued maintenance and use of the previous ESH&QA Oversight Plan. (ICATS 064-01-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Identify those oversight elements for FR's previously addressed in the AM Manuals, Chapter 4, and revise WI-133 to implement in the Oversight Plan.	An issued revision to WI-133 that incorporates the oversight elements from the previous AM Manuals.	03/15/2006	R.D.E. Newbry, FR Team Leader (SOSO)

Responsible Manager: R.M. Stallman, Senior Operations and Safety Officer (SOSO)

Opportunity for Improvement #2
DOE-ID should revise OD-101, Functions, Responsibilities, and Authorities, to reflect the current reporting chain for DOE-ID NE FRs. (ICATS 064-14-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Revise DOE-ID IDMS OD-101, Functions, Responsibilities, and Authorities, to reflect the reporting chain for DOE-ID NE FRs as identified in the DOE-ID organizational chart dated January 2006.	An issued revision to DOE-ID IDMS OD-101, Functions, Responsibilities, and Authorities, reflecting the reporting chain for DOE-ID NE FRs as identified in the DOE-ID organizational chart dated January 2006.	05/01/2006	M.D. Hicks, Quality and Safety Dividion

Responsible Manager: G.L. Beausoleil, Quality and Safety Division

Opportunity for Improvement #3
DOE-ID should evaluate how work planning and control oversight will continue to be selected based upon the degree of risk, hazards, and complexity of work activity. (ICATS 064-02-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Evaluate whether work planning and control oversight will continue to be selected and performed based upon risk determination, or if all stages as specified in the criterion need to be performed, regardless of risk. Based on results of the evaluation, provide additional guidance for work planning and control oversight activities in work instructions.	Issue new or revise current work instructions to provide additional guidance for work planning and control oversight activities.	03/15/2006	R.D.E. Newbry, FR Team Leader (SOSO)

Responsible Manager: R.M. Stallman, Senior Operations and Safety Officer (SOSO)

Opportunity for Improvement #4
The DOE-ID Technical Qualification Program should be modified to ensure that candidates who are expected to provide oversight of the contractor work control processes are knowledgeable of those processes.
(ICATS 064-03-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
(1) Identify DOE-ID positions that require demonstrated knowledge of the contractor work control processes. (2) Determine level of knowledge required for each position. (3) Cross-walk identified positions to TQP functional areas to determine which TQP standards must be modified. (4) Modify standard to include criterion for candidate to demonstrate either a working or familiarity level of knowledge of the contractor work control processes.	Signed facility specific qualification standards with work control criterion incorporated.	03/31/2006	C.S. Henning, Human Resource Team

Responsible Manager: D.W. Desautel, Human Resources Team

Performance Objective WPC-2: DOE Work Planning and Control Oversight

Opportunity for Improvement #1
DOE-ID should develop a formal process for tracking and trending the results of oversight of the contractor's work planning and control process.
(ICATS 064-05-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Implement Pegasus that has tracking and trending features.	Pegasus in place and operating.	04/01/2006	R.D.E. Newbry, FR Team Leader (SOSO)

Responsible Manager: R.M. Stallman, Senior Operations and Safety Officer (SOSO)

Opportunity for Improvement #2
DOE-ID should consider maintaining Performance Metrics summaries on the O-drive as a read-only copy to allow easier review by personnel involved in oversight.
(ICATS 064-06-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
(1) Create a link for the Operational Performance Metrics Reports on the internal DOE-ID web page.	Ability to access from the web page.	1/31/06 Complete	K. Brown/ITST
(2) Ensure the DOE-ID IDMS documentation contains appropriate instruction(s) for Performance Oversight Lead (POL) to transmit monthly performance data to the DOE-ID Web master for posting on the DOE-ID internal web page.	The DOE-ID IDMS document is issued and contains instruction(s) for the POL to transmit performance data to the DOE-ID web master.	3/31/06	P. Contreras/QSD

Responsible Manager: W. D. Jensen, Information Technology Services Team (ITST)

Performance Objective F&I-3: DOE-ID Line Management Oversight

Opportunity for Improvement #1
DOE-ID NE should document the process for transmitting oversight information to the contractor.
(ICATS 064-16-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Revise Work Instructions 122 (Conduct of Operational Oversight Activities) and 123 (Monthly Review of EM/ICP Oversight Results) to include the NE side for transmitting oversight information to the contractor.	Revised Work Instructions 122 and 123 are in place that includes the NE side for transmitting oversight information to the contractor.	03/01/2006	R.D.E. Newbry, FR Team Leader (SOSO)

Responsible Manager: R.M. Stallman, Senior Operations and Safety Officer (SOSO)

Opportunity for Improvement #2
DOE-ID should develop a procedure/instruction for determining what DOE identified issues are of sufficient magnitude to merit transmittal to senior contractor management by the CO.
(ICATS 064-07-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Develop and implement a process/procedure that applies severity weighting to findings and concerns that merit formal transmittal to senior contractor management.	A procedure is in place that applies severity weighting to findings and concerns that merit formal transmittal to senior contractor.	04/01/2006	R.D.E. Newbry, FR Team Leader (SOSO)

Responsible Manager: R.M. Stallman, Senior Operations and Safety Officer (SOSO)

Opportunity for Improvement #3
DOE-ID should develop a process and implement a procedure for verification and validation of corrective actions for contractor (ORPs and NTS issues) and DOE-ID identified issues that applies to both NE and EM.
(ICATS 064-08-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Develop a process, and implement a procedure for verification and validation of corrective actions for contractor (ORPs and NTS issues) and DOE-ID identified issues that applies to both NE and EM.	Procedure issued that requires verification and validation of corrective actions for contractor (ORPs and NTS issues) and DOE-ID identified issues that applies to both NE and EM.	04/01/2006	R.D.E. Newbry, FR Team Leader (SOSO)

Responsible Manager: R.M. Stallman, Senior Operations and Safety Officer (SOSO)

Opportunity for Improvement #4
DOE-ID NE should provide guidance on corrective action associated activities (documentation, reporting, and closure).
(ICATS 064-17-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Implement guidance on corrective action associated activities (documentation, reporting, and closure).	Procedure issued that provides guidance on corrective action associated activities (documentation, reporting, and closure).	04/01/2006	R.D.E. Newbry, FR Team Leader (SOSO)

Responsible Manager: R.M. Stallman, Senior Operations and Safety Officer (SOSO)

Opportunity for Improvement #5
DOE-ID should fully implement WI-108, ID Lessons Learned.
(ICATS 064-10-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
(1) QSD Management has identified a Lessons Learned Coordinator.	Formal appointment of lessons learned coordination duties by memorandum from the QSD Division Director.	02/10/2006 Complete	G.L. Beausoleil, Quality and Safety Division
(2) The Lessons Learned Coordinator will include lessons learned, and external events of relevance to ID into the existing Daily Summary and Weekly Summary.	Copies of Daily Summary and Weekly documentation including lessons learned and external events of relevance.	02/17/2006	H.M. Worrell, Quality and Safety Division
(3) Solicit feedback on relevance and distribution of the summaries.	Feedback from ID organizations concerning the effectiveness of the Daily Summary and Weekly for the dissemination of lessons learned information.	04/07/2006	H.M. Worrell, Quality and Safety Division

Responsible Manager: G.L. Beausoleil, Quality and Safety Division

Opportunity for Improvement #6
The DOE-ID NE organization should develop a process to determine the effectiveness of site programs, management systems, and CAS.
(ICATS 064-18-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Revise procedure WI-121, *Management of ID Environmental Management Quarterly Oversight Review Meetings*, to include the NE organization.	Revised procedure issued.	03/01/2006	R.D.E. Newbry, FR Team Leader (SOSO)

Responsible Manager: R.M. Stallman, Senior Operations and Safety Officer (SOSO)

Opportunity for Improvement #7
DOE-ID EM should complete the implementation of the scorecard process for BBWI.
(ICATS 064-12-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Complete the implementation of the monthly operational performance report (scorecard) process for BBWI.	Issuance of BBWI scorecard	4/30/06	G. A. Girard

Responsible Manager: E. J. Ziemianski, Waste Disposition Project

Opportunity for Improvement #8
DOE-ID NE should complete the implementation of the scorecard process for BEA.
(ICATS 064-13-00)

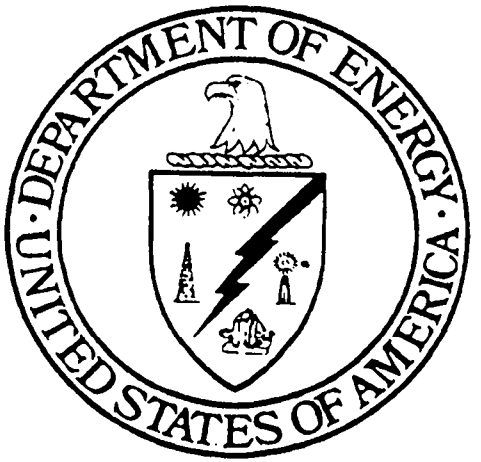
DOE-ID Action	Deliverable	Due Date	Owner/Org
Implement a monthly operational performance report (scorecard) process for BEA.	Issuance of BEA scorecard	04/01/2006	R.F. Wilbur, LO

Responsible Manager: R.F. Wilbur, Laboratory Operations

Opportunity for Improvement #9
DOE-ID should ensure that the DOE-ID employee concern web links are re-established and that employees are aware of the web link locations.
(ICATS 064-11-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Repair web links for Employee Concerns Program on the DOE-ID HR homepage.	Upon entry into the ECP web Link all of the links will be active	01/19/2006 Complete	J.E. Ogilvie, Human Resources Team

Responsible Manager: D.W. Desautel, Human Resources Team



Idaho Cleanup Project

Action Plan

Commitment 23, Work Planning and Control
Commitment 25, Feedback and Improvement
DNSFB Recommendation 2004-1

February 6 2006
Site Action Plan
WP&C Commitment 23 / F&I Commitment 25 – DNFSB Recommendation 2004-1

Idaho Cleanup Project

NOTE: Change Control for this Site Action Plan resides with the Field Office Manager (or designee), with a cc: to EM-3.2.

Executive Summary

Evaluation Process

This assessment was conducted as part of the Idaho Cleanup Project (ICP) response to Commitments #23 and #25 of the Department of Energy's Implementation Plan (IP) for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, "Oversight of Complex, High-Hazard Nuclear Operations". This assessment was conducted in accordance with the instructions provided in the November 18, 2005 DOE Headquarters memorandum from the Chief Operating Officer for Environmental Management. Specific direction was provided to perform a review of the contractor in the area of work planning and control, and feedback and improvement. The assessment team determined that a combination of existing assessment data and a conducting a focused assessment would be required to fully evaluate all work planning and control, and feedback and improvement processes utilized by CWI.

The CWI assessment team was organized into five groups with the Project Evaluation Board Manager as the lead for the assessment. Four of the groups were assigned to specific ICP areas (INTEC, RWMC, Construction, and D&D) to evaluate work practices and program implementation. The fifth group was assigned to evaluate ICP programs. Each of the teams was led by an experienced assessor who was familiar with requirements for work control and the ISMS. A pre-assessment meeting was held with the team leaders and the assessment team members to review expectations and the assessment methodology. Daily debriefings were held with the PEB Department Manager to ensure the assessment remained focused and to identify key issues. The assessment started on December 12, 2005 and completed on January 6, 2005. CWI management was briefed on the results of the assessment.

The CWI assessment teams used the Criteria Review and Approach Documents (CRADs) as specified in the following:

- Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 23; David K. Garman, Under Secretary for Energy, Science and Environment, November 9, 2005
- Defense Nuclear Facilities Safety Board Recommendation 2004-1, Integrated Safety Management System Feedback and Improvement; David K. Garman, Under Secretary for Energy, Science and Environment, November 9, 2005

The CRADs and associated criteria were reviewed by the team in preparation for the assessment. In addition, the daily debriefings ensured that assessment of the CRADs and their associated criteria remained focused and met the expected needs of the assessment.

Overall Evaluation Summary

WORK PLANNING AND CONTROL, COMMITMENT 23

The results of this assessment determined that ICP meets the objectives for CRAD-3 (*The contractor has developed an effective work planning and control process*). The objectives for CRAD 4 (*Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls*); CRAD 5 (*The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities*); and CRAD 6 (*Contractor personnel perform work in accordance with approved work control documents)* were partially met. The objective for CRAD 7 (*The Contractor has an established process that requires line management and assessment personnel to perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents*) was not met.

The following table provides the results of this assessment.

CRAD #	Objective Met	Objective Partially Met	Objective Not Met	Comments
3	X			2 OFI's noted
4		X		1 OFI noted
5		X		2 OFI's noted
6		X		2 OFI's noted
7			X	2 OFI's noted

FEEDBACK AND IMPROVEMENT, COMMITMENT 25

The results of this assessment determined that ICP meets the objectives for CRAD 2.2 (The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities); CRAD 2.3 (Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses); and CRAD 2.4 (The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions). The objectives for CRAD 1(Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and

opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation) and CRAD 2.1 (Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance) were partially met. The following table provides the results of this assessment.

CRAD #	Objective Met	Objective Partially Met	Objective Not Met	Comments
1		X		2 OFI's noted
2.1		X		2 OFI's noted
2.2	X			No OFI's noted
2.3	X			No OFI's noted
2.4	X			No OFI's noted

This assessment was completed and submitted as requested by Department of Energy's Implementation Plan Commitment 23 and Commitment 25 for Defense Nuclear Facilities Safety Board Recommendation 2004-1, *Oversight of Complex, High-Hazard Nuclear Operations*; Request for Action (OS-QSD-05-13); E. M. Sellers, December 2, 2005. Due to the short amount of time to prepare and complete this assessment and the limited amount of actual work occurring during the assessment period, findings are based upon a limited sample size.

The most significant findings involve: (1) situations where personnel failed to follow work control documents as written (one of these involved a routine task that is performed typically three times a week), (2) excessive reliance on maintenance planners to identify hazards and establish controls for maintenance work without input or review from subject matter experts, and (3) needed improvements in the conduct of self-assessments. Additionally, there appears to be an excessive amount of unscheduled/emergent work that is added to the planned work schedules. This increases worker and supervisor frustration, impacts craft utilization and has the potential to create error likely situations.

These areas of improvement appear to stem from the ineffective implementation of existing programs and processes. Programs, such as the Safety Assessment Center and Executive Safety Review Board, have been implemented for a short period of time and the Site has not been able to fully realize the feedback and improvement value inherently imbedded. In another area, the process outlined within MCP-3562, *Hazard Identification Analysis and Control of Operational Activities*, provides a foundation for a highly rigorous hazard identification program for the development of operating procedures. This same rigor is not imposed upon the development of work documents.

These, and other, programs and processes are in themselves identified as Good Practices later in this document. This evaluation determined that the issues identified from the CRADs of Commitments #23 and 25 are implementation related, not program breakdowns.

SECTION I – DOE Oversight

SECTION II – CWI-ICP

Performance Objective WPC-3: Work Control Program Documentation

When CWI began work on the ICP in May 2005, the work control program documentation that was in effect at the INL remained in effect to provide a framework within which CWI could conduct business under the new, performance based contract. The document hierarchy which existed at the start of the contract continues to be in effect today.

The controlling documents (STD-101, *Integrated Work Control Process*, MCP-3192, *Hazard Identification Analysis and Control of Operational Activities*, and GDE-6210, *Maintenance Guide*) describe and establish requirements for initiating, analyzing and developing work control documents, including job hazard analyses.

There are several different document types used for control of work, including three levels of maintenance work orders (minor maintenance, expedited maintenance, or planned maintenance each according to increasing hazards, complexity and risk), project work orders and operating procedures. Levels of review and approval are established for each of these work control documents in their respective MCPs, STDs and other company-level procedures. The choice of which work control document is used is a function of the organization performing the work, the nature of the work (operations, corrective maintenance [e.g. repair], routine or preventive maintenance [e.g. calibration], D&D, construction and environmental restoration), as well as the degree of risk, hazards and complexity of the work.

Subcontractor work is controlled using project work orders and is subject to the same level of control as that used by CWI organizations, except as noted elsewhere in this report.

Extensive training and qualification requirements exist for crafts and operations personnel. These training topics involve company requirements, craft and operations skills and qualifications, safety and health training and other relevant topics. In addition, many positions, such as maintenance personnel, have core, position specific and facility specific training requirements. Training and qualification requirements also exist for work control managers and planners as well as for other line managers involved in the work control process. Auditable training records are maintained on a web-based system (*TRAIN*) to which first line supervisors and above have access to assure that crafts, technicians, operators, planners, safety subject matter experts and line managers are trained and qualified.

Turnover requirements exist for transfer of responsibilities of first line supervisors in operations and maintenance. Turnovers are used in operations environments as required in MCP-2980. This MCP outlines the process and requirements for recording shiftily/daily activities. Operations personnel promptly record information regarding activities or events for each key position throughout the shift to ensure the accuracy of the entry. Maintenance criteria for turnover are located in STD-101 (chapter 6) and GDE 6210 (chapter 10).

These documents provide direction regarding interfaces and work control coordination, work boundaries, system operability and testing turnover of physical tasks as well as personnel.

Mechanisms exist to collect and utilize lessons learned and feedback from work activities to be used in planning future activities. ICP uses the same lessons learned database that existed at the INL prior to the contract change that is now shared with the INL. Planners are trained in and have access to this database for use in preparing work packages. In some case (e.g. for construction projects), lessons learned were maintained in hard copy and were found to be functional, but were cumbersome to use. Construction projects also lack mechanisms to track and ensure incorporation of post-work review lessons learned on projects related to Voluntary Consent Orders. Furthermore, the assessment identified weaknesses in post-task feedback responses for field operations and maintenance tasks.

Opportunity for Improvement #1

The requirements for periodic review of JSAs in MCP-135 REV 17, Creating, Modifying, And Canceling Procedures and Other DMCS-Controlled Documents, and the requirements in PRD-25, Activity Level Hazard Identification, Analysis and Control need to be evaluated and the procedure(s) needs to be revised as necessary to provide a correct and consistent periodic review frequency. In addition, a review of JSAs needs to be performed to ensure that the periodic JSA reviews are performed at the proper frequency.

CWI Action	Deliverable	Due Date	Owner/Org
Revise MCP-135 REV 17 to provide correct and consistent periodic review frequencies, as applicable.	Evaluation and revision of the MCP-135 REV 17 procedure	3/1/06	Bill Grace Director, Industrial Safety
Ensure JSAs have been reviewed within the required periodic review frequency.	Verification that JSAs have been reviewed within the required periodic review frequency.	5/1/06	Area Project Managers

Responsible Manager: Bill Grace, Director – Industrial Safety

Opportunity for Improvement #2

To support the development of ensuring appropriate changes are made to the controlling documents: STD-101, *Integrated Work Control Processs*, and GDE-6210, *Maintenance Guide*. A review of the feedback process is warranted. The results of this review will be integrated into improvements to the documents.

CWI Action	Deliverable	Due Date	Owner/Org
Perform an in depth review of the feedback process for work activities and recommend process performance improvements in this area, as appropriate.	Formal evaluation of the feedback and improvement processes, including recommendations for process improvements.	3/1/06	William J. Johnson, COO

Responsible Manager: William J. Johnson, Chief Operating Officer

Performance Objective WPC-4: Work Planning and Control Activity; Definition and Hazard Activity

PDD-1004, *Integrated Safety Management System*, is the program document that describes the flow down of ISMS requirements from the contractual level (ISMS DEAR Clauses and DOE policies and orders) to implementing documents. Work planning and control activity definition for maintenance work is described in STD-101, *Integrated Work Control Process*.

GDE-6210, *Maintenance Guide*, and GDE-6212, *Hazard Mitigation Guide for Integrated Work Control Process*, whereas operating activities are governed by MCP-3562, *Hazard Identification Analysis and Control of Operational Activities*.

Maintenance activity planning involves receipt of a request to perform work and assignment of the request to a maintenance expediter or planner to prepare work documents. Initial discussions of work scope, identification of a team to participate in work package development and walk downs and hazard analyses are primarily performed or led by maintenance planners. For planned and project maintenance work orders, planners perform hazard analysis and identification of controls by filling out a Hazards Profile Screening Checklist (HPSC), Form 430.10. In completing this computer-based checklist, planners use the information obtained during the scope of work development and review of facility documents (e.g., the Facility Hazards List (FHL), equipment history, Documented Safety Analyses (DSA), Fire Hazard Assessments (FHA), environmental permits. Based on the planner's input into the HPSC, control sets are generated as are subject matter expert reviews. This process places a very heavy burden on planners to properly identify the right set of hazards. If a planner fails to identify a hazard, there is no additional review of the package by a SME to correct the package or to involve the SME in the walk down process.

For expedited maintenance work orders and minor maintenance work orders, no HPSC is required by STD-101 or GDE-6210, though other hazard analysis approaches are used, including job safety analyses (JSA). Minor maintenance work is restricted to a less hazardous set of activities by using a specified list of circumstances for which the work may not be performed as minor maintenance.

In contrast, MCP-3562 requires that line managers perform screening activities to identify hazards for operational activities and that they review and approve JSAs, determine whether further analysis is needed and designate appropriate individuals to participate in the team that will further analyze the hazards, the Hazard Evaluation Group (HEG). One issue involving improper flow down of CWI requirements for periodic reviews of Job Safety Analysis (JSAs) was identified as part of a recent Project Evaluation Board (PEB) assessment. This PEB assessment noted that several JSAs were overdue for periodic review. Actions were initiated to correct the problem of having JSAs overdue for review. MCP-3562 provides line managers with a detailed process for performing hazard screening for operational activities that includes hazards related to the task, the facility(ies) in which the task will be performed, potential human errors, lessons learned information and error precursor management. Similar detail is provided for the HEG in analyzing hazards, performing walk downs, using standards to mitigate hazards and other related activities. MCP-3562 also requires that line managers select hazard mitigation according to the hierarchy of engineering controls, administrative controls or PPE.

This assessment team concludes from this difference in approaches that STD-101 and GDE-6210:

- Potentially omit subject matter experts in reviewing or approving maintenance work packages after the hazards and controls are established by the planner,
- do not ensure that line managers designate the members of the team assigned to evaluate the hazards (as does MCP-3562),
- may not ensure that the team so designated acts as a team when evaluating the hazards (individuals may contribute separately to the analysis without meeting together in a table top review or during a walk down),
- permit practices at ICP facilities that rely too heavily on table top reviews instead of walk downs,
- do not explicitly establish a preferred hierarchy of controls (neither MCP-3562, STD-101 nor GDE-6210 mention hazard removal as a part of the preferred hierarchy of controls)
- are written to make maintenance planning for hazard identification, analysis and control an expert-based approach relying on maintenance planners as the primary source of expertise, even though planners are not experts in Documented Safety Analysis (DSA), Fire Hazard Assessments (FHA), environmental permits, and are not required to be Unreviewed Safety Question (USQ) qualified (although they decide whether a USQ review of maintenance work orders are required).

This assessment identified examples of improperly performed hazard analyses as follows:

- Hazards for the planned work were not properly identified and controlled in INTEC WO 60004096, emergency/exit light replacement,
- INTEC JSA-1128, Fuel Oil System, used in conjunction with TPR-7194, Fuel Oil System for transferring fuel oil from a tanker truck to CPP-701 did not identify hazards associated with lifting heavy objects and lifting restrictions were not identified in the TPR for worker protection

Hazard control sets at D&D activities are not customized to the exact work being performed.

Hazard control set for Work Order 602907 at RWMC did not identify a LO/TO requirement for the facility air compressor for incorporation into the work package. Although, the work package did require said compressor to be secured and Locked/Tagged. The compressor was secured and locked before any work commenced. The work package development team failed to include said LO/TO in the required hazard set.

Opportunity for Improvement #1

STD-101, *Integrated Work Control Process*, and GDE-6210. *Maintenance Guide* need to be reviewed for possible improvements to correct the issues identified with work document preparation. This review will provide a basis for procedure revisions to improve the quality of these controlling documents. Completion of these actions will result in improved instruction for the development of work control documents.

CWI Action	Deliverable	Due Date	Owner/Org
The Technical Support Services (TSS) will complete a review of STD-101 and GDE-6210 to determine necessary changes and/or training that is necessary to address the issues identified in this assessment	Completed review of procedures.	4/1/06	Michael D. Johnson, Director TSS
	Revised procedures, as applicable, and/or revised training initiated.	5/1/06	Michael D. Johnson, Director TSS

Responsible Manager: Michael D. Johnson, Director – Technical Support Services

Performance Objective WPC-5: Work Planning and Control Oversight Process

Work control documents for maintenance are prepared in accordance with STD-101, *Integrated Work Control Processes*, GDE-6210, *Maintenance Guide*, and GDE-6212, *Hazard Mitigation Guide for Integrated Work Control Process*. Operational activity control documents are prepared in accordance with MCP-3562, *Hazard Identification Analysis and Control of Operational Activities*. The team reviewed over fifty maintenance and operations work control documents to determine whether work control documents were written in a manner that lead to safe and efficient completion of work.

Improperly defined scope of work was an issue in only one work order (WO). At INTEC, the scope of work for minor maintenance WO 60004096 was not clearly defined. This WO was intended to replace twenty emergency and exit lights in CPP-666. The assessment team's observations during the pre-evolutionary briefing revealed that the planner and crafts had discussed and agreed to an undocumented change of scope that would have allowed electricians to initially attempt to repair the lights by working on the portion of the lighting that had a voltage of less than 50 volts. If this was not successful, electricians would then replace the light fixtures, which involved work on AC electrical circuitry up to 277 volts. After discussion among electricians, their foreman and the assessment team member observing the pre-evolutionary briefing, the foreman elected to obtain a WO change prior to beginning the work.

Several problems were noted pertaining to maintenance WOs being written in a clear, concise and worker friendly manner. Assessment team members evaluating construction activities generally found that the ALARA and Waste Stream section of construction WOs were difficult to follow. Additionally, three work documents at INTEC did not meet the requirements of STD-101 and GDE-6210. In one case (WO 602485), a warning statement relating to potential mercury contamination was improperly written (it contained action steps contrary to GDE-6210) and was not located immediately prior to the step in which the hazard was encountered. The requirement for fall protection in WO 60095401 was also not located in the procedure immediately before the steps where the hazard was encountered. Finally, WO 60004096 failed to be clear and concise, because the repair/replacement sequencing discussed above was not mentioned in the WO at all.

Work step sequencing appeared to be satisfactory in all but one of the work control documents reviewed. In D&D WO 603430, Note 1 states: "Steps 3 thru 6 may be worked in any order as directed by the job supervisor," however Step 3 is a "Hold Point" and must be performed prior to Step 4. There were several examples of work control documents not adequately incorporating technical and administrative requirements at INTEC and at D&D activities these were:

- Failure to document the quality level of a replacement part and to include the replacement part in the WO materials list (INTEC WO 602185),
- Conducting work on CPP-603 sludge removal during the week of 12/19/05 with a procedure that had expired on 12/04/05,
- Using a JSA for work on CPP-603 sludge removal that was revised in October 2005 without being reviewed by Fire Protection and Industrial Hygiene (which had reviewed the original JSA).

Using hazard control sets that were not customized to the exact work being performed for five WOs at D&D facilities. In these cases, WOs identified the use of boilerplate hazard identification and mitigation text, forcing end users (e.g. craft personnel) to determine applicability of hazards.

Work hazards identified in hazard analysis processes were generally found to be properly incorporated into work control documents at INTEC and RWMC and for construction activities, but not for D&D activities, where work hazards, controls, and or "Hold Points" were not identified within four WOs. For example, Review of the RTC WO 602329 identified that the hazard control set required the IH to: (1) conduct an exposure assessments during initial cutting activities, (2) evaluate work activities for repetitive motion concerns, and (3) evaluate noisy work activities and post high noise work areas as appropriate. None of these controls were incorporated into the work steps as required by GDE 6210, Section 6.8.4. It was also noted that the IH review of the work package prior to approval was not performed.

Since GDE-6210 is classified as a guide rather than as a requirements document. Planners are using it to merely for guidance in preparing work control documents, consistent with the definition of a guide in MCP-135, *Creating, Modifying, and Canceling Procedures and Other DMCS-Controlled Document*. GDE-6210 states, in part, "This guide provides detailed *direction* for the implementation of the requirements from STD-101." Classifying GDE-6210 as a guide allows work document preparation inconsistencies and degrades its impact on effecting worker safety.

Opportunity for Improvement #1

Troubleshoot and repair activities were included in a single work document. This resulted in personnel initiating repair efforts without evaluating the fact that a review of the hazards was necessary because the work they would perform was not analyzed as part of the original work document hazard set. This action has initiated an immediate corrective action to require a separation between troubleshooting and repair activities. Long term correction will be provided by incorporating this requirement into the controlling documents STD-101, *Integrated Work Control Process*, and GDE-6210. *Maintenance Guide.*

CWI Action	Deliverable	Due Date	Owner/Org
An Executive Management Directive has been issued for work documents that are prepared for Trouble Shoot and Repair activities requiring the troubleshooting work activities to be separate from the repair activities. This requirement will be incorporated into the work planning procedures at the next revision, but no later than May 2006.	Issuance of Executive Management Directive.	Completed	Michael D. Johnson, Director TSS
	Revision to STD-101 and GDE-6210 to incorporate the requirements of the EMD.	5/1/06	Michael D. Johnson, Director TSS

Responsible Manager: Michael D. Johnson, Director – Technical Support Services

Opportunity for Improvement #2

STD-101, *Integrated Work Control Process*, and GDE-6210. *Maintenance Guide* need to be reviewed for possible improvements to correct the issues identified with work document preparation. This review will provide a basis for procedure revisions to improve the quality of these controlling documents. Completion of these actions will result in improved instruction for the development of work control documents.

CWI Action	Deliverable	Due Date	Owner/Org
The Technical Support Services (TSS) will complete a review of STD-101 and GDE-6210 to determine necessary changes and/or training that is necessary to address the issues identified in this assessment	Completed review of procedures.	4/1/06	Michael D. Johnson, Director TSS
	Revised procedures, as applicable, and/or revised training initiated.	5/1/06	Michael D. Johnson, Director TSS

Responsible Manager: Michael D. Johnson, Director – Technical Support Services

Performance Objective WPC-6: Work Planning and Control Oversight

The assessment team interviewed over sixty CWI and subcontractor personnel associated with over 50 jobs and found that first line supervisors and workers are knowledgeable of their work control documents. Training of ICP personnel is recorded in a computerized system, TRAIN. Supervisors and foremen have access to TRAIN to allow them to determine whether personnel assigned to the jobs they supervise meet all relevant training requirements, and interviews revealed that supervisors were knowledgeable about how to access TRAIN to check personnel training records. Based on a sample of the persons associated with the work reviewed, most personnel met all applicable training and qualification requirements. Some examples of individuals who did not meet training and qualification requirements were identified at RWMC and at D&D activities. An electrician at RWMC had not received RWMC Electrician MTELRW0000 (8 of 13 qualifications and courses needed). At TAN, one D&D Forman directing work in the field and conducting pre-job briefings did not have the required qualifications (QLPREJOB, Performing Pre-Job Briefings and QLMNTJSF, INEEL Job Supervisor/Forman). In addition, TRAIN system records showed that one of the D&D supervisors at RTC did not have the pre-job briefing qualification (QLPREJOB). Interviews revealed that he had completed this training, but that the record of his training had been misplaced. Based on a sampling of the persons associated with the work reviewed, all personnel met medical requirements.

Work at ICP is authorized by operations authority, which reviews and authorizes all work control documents prior to commencement of work. Work is scheduled using plan of the week (POW) and plan of the day (POD) formats. At POW/POD meetings, work is evaluated at each facility and/or site to ensure that work activities of one scope do not adversely affect the safe work of another.

At one facility, foremen reported a considerable degree of frustration associated with a general lack of adherence to original/early versions of the POW and POD. Emergent work (e.g. due to equipment failures) is properly added to the POD to be authorized before working as described above, but foreman frequently must change priorities to meet deletions and additions to the schedule. Foremen report that they routinely attempt to prepare well in advance for jobs when they appear on POW/POD. Such preparations include work package review, identification and acquisition of replacement parts and materials and interfaces with operations to ensure systems and equipment are in a condition ready to work. When schedule changes occur, early preparations for deleted jobs are put on hold and hurried preparations for added jobs begins in order to ensure crafts are fully utilized. While foremen report they are not beginning work in unsafe conditions, the impact of frequent schedule changes is increased risk from more error-likely situations. That facility's maintenance management is aware of this problem, tracks adherence to POW schedules and continues to attempt to work this issue. Lack of rigorous adherence to POW/POD schedules increases frustration, impacts craft and labor effort and increases error-likely situations.

Even though the assessment team observed effective pre-evolutionary briefings took place in nearly all cases, the RWMC Site Area Director indicated that he is not fully satisfied with the present execution of this process, noting that management is presently working with their staff to upgrade the presentation mode of associated briefings. At INTEC, a worker performing work on 12/20/05 under INTEC WO 602425 did not receive the required pre-job briefing, and the pre-job briefing form for INTEC WO 602425 was not properly filled out by the foreman who performed the briefing on 12/14/05. In addition, at a TAN D&D activity, completed pre job briefing forms for WO 600413 had some missing pages and missing information.

Adherence to WO and operating procedures needs improvement. This condition was particularly disappointing, since ICP had been in a work stand down due to a series of recent events and occurrences. During the stand down, ICP management emphasized (among other things) the requirement for all workers to follow written instructions or to stop work if unexpected conditions arose and obtain a change to work documents. Several examples of procedural noncompliance observed across ICP as follows:

- An INTEC Utility Operator and Fuel Oil Subcontractor ı not follow TPR-7194, Fuel Oil System, as written to address the additional alignments needed by the Truck Driver to pport continued pumping from tanker sections. This procedure is performed up to several times each week during the co weather, but the need to stop and revise the procedure to allow the actions taken had not been identified.
- At RWMC, Steps 3, 4, 5 on the data sheet for procedure TRE-30 were not initialed or dated as required on the form. Although the data had been taken, the performer did not complete the form. This work package was signed off as complete by management.
- The TAN primary authorized employee (PAE) documented a correctly completed LOTO for TAN Area Firewater Pump FP-P-4 in the wrong place in the work package, leaving the step for the LOTO Hold Point in W.O. 603004 blank. Subsequently, crafts started work even though the PAE had not signed this Hold Point.

- Two RWMC employees keyed up their radio (e.g. transmitted) within an exclusion zone, contrary to the precaution in TPR-7417 that prohibited radio transmission in the marked exclusion area.
- During the conduct of RWMC procedure TPR-7417, maintenance personnel failed to wear safety glasses as required. The operator stopped work until safety glasses were worn as prescribed.
- During the conduct of RWMC procedure TPR-7417 an operator reactivated a drain valve before making notification to management as required by step 4.2.6 of MCP 2978, *Control of Equipment and System Status* which states in part "Reposition components found out of position only upon approval from the cognizant manager/supervisor". The valve had been de-energized (unplugged) but was not re-energized and placed back into service following installation of heat tracing.

The assessment team did not observe any conditions that warranted stop work for safety reasons. During interviews, first line supervisors and workers demonstrated a good understanding of their stop work authority.

STD-101, *Integrated Work Control Process*, discusses the use of status logs with no prescribed direction as to what is desired or required, and GDE-6210, *Maintenance Guide*, describes "Work Status" place holders. In practice, there was a wide variety of methods used to document work status, including work status logs, procedure step annotations and personal logbooks. In most cases, work control documents contained adequate documentation (i.e., work status log) regarding work status. However, no construction documents included provisions for documenting work status. Two work packages for work done by CWI at RTC, WOs 603048 and 602715, had completed steps that were not properly signed off.

Lessons learned are being implemented through incorporation directly into work orders or included in the hazard controls associated with the work order, discussed during pre-job briefings, or presented during all hand briefings/safety phases. The feedback process uses more than one approach to track feedback to closure, depending on the different work order types (PM or CM), but both systems meet the requirements for incorporation of lessons learned into work orders. Planners interviewed know how to access the INL lessons learned database, and search the database for applicable lessons learned based on the scope of their work order.

One example of an incomplete work order record was identified. INTEC WO 602185 involved the repair of PCV-118, which was leaking nitric acid. (See CRAD 23.3.4) While performing the work, INTEC personnel discovered that PI-218-2 was not functioning properly. PI-218-2 was replaced under this WO using a work order change (WOC). The WOC for the PI-218-2 replacement was processed, the work completed and the package closed. The package was sent to be scanned for record retention in EDMS. Due to an oversight during the scanning process, the WOC was not scanned into EDMS.

Some crafts reported that they did not find the Lessons Learned (LL) data base to be a usable tool, due to the scarcity of LLs that appear in the LL database for their facility (RWMC). The database spans five years and has only 27 LL entries. During interviews, some ICP personnel reported that they did not find the ICARE data base to be a usable tool because they do no know how to find issue of interest. Craft personnel need training to search the ICARE system by topic.

Opportunity for Improvement #1

CWI considers the issue of procedure non compliance to be a serious item. A comprehensive cause analysis will be developed to address this issue and to identify needed actions/improvements.

CWI Action	Deliverable	Due Date	Owner/Org
The issue of procedure non compliance is a serious concern of ICP management. A comprehensive cause analysis is being developed that will identify specific actions that are necessary to correct this adverse trend.	Issuance of completed comprehensive causal analysis	Complete	William J. Johnson, COO

Responsible Manager: William J. Johnson, Chief Operating Officer

Opportunity for Improvement #2

CWI will issue a detailed corrective action plan to address the issues identified in the casual analysis described above. The completion of the actions will receive management priority.

CWI Action	Deliverable	Due Date	Owner/Org
Issue a corrective action plan to address the casual analysis for procedure non compliance which is a serious concern of ICP management	A corrective action plan will be issued to address the issues identified in the comprehensive causal analysis	2/1/06	William J. Johnson, COO
The completion of all actions in the corrective action plan to correct the adverse trend of procedure non-compliance will receive CWI management priority.	Actions identified in the corrective action plan will be completed	5/1/06	William J. Johnson, COO

Responsible Manager: William J. Johnson, Chief Operating Officer

Performance Objective WPC-7: Work Planning and Control Contractor Oversight

The ICP has established procedures for the conduct of independent and self assessment activities. The Integrated Assessment Program, which is described in PDD-1064, "Integrated Assessment Program," is a comprehensive, integrated, risk-based approach for managing assessments. Integrated assessment includes activities managed under the following company requirement documents:

- MCP-9172, *Developing, Integrating, and Implementing Assessment Plans and Schedules*
- LST-202, *Company Level Required Assessments*
- GDE-203, *Planning, Scheduling, and Performing Assessments*
- PDD-124, *Assessor and Lead Assessor Training and Qualification Program*
- MCP-552, *Performing Independent Assessments*
- MCP-8, *Performing Management Assessments and Management Reviews*
- MCP-1221, *Performing Inspections and Surveillances*
- CTR-69, *Charter for the Project Evaluation Board (Revised 2/3/06, PDD-148, Project Evaluation Board)*

Other assessment programs exist, such as CTR-154, *INTEC Senior Supervisory Watch Program*, (as well as similar SSW programs at other ICP facilities) and CTR-175, *INTEC Management Observation Program* (MOP), which is unique to INTEC.

Taken together, a system is therefore in place to provide a means of monitoring and evaluating all work performed, including work performed by subcontractors. Implementation of this system, however, is not consistent across the ICP. Although assessments are being performed, including of subcontractors, the evidence suggests a need to pursue a more effective implementation of the existing program. This is demonstrated by:

- The lack of or limited scope of management assessments performed at the project level.
- Limited management observations and senior supervisory watches at RWMC.
- The lack of comprehensive functional area assessments for many areas.
- The lack of comprehensive assessments at the project level.
- The focus of many assessments on administrative reviews instead of operational reviews.
- Identified problems (not ICARE issues) not having corrective actions documented.

A schedule exists for ICP assessments as the ICP Integrated Assessment Schedule database. Management assessments and independent assessments of the ISMS program are required to be performed in LST-202, as are surveillances of work in progress. Conformance to this schedule on an ICP-wide basis was not examined.

Line managers periodically perform surveillances, and these surveillances include the observations of, pre-evolution briefings and work performed, but there did not appear to be strong evidence that observations of job walk downs and JHA walk downs/meetings was included in the scope of these surveillances. For example, the assessment team found that at D&D activities, line management assessments did not assess the full spectrum of the work control process. In addition, while the scope of MOP observations at INTEC and SSW observations are particularly focused on work in progress as well as operational preparations for work, they are not directed toward the work package planning process.

The team reviewed completed LST-202 surveillances and the INTEC Management Observation Program Observed Evolution forms / Work Activities and other documents. While the above mentioned oversight programs and activities were valuable and included many criteria important to work control, none of these programs included reviews of completed work orders within the scope of their review criteria. Furthermore, at INTEC and D&D activities, the scope of the completed surveillances and observations that the team reviewed did not include approved work orders.

The primary means of line management oversight of in-development work control documents was line manager review and approval through the implementation of STD-101, *Integrated Work Control Process*. These reviews and approvals are performed by maintenance managers, general foreman (e.g. construction), and maintenance supervisors for in-development work orders. Line managers reviewed approved work orders during Senior Supervisory Watch work activities. There are no scheduled or planned assessments or surveillances of active or in-development work control documents by line managers in existing INTEC oversight programs.

Trending is tracked and reported monthly in accordance with the Safety Performance Objectives, Measures, and Commitments (SPOMC). Also regarding trending, the results of work control oversight activities, the 2005 ICP ISMS Annual Evaluation Report found that:

- Assessments are being scheduled and managed in at least three databases, making it difficult to coordinate planned assessments and to analyze issues for trends
- Not all required areas are performing assessments to support MCP-1175, *Analyzing ESH&QA Performance*. These assessments provide quarterly analysis of ISMS integrity and ESH&QA performance. Area analysis is needed to identify possible trend and recurring issues.

Opportunity for Improvement #1

To improve the quality and quantity of self-assessments and to increase management involvement in the self-assessment program the program will be critically evaluated and needed changes that provide improved participation while manitaing program quality will be implemented.

CWI Action	Deliverable	Due Date	Owner/Org
A revised self assessment program structure will be developed by a selected team of ICP managers who have an extensive background in self assessment program performance. This program will be presented to and approved by the ESRB. Upon approval by the ESRB ICP procedures will be revised, where necessary to implement the revised program.	Presentation to ESRB of revised self assessment program.	2/25/06	Michael D. Johnson, Director, TSS
	Implementation of revised procedures following ESRB approval.	3/10/06	Michael D. Johnson, Director, TSS

Responsible Manager: Michael D. Johnson, Director – Technical Support Services

Opportunity for Improvement #2

To ensure prompt implementation of self-assessment program improvements the Project Evaluation Board will conduct a comprehensive evaluation of self-assessment performance.

CWI Action	Deliverable	Due Date	Owner/Org
The Project Evaluation Board will conduct a comprehensive evaluation of self assessment performance at all ICP areas to verify proper implementation and execution of the revised assessment program structure.	Issuance of assessment report on effectiveness of revised assessment program structure..	7/1/06	Brent Rankin, ESH&Q

Responsible Manager: Jim Gregory, Manager, Project Evaluation Board.

Performance Objective F&I-1: Contractor Program Documentation

The ICP contract does not include the requirement to implement a formal "Contractor Assurance System" in accordance with DOE O 226.1, *Implementation of Department of Energy Oversight Policy*. However, the information contained in PDD-1004, *Integrated Safety Management System (ISMS)*, Revision 9 Draft, addresses the activities that are included in the INL's formal Contractor Assurance System and meets the review and approval requirements outlined in this objective. This integrated operational assurance process, with other program description documents, management control procedures, and standards, also includes assessment activities, other structured operational awareness activities, and the event reporting processes.

The program monitors and evaluates all work performed under the contract, including that of subcontractors. These activities occur through a variety of mechanisms. On a daily basis, the Safety Assessment Center (SAC) provides for senior management discussion on the previous day's work activities and safety issues throughout ICP. A monthly SAC report is issued providing a 12-month rolling trend analysis to each of eleven high focus project areas pertaining to event severity indexes (including good work practices) and ISMS core function breakdowns, in addition to a listing of the issues reported regarding the project area for the previous month. In addition, a monthly Safety Performance Objectives, Measures and Commitments (SPOMC) dashboard report is issued to report on current fiscal year status of operational issues compared against ICP goals.

On a quarterly basis, the Safety Performance Objectives, Measures, and Commitments (SPOMC) documents progress pertaining to the DOE approved performance tracking data points. On an annual basis, the ISMS Annual Evaluation and SPOMC review provide even further insight to current status and performance trending by both the Contractor and subcontractors. The company PDD-1061, *Integrated Assessment Program* is in place, and is supplemented by PDD-1005, *Line Management and Operations Manual*. Schedules are in place for FY 2006 to support required assessments and surveillances.

While the processes for the various assessments and other structured operational awareness activities are outlined in their respective program documents, the quantity of documents potentially governing a single assessment activity is excessive. Each step from scheduling the assessment to planning, investigating, and reporting, with capillary documents for each type of assessment and resultant outcomes, has its own governing document. The quantity of requirements and in some cases unnecessary rigor spread amongst the number of requirement documents causes inconsistent performance and/or unintentional, non-compliant performance.

Implementation of the self-assessment program is not consistent or adequately effective across the ICP. The program is in place to provide a means of monitoring and evaluating work and assessments being performed, including oversight of subcontractors. However, evidence shows a need to pursue a more effective/efficient implementation of the self-assessment program. This is demonstrated by:

- The lack of or limited scope of management assessments performed at the project level.
- Limited management observations and senior supervisory watches at RWMC.

- The lack of comprehensive functional area assessments for many areas.
- The lack of comprehensive assessments at the project level.
- The focus of many assessments is on administrative reviews instead of operational reviews.
- Identified problems not having corrective actions documented that are not sufficiently serious to warrant tracking in the ICARE system

All products of the program are documented and available to DOE line management. Some of these documents, such as the PDD-1004, ISMS Annual Evaluation, and SPOMC Reports are included in the contract performance evaluation.

The Contractor has established sufficient processes for measuring the effectiveness of the program however; the implementation of the program across ICP is inconsistent and cumbersome.

The requirements and process for establishing and implementing the appropriate training and experience requirements for assurance personnel are outlined in company program documents and reinforced in implementation of PDD-1004.

Opportunity for Improvement #1

To improve the quality and quantity of self-assessments and to increase management involvement in the self-assessment program the program will be critically evaluated and needed changes that provide improved participation while manitaing program quality will be implemented.

CWI Action	Deliverable	Due Date	Owner/Org
A revised self assessment program structure will be developed by a selected team of ICP managers who have an extensive background in self assessment program performance. This program will be presented to and approved by the ESRB. Upon approval by the ESRB ICP procedures will be revised, where necessary to implement the revised program.	Presentation to ESRB of revised self assessment program.	2/25/06	Michael D. Johnson, Director, TSS
	Implementation of revised procedures following ESRB approval.	3/10/06	Michael D. Johnson, Director, TSS

Responsible Manager: Michael D. Johnson, Director – Technical Support Services

Opportunity for Improvement #2

To ensure prompt implementation of self-assessment program improvements the Project Evaluation Board will conduct a comprehensive evaluation of self-assessment performance.

CWI Action	Deliverable	Due Date	Owner/Org
The Project Evaluation Board will conduct a comprehensive evaluation of self assessment performance at all ICP areas to verify proper implementation and execution of the revised assessment program structure.	Issuance of assessment report on effectiveness of revised assessment program structure..	7/1/06	Brent Rankin, ESH&Q

Responsible Manager: Jim Gregory, Manager - Project Evaluation Board.

Performance Objective F&I-2.1: Assessments and Performance Indicators

The Integrated Assessment Program, based on PDD-1064, *Integrated Assessment Program*, LST-202, *Company-Level Required Assessments*, and inputs from Functional Area Managers and Subject Matter Experts, establishes the assessment program for functional areas, programs, facilities, and organizational elements. The scope and frequency of these assessments is determined based upon regulatory requirements documents in conjunction with an analysis of risk when applicable. The level of rigor is outlined in the implementing documents governing the performance of the different types of assessments, i.e. Management vs. Independent. As discussed previously in Objective F&I-1, this implementation is cumbersome and inconsistently implemented in the field. As a result, this objective is evaluated as only partially met.

The Project Evaluation Board (PEB) is established at ICP to provide the function of independent internal assessments. Assessments are identified, planned and performed by this group which has the authority and independence from line management to support unbiased evaluations. To date the PEB assessments have been focused on specific problems or issues instead of comprehensive project assessments. The 2006 PEB schedule has included these project assessments.

The SPOMC (discussed previously) is approved by line management and DOE. It provides a measure to indicate how work is being performed. This includes the performance objectives and the expectations set by senior management. Other performance monitoring programs include the SAC and Executive Safety Review Board (ESRB) at the senior management level with other process designed to capture and gather issues at the project and supervisor's level such as the Hazard Review Board (HRB). ICP management policy continuously reinforces the ISMS process of Feedback and Improvement to all personnel on Site. This provides multiple avenues of input by which issues, good or bad, are reported to the necessary programs for analysis and trending.

The SAC provides the method of sharing good practices and lessons learned on a daily basis to and from all line managers. The information discussed in these daily meetings is tracked and trended independently and provided to each project area on a monthly basis. In addition, this information is used in the occurrence reporting process and program quarterly evaluation in the review of positive or negative trends. The ESRB also causes issue tracking and trending to be evaluated for issues that are of concern and that may affect safety, performance objectives, or goals. The SPOMC, Monthly ICP Injury/Illness Report, and the Monthly Dashboard data provide the information necessary to identify current status relative to goals and objectives agreed to by CWI and DOE.

Opportunity for Improvement #1

To ensure the Project Evaluation Board has appropriate resources to accomplish scheduled assessments for CY 2006 the existing schedule will be upgraded to provide resource loading.

CWI Action	Deliverable	Due Date	Owner/Org
The Project Evaluation Board (PEB) has established a schedule for CY 2006 that includes project assessments as well as program assessments. To improve the PEB capabilities to perform project assessments on an ongoing basis a review will be performed regarding PEB resources, scope and frequency of assessments.	Development of resource loaded annual schedule	3/30/06	Brent Rankin, ESH&Q

Responsible Manager: Jim Gregory, Manager - Project Evaluation Board.

Opportunity for Improvement #2

To ensure proper development of self-assessment schedules actions will be taken to update the current assessment requirements document. In addition, to provide for improved self-assessment schedule development in the future, annual updates to the assessment requirements document will be issued well in advance of the FY schedule development needs.

CWI Action	Deliverable	Due Date	Owner/Org
As required by MCP-9172, *Developing, Integrating, and Implementing Assessment Plans and Schedules*, a revision to LST-202 will be issued. In addition future revisions to LST-202 will be issued in July of each year to support the development of FY assessment schedules.	Revision of LST-202	2/25/06	Brent Rankin, ESH&Q
	Issue LST-202 Update for FY 07	7/30/06	Brent Rankin, ESH&Q

Responsible Manager: Craig Kvamme, Manager – Performance Assurance

Performance Objective F&I-2.2: Operating Experience

Formal processes are in place to identify applicable lessons learned from external and internal sources. The processes utilize communication and distribution methods such as the site intranet and e-mail systems, discussion in the SAC, the Lessons Learned Web Site and presentation at job briefings.

Lessons learned are obtained from and provided to external sources such as the DOE Lessons Learned Web and a corporate web for use and sharing at other sites.

ICP has instituted the Voluntary Protection Program (VPP), and its Employee Safety Teams (EST) and Changing Our Behavior Reduces Accidents (COBRA) program that provide the mechanisms necessary to solicit feedback and suggestions from the workforce on any topic for which a need is felt.

No opportunities for improvement noted.

Performance Objective F&I-2.3: Event Reporting

Formal processes are in place to investigate, report, and respond to operational events, incidents and occupational injuries and illnesses. MCP-190, *Event Investigation and Occurrence Reporting*, contains the instructions for documenting and reporting occurrences. In conjunction with reporting these events corrective actions are documented and tracked as specified in MCP-598, *Corrective Action System*. Cause analysis is performed in accordance with a formal process as specified in STD-1113, *Cause Analysis and Corrective Action Development*, by qualified personnel as specified in PDD-1114, *Cause Analyst Training and Qualification Program*.

The SAC as described above provides a centralized process for timely management involvement in routine reporting, reviewing, and assigning follow-up on safety events; supports safety performance monitoring; and provides a resource for periodic safety performance summary reporting. Data is collected about events and conditions that have the potential for adversely affecting safe operations now and in the future, as well as good practices.

The ESRB as described above is established to oversee the identification, analysis, reporting, and corrective actions of safety significant events, issues with programmatic implications, and other issues as determined necessary. The ESRB also causes issue tracking and trending to be evaluated for issues that are of concern and that may affect safety, performance objectives, or goals. The SPOMC, Monthly ICP Injury/Illness Report, and the Monthly Dashboard data provide the information necessary to identify current status relative to goals and objectives agreed to by CWI and DOE.

Lessons learned are obtained from and provided to external sources such as the DOE Lessons Learned Web and a corporate web for use and sharing at other sites consistent with the requirements of MCP-192, *Processing Lessons Learned and External Operating Experience.*

No opportunities for improvement noted.

Performance Objective F&I-2.4: Issues Management

The ICP utilizes several programs that comprise satisfaction of this objective. ICARE system is the formal process that captures not only deficiencies, but other noncompliance issues, program commitments and their respective data for tracking. The ORPS reporting system is annotated to use this program for corrective action tracking as well. Event cause analysis and corrective actions are also governed by their respective program documents.

With regard to corrective action plans, they are typically limited in scope and without regard to existing action items in place for other process improvements. Some are developed without regards to similar or cross-cutting effects of other corrective action plans. This method tends to overload the system with duplicative or similar action items being resolved by different groups not knowing of the others' efforts, delaying final achievement of completion.

MCP-598, *The Issues Management Program and Corrective Action System*, MCP-190, *Event Investigation and Occurrence Reporting*, and MCP-553, *Stop Work Authority*, together provide the basic process mechanisms to identify, take action, and resolve issues.

MCP-1269, *Establishing, Monitoring, and Reporting ESH&QA Performance Objectives, Goals, And Measures*, MCP-1175, *Analyzing ESH&QA Performance*, and MCP-598 program documents require review and analysis of deficiencies. Line management is provided the tools and resources to perform this task. Continued management attention is needed to ensure these processes are effective and rigorous.

Communication of issues up the management chain does occur. While the lines of communication have gone through transition pains, management is attentive to the needs of the program.

Feedback programs are integrated and analyzed to identify trends, issues, and potential repeat occurrences. This analysis is performed through several methods. These processes need continued attention to ensure identification of potential significant problems before they become events.

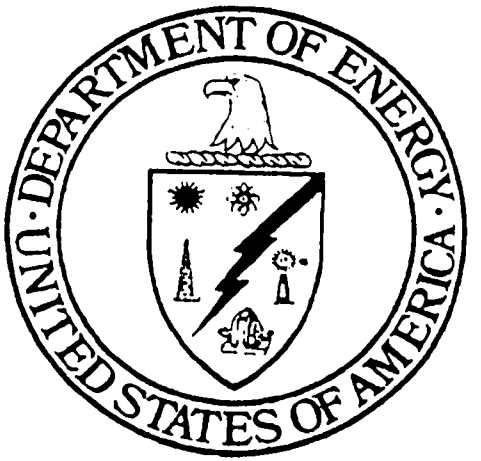
ICP program document PDD-1114, *Cause Analyst Training and Qualification Program*, requires the training of employees on corrective action development and causal analysis techniques. Formal cause analysis and corrective action development process are implemented in STD-1113, *Cause Analysis and Corrective Action Development.*

No opportunities for improvement noted.

SECTION V – CWI WP&C and F&I Good Practices

Good Practice(s)	Site Point of Contact
The process outlined within MCP-3562, ***Hazard Identification Analysis and Control of Operational Activities***, is a user friendly concisely developed procedure. The design of this MCP enhances the ability of any individual given the responsibility to generate a new, or modify an existing Operational document. The Hazard Screening Checklist (Appendix B) informs the user of the minimum set of subject matter experts required to participate with the development or modification of an Operational work control document. This approach demonstrates Line Management's direct involvement with identification of specific individuals that shall assist with the work control process.	James E. Kaylor Department Manager- INTEC, 526-3483
ICP allows use of a "step back" for any person to stop a job without declaring a "stop work". Step backs permit a "no fault" means for personnel to pause to consider and discuss situations to improve safety without completely stopping a job. The practice appears to have wide acceptance and a beneficial impact on safety thus far.	Bill Grace, Director Industrial Safety, 208-526-1163
The implementation of the Management Observation Program for INTEC bas provided improved management involvement in the self assessment program. The program, as intended, meets much of the intent of this review as well as other worthwhile management goals.	William J. Johnson COO, 208-526-7148

Good Practice(s)	Site Point of Contact
The Safety Assessment Center (SAC) provides a centralized process for timely management involvement in routine reporting, reviewing, and assigning follow-up on safety events; supports safety performance monitoring; and provides a resource for periodic safety performance summary reporting. Data is collected about events and conditions that have the potential for adversely affecting safe operations now and in the future, as well as good practices.	Matthew Steffa Manager – Safety Assessment Center, 208-526-7452
The Executive Safety Review Board (ESRB) is established to oversee the identification, analysis, reporting, and corrective actions of safety significant events, issues with programmatic implications, and other issues as determined necessary.	Bruce Schultz Director – ESH&Q Support Programs, 208-526-7439



Idaho National Laboratory

Action Plan

Commitment 23, Work Planning and Control

DNSFB Recommendation 2004-1

Executive Summary

Evaluation Process

On December 2, 2005, DOE Idaho Operations Office (DOE-ID) directed Battelle Energy Alliance, LLC (BEA) to perform a self-assessment of work planning and control to meet Commitment 23 of the DOE Implementation Plan for Defense Nuclear Facilities Safety Board Recommendation 2004-1. The assessment was performed by a team of BEA managers and subject matter experts, using a Criteria Review and Approach Document (CRAD) supplied by DOE-ID, to determine the adequacy and effectiveness of work planning and control at the Idaho National Laboratory (INL).

The assessment was performed by completing three activities:

- Comparing INL program and process documentation to the criteria listed in the CRADs,
- Evaluating program and process implementation by reviewing the results of internal and external assessments performed since February 1, 2005 (the date of formation of the INL and initiation of the BEA contract), and
- Evaluating performance by reviewing previous assessment reports and performance measurement and analysis reports.

To the extent possible, the assessment included a comparison of the criteria used in the previous assessments to the criteria listed in the DOE CRADs. In some cases, the discussion and results of the assessments were used as evidence that criteria were addressed even if the criteria were not formally specified. Some additional review was performed in cases where specific DOE criteria did not appear to have been addressed.

Overall Evaluation Summary

The assessment concluded that the criteria of the performance objectives identified in the DOE Work Planning and Control CRAD were adequately addressed by the INL program and process documentation. The internal and external assessments reviewed during this evaluation concluded that the program and processes were effectively implemented with the exception of work planning and control oversight which needed improvement. The evaluation ratings were the following:

Work Planning and Control		
Performance Objective		Evaluation
WPC-3	Work Planning and Control Program Documentation	Fully Met
WPC-4	Work Activity Definition and Hazard Identification	Fully Met
WPC-5	Work Control Documents	Fully Met
WPC-6	Work Performance	Fully Met
WPC-7	Work Planning and Control Oversight	Partially Met

The assessment identified nine opportunities for improvement (OFIs). Four of the OFIs involved corrective actions for findings identified by the DOE Office of Independent Oversight and Performance Assurance (DOE-OA) assessment performed during FY 2005. Three of the OFIs involved corrective actions for reported noncompliances of Price-Anderson Amendment Act (PAAA) requirements.

The assessment format provided by DOE-ID included an identification of noteworthy practices for each objective. These noteworthy practices were described as those processes and procedures which are worthy of sharing with other sites looking to improve existing processes. Such practices were not identified in the assessment results for two reasons:

- Many of the current INL processes are being consolidated and transformed to more effectively address the needs of the new laboratory, and
- Identifying noteworthy practices requires knowledge of the activities and practices of other sites which INL does not fully possess.

However, INL is willing to share any current or future processes and procedures which may benefit other sites in improving performance.

Performance Objective WPC-3: Work Planning and Control Program Documentation

Opportunity for Improvement #1

The activity-level work planning and control processes need to be consolidated/transformed to improve risk management and process efficiency and to better meet the needs of the new laboratory focus on research and development.

Action	Deliverable(s)	Due Date	Owner / Organization
Revise work planning and control program and process documentation.	Approved documents	8/1/2006	V. M. Bowen / Facilities and Site Services
Implement revised work planning and control program and processes.	Implementation statements from affected organizations	9/30/2006	

Opportunity for Improvement #2

Human behaviors and performance need improvement to reduce work related injuries and illnesses and to enhance safe work accomplishment.

Action	Deliverable(s)	Due Date	Owner / Organization
Provide integrated behavior based safety/human performance training.	Training rosters showing completion of training	9/30/2006	C. A. Johnson / Infrastructure, Optimization, Integration, and Planning
Implement integrated behavior based safety/human performance processes.	Implementation documents	12/15/2006	

Performance Objective WPC-4: Work Activity Definition and Hazard Identification

Opportunity for Improvement #1

Analysis of potential radiological hazards associated with non-uniform radiation fields and glovebox failures has not been sufficiently rigorous to ensure that these hazards are adequately controlled. (DOE-OA Assessment, June 2005)

Action	Deliverable	Due Date	Owner / Organization
Complete 15 actions in CATS INEEL-08/19/2005-0001-I	Closure documentation identified in CATS	5/31/2006	C. D. Morgan/ RTC Radiological Controls

Opportunity for Improvement #2

ATR does not have a process for identifying controls for non-radiological hazards for RCTs entering spaces to perform surveys. (DOE-OA Assessment, June 2005)

Action	Deliverable	Due Date	Owner / Organization
Complete 4 actions in CATS INEEL-08/19/2005-0002-I	Closure documentation identified in CATS	10/31/2006	M. B. McDonough/ ATR Operations

Opportunity for Improvement #3

ATR has not established appropriate controls to ensure that all workers are promptly notified of fire alarms in areas where the alarms cannot be heard. (DOE-OA Assessment, June 2005)

Action	Deliverable	Due Date	Owner / Organization
Complete 3 actions in CATS INEEL-08/19/2005-0003-I	Closure documentation identified in CATS	7/07/2006	M. B. McDonough/ ATR Operations

Opportunity for Improvement #4

INL has not ensured that clear and unambiguous requirements for confined spaces are consistently applied at ATR to minimize the risk to workers, consistent with the intent of OSHA regulations. (DOE-OA Assessment, June 2005)

Action	Deliverable	Due Date	Owner / Organization
Complete 9 actions in CATS INEEL-08/19/2005-0004-I	Closure documentation identified in CATS	8/30/2006	P. L. Hapke / Nuclear Operations ES&H

Opportunity for Improvement #5

Programmatic failure of work planning and hazard control for a radiological evolution at MFC caused unplanned personnel exposures. (INL Internal Assessment).

Action	Deliverable	Due Date	Owner / Organization
Complete 26 actions in NTS-ID-BEA-FMF-2005-0002	Closure documentation identified in NTS	1/30/2006	R. R. Chase / Nuclear Operations Labs and Hot Cells

Performance Objective WPC-5: Work Control Documents

Opportunity for Improvement

Administrative errors identified during the close-out process for maintenance work orders at ATR indicate that the previous corrective actions developed to resolve the errors were not fully effective. (INL Internal Assessment)

Action	Deliverable	Due Date	Owner / Organization
Complete actions in NTS-ID-BEA-ATR-2005-0002	Closure documentation identified in NTS	8/31/2006	J. E. Dwight/ ATR Operations

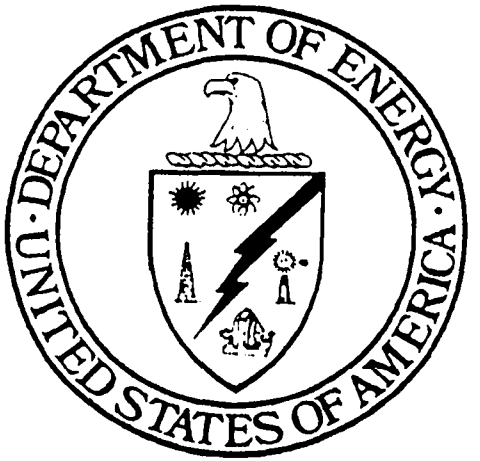
Performance Objective WPC-6: Work Performance

Opportunity for Improvement
The MFC Nuclear Facility Training and Qualification Program had not adequately implemented. (INL Internal Assessment)

Action	Deliverable	Due Date	Owner / Organization
Complete actions in NTS-ID-BEA-MFC-2005-0001	Closure documentation identified in NTS	6/28/2007	R. R. Chase / Nuclear Operations Labs and Hot Cells

Performance Objective WPC-7: Work Planning and Control Oversight

Two opportunities for improvement relating to WPC-7 are documented in the INL Action Plan for Commitment 25: Feedback and Improvement, F&I-2.



Idaho National Laboratory

Action Plan

Commitment 25, Feedback and Improvement
DNSFB Recommendation 2004-1

February 6, 2006
INL Action Plan
F&I Commitment 25 – DNFSB Recommendation 2004-1

Executive Summary

Evaluation Process

On December 2, 2005, DOE Idaho Operations Office (DOE-ID) directed Battelle Energy Alliance, LLC (BEA) to perform a self-assessment of feedback and improvement to meet Commitment 25 of the DOE Implementation Plan for Defense Nuclear Facilities Safety Board Recommendation 2004-1. The assessment was performed by a team of BEA managers and subject matter experts, using a Criteria Review and Approach Document (CRAD) supplied by DOE-ID, to determine the adequacy and effectiveness of feedback and improvement at the Idaho National Laboratory (INL).

The assessment was performed by completing three activities:

- Comparing INL program and process documentation to the criteria listed in the CRADs,
- Evaluating program and process implementation by reviewing the results of internal and external assessments performed since February 1, 2005 (the date of formation of the INL and initiation of the BEA contract), and
- Evaluating performance by reviewing previous assessment reports and performance measurement and analysis reports.

To the extent possible, the assessment included a comparison of the criteria used in the previous assessments to the criteria listed in the DOE CRADs. In some cases, the discussion and results of the assessments were used as evidence that criteria were addressed even if the criteria were not formally specified. Some additional review was performed in cases where specific DOE criteria did not appear to have been addressed.

Overall Evaluation Summary

The assessment concluded that the criteria of the performance objectives in the DOE Feedback and Improvement CRAD were adequately addressed by the INL programs and processes. The internal and external assessments reviewed during the evaluation concluded that the program and processes were effectively implemented for four of the performance objectives but implementation improvements were needed for two objectives. The evaluation ratings were the following:

Feedback and Improvement		
Performance Objective		Evaluation
F&I-1	Contractor Program Documentation	Fully Met
F&I-2.1(a)	Assessment	Partially Met
F&I-2.1(b)	Performance Indicators	Fully Met
F&I-2.2	Operating Experience	Fully Met
F&I-2.3	Event Reporting	Fully Met
F&I-2.4	Issues Management	Partially Met

The assessment identified six opportunities for improvement (OFIs). Four of the OFIs involved corrective actions for findings identified by the DOE Office of Independent Oversight and Performance Assurance (DOE-OA) assessment performed during FY 2005. One involved corrective actions for a reported noncompliance of Price-Anderson Amendment Act (PAAA) requirements.

The assessment format provided by DOE-ID included an identification of noteworthy practices for each objective. These noteworthy practices were described as those processes and procedures which are worthy of sharing with other sites looking to improve existing processes. Such practices were not identified in the results for two reasons:

- Many of the current INL processes are being consolidated and transformed to more effectively address the needs of the new laboratory, and

- Identifying noteworthy practices requires knowledge of the activities and practices of other sites which INL does not fully possess.

However, INL is willing to share any current or future processes and procedures which may benefit other sites in improving performance.

February 6, 2006
INL Action Plan
F&I Commitment 25 – DNFSB Recommendation 2004-1

Performance Objective F&I-1: Contractor Program Documentation

Opportunity for Improvement
The INL contractor assurance system documentation needs to be revised to address new DOE Order 226.1 requirements.

Action	Deliverable	Due Date	Owner / Organization
Revise INL contractor assurance system documentation to address DOE Order 226.1 requirements and submit to DOE-ID for approval	Revised documents and INL submittal letter	6/30/2006	D. K. Jensen / Performance Assurance

Performance Objective F&I-2: Contractor Program Implementation

Opportunity for Improvement #1
BEA has not implemented a fully effective program of ATR assessment activities with sufficient scope and rigor tailored to ongoing activities, conditions, and past performance to ensure that ES&H performance is consistently and accurately evaluated. (DOE-OA Assessment, June 2005)

Action	Deliverable	Due Date	Owner / Organization
Complete 11 actions in CATS INEEL-08/19/2005-0005-1	Closure documentation identified in CATS	10/06/2006	K. W. Baldwin / Nuclear Operations Quality Assurance

Opportunity for Improvement #2
The INL assessment program has not been effectively implemented. (INL Internal Assessment)

Action	Deliverable	Due Date	Owner / Organization
Complete 13 actions in NTS-ID-BEA-INLPROGM-2005-0001	Closure documentation identified in NTS	8/31/2007	D. K. Jensen / Performance Assurance

Opportunity for Improvement #3
BEA has not consistently implemented its corrective actions program at ATR in a manner that ensures that ES&H deficiencies are appropriately documented, categorized, and evaluated in a rigorous and timely manner, with causes, extent of condition, and appropriate recurrence controls identified. (DOE-OA Assessment, June 2005)

Opportunity for Improvement #4

Screening of external operating experience and development and tracking of responsive actions should be improved. (DOE-OA Assessment, June 2005)

Opportunity for Improvement #5
Documentation, analysis, and correction/prevention of injuries and illnesses should be improved. (DOE-OA Assessment, June 2005)

These three opportunities for improvement are addressed in one action plan.

Action	Deliverable	Due Date	Owner / Organization
Complete 18 actions in CATS INEEL-08/19/2005-0006-1	Closure documentation identified in CATS	12/12/2006	K. W. Baldwin / Nuclear Operations Quality Assurance

SEPARATION

PAGE

DOE F 1325.8
(4/93)

United States Government

Department of Energy

memorandum

Oak Ridge Office

DATE: February 6, 2006

REPLY TO
ATTN OF: EM-94:Kadas

SUBJECT: **ASSESSMENT AND ACTION PLANS FOR DEFENSE NUCLEAR FACILITY SAFETY BOARD RECOMMENDATION 2004-1, COMMITMENTS 23 AND 25**

TO: Dae Y. Chung, Director, Office of Licensing, EM-24, CLVRLF

Please find attached the Oak Ridge Office (ORO) Environmental Management (EM) final action plans prepared in response to the memoranda dated November 17 and 18, 2005, from Dr. Inés Triay on Commitment 23, Work Planning and Work Control (WP&C); and Commitment 25, Feedback and Improvement (F&I), as identified in the Implementation Plan for the Defense Nuclear Facility Safety Board (DNFSB) Recommendation 2004-1. The attached action plans incorporate comments received from EM-3 on January 26, 2006, and during the 2004-1 WP&C Commitment 23 and F&I Commitment 25 Televideo Conference on January 31, 2006. Also, attached is a compact disk containing the electronic version of the action plans.

If you have any questions, please contact me at (865) 576-0742, Cissy Perkins at (865) 576-2552, or Karen Kadas at (865) 241-2224.

Stephen H. McCracken
Assistant Manager for
Environmental Management

Attachments

cc w/attachments:
T. Evans, EM-3.2, CLVRLF
T. Krietz, EM-3.2, CLVRLF
K. Kadas, EM-94, ORO
H. Monroe, SE-30, ORO

Oak Ridge Office – Environmental Management
Site Action Plan

Commitment 23, Work Planning and Control
DNSFB Recommendation 2004-1

NOTE: Change Control for this Site Action Plan resides with the Assistant Manager for Environmental Management (or designee), with a cc: to EM-3.2.

Executive Summary

Evaluation Process

The November 2005 memorandum from U.S. Department of Energy (DOE) Under Secretary David K. Garman provided criteria review and approach documents (CRADs) to be used to assess the status of field office completion of Commitment 23, "Work Planning and Control," as discussed in the Implementation Plan responding to Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1. The purpose of this report is to summarize the results of the U.S. Department of Energy (DOE) Oak Ridge Office (ORO) Environmental Management (EM) program evaluation of Commitment 23 and to describe the corrective actions, as necessary, resulting from reviews of these CRADs.

A principle function of an Integrated Safety Management System (ISMS) directly correlates to Commitment 23: to perform work within controls. DOE ORO has in place ORO M100, Oak Ridge Management System Description (MSD) which incorporates the principles of ISMS. Further, the DOE ORO Office of Environmental Management has a Management System Description document which provides a comprehensive high-level description of the roles and responsibilities within the EM organization to manage its work and to manage the contracts under its responsibility. Also incorporating the foundations of ISM, the description of each management system in the EM MSD includes an identification of the requirements associated with that system as well as reference to the processes used by the EM to fulfill those requirements. The EM MSD is consistent with ORO M 100, and it provides the foundation upon which the EM organization can foster a culture of continuous improvement and effectively integrate the ORO safety philosophy into all aspects of work.

In 2005, each DOE ORO organization conducted a self-assessment of continued compliance with ISMS. Specifically, this self assessment included a review of the following scope elements:

(1) Work scope, organizational structure, and roles and responsibilities are defined and workers understand their specific job functions.
(2) For assigned work scope and duties, workers are aware of the specific safety concerns that apply to them (vehicles, plant access, emergencies, etc.)
(3) For assigned work scope and duties, workers are fully aware of the procedures that they must follow with respect to safety and general requirements of their job.
(4) Oversight processes which ensure that work is implemented in compliance with defined management controls are implemented.
(5) A system is in place and is functioning for providing consistent feedback relating to safety goals and management expectations, for improving performance, and from providing Lessons Learned.

(6) DOE line management provides effective and formal oversight of their contractor ISMS program to ensure that hazards are analyzed, controls are developed and that feedback and improvement programs are in place and effective.

In September 2005, an independent assessment was conducted of the DOE ORO ISMS program as a whole. This independent assessment was an implementation review of the DOE ORO ISMS using Phase II CRADs derived from DOE Handbook 3027-99, ISMS Verification Team Leader's Handbook, and the DOE Implementation Plan in response to Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1. The results of the previous self assessments and the following objectives were specifically reviewed:

- DOEs procedures and mechanisms should ensure that work is formally and appropriately authorized and performed safely. DOE line managers should be involved in the review of safety issues and concerns and should have an active role in authorizing and approving work and operations.
- DOE procedures and mechanisms ensure that the hazards are analyzed, controls are developed, and feedback and improvement programs are in place and effective. DOE line managers are using these processes effectively, consistent with ORO FRAM requirements.
- High-reliability principles to establish effective ISM implementation are in place.

Both the self-assessments, as well as the independent assessment, determined that ORO, including EM, continued to effectively implement ISM. The independent assessment stated, in part:

"ORO's ISMS implementation has significantly improved since . . . 2003."
"ORO's self-assessments and contractor reviews accurately depict the state of their respective ISM programs."

Additionally, in October and November 2005, DOE ORO EM conducted Operational Readiness Reviews (ORRs) on projects to be completed by each of two prime contractors: Bechtel Jacobs Company, LLC (BJC) and Foster Wheeler Environmental Corporation (FWENC). These ORRs included independent reviews of DOE ORO EM oversight activities. Management Self Assessments were conducted prior to the initiation of the DOE ORRs. Also, a DNFSB visit occurred in November 2005 which resulted in opportunities for improvement.

During the course of these recent reviews, the work planning and control processes utilized by DOE ORO EM and its contractors were thoroughly assessed. As such, in completing the evaluation of the CRADs for Commitment 23, these recent reviews were referenced to demonstrate compliance with each criterion. Corrective actions for issues related to work planning and control resulting from these reviews have also been included.

A Type B investigation is currently underway to evaluate the causes of a recent event. Corrective actions resulting from this investigation will be added to this Site Action Plan, once they have been identified.

Overall Evaluation Summary

The results of this evaluation determined that DOE-ORO-EM meets the objectives for CRAD-1 and CRAD-2 with opportunities for improvement noted in both CRAD assessment areas. BJC and FWENC were found to meet the objectives of CRAD-3 through CRAD-7 with 8 opportunities for improvement noted. The following table provides the results of this evaluation.

CRAD #	Objective Met	Objective Partially Met	Objective Not Met	Comments
1	X			1 OFI noted
2	X			2 OFIs noted
3	X			No issues noted
4	X			2 OFIs noted (1 BJC, 1 FWENC)
5	X			4 OFIs noted (2 BJC, 2 FWENC)
6	X			2 OFIs noted (2 BJC)
7	X			1 OFI noted (1 BJC)

This evaluation determined that DOE ORO EM, BJC, and FWENC have programs in place to meet the WP&C CRADs when applied to various work (e.g., operations, maintenance, construction/destruction, research and development, etc.) being performed at ORO EM projects, and its oversight. The opportunities for improvement noted by this evaluation were generally not the result of a need to align current programs polices or practice to that of the expectations of improved incorporation of integrated safety management and quality assurance into work planning and control processes, but the reasonable maintenance and continual improvement of these items.

Section I-III contains those actions important to improving the effectiveness of ORO EM work planning and control. These sections include corrective actions taken and/or planned in response to recent ORRs and ISMS reverification as well as those resulting from reviews of these CRADs

SECTION I – DOE Oversight

Performance Objective WPC-1: DOE Work Planning and Control Oversight – The DOE field element has an established process that ensures effective oversight of the contractor's work planning and control process.

Opportunity for Improvement #1
The DOE ORO EM ISM self assessment conducted in July 2005 found that a program is not in place to verify that all EM staff has required training for safe access to the EM work sites.

DOE Action	Deliverable	Due Date	Owner/Org
Staff will be instructed to include Site Access Training requirements in their Individual Development Plans which are expected to be due 2/2006.	Memo from the AMEM to staff re: Site Access Training Policy	9/20/2005 Complete	Director, Technical Support and Assessment Division
An assessment of EM site access training will be conducted and staff notified of deficiencies. Periodic assessments of site access training will be included in the EM self assessment schedules.	Self-assessment of AMEM Training	2/28/2006	Director, Technical Support and Assessment Division

Responsible Manager: DOE ORO EM Technical Support and Assessment Division Manager

Performance Objective WPC-2: DOE Work Planning and Control Oversight – The DOE field element performs effective oversight of the contractor's work planning and control process.

Opportunity for Improvement #1
The ORO EM assessment program focuses primarily on radiological and nuclear facilities, which has the potential to overlook work planning and control review of industrial activities.

DOE Action	Deliverable	Due Date	Owner/Org
1. A DOE-ORO-EM Technical Assessment of Work Planning and Control of Construction and Industrial Activities at BJC has been scheduled for spring 2006. This review will include the Work	1. Assessment Report and Corrective Action Plan	6/30/2006	Nuclear & Operations Safety Performance Team Lead

Planning/Work Control CRADs.			
2. CRADs for Work Planning/Work Control provided to the Facility Representative group for inclusion in FR surveillances.	Surveillances including WP&C CRADs	3/31/2006	Facility Representative Group Team Lead

Responsible Manager: DOE ORO EM Technical Support and Assessment Division Manager

Opportunity for Improvement #2

The ongoing Type B investigation will result in corrective actions.

DOE Action	Deliverable	Due Date	Owner/Org
1. Prepare Corrective Action Plan and submit to HQ for approval	1. Corrective Action Plan		Nuclear & Operations Safety Performance Team Lead
2. Update this Site Action Plan with corrective actions and submit to HQ.	2. Updated Site Action Plan		Nuclear & Operations Safety Performance Team Lead

Responsible Manager: DOE ORO EM Technical Support and Assessment Division Manager

SECTION II – Bechtel Jacobs Company, LLC (BJC)

Performance Objective WPC-3: Work Control Program Documentation – The contractor has developed an effective work planning and control process.

No opportunities for improvement noted at this time.

Performance Objective WPC-4: Work Planning and Control Activity; Definition and Hazard Activity – Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

Opportunity for Improvement #1
The DOE ORR for the K25/27 High Risk Equipment and Other Process Gas Equipment Removal identified several hazard analyses that had not been adequately completed.

BJC Action	Deliverable	Due Date	Owner/Org
1. Review and update all appropriate project hazard analyses. Implement all corrective actions for unsafe conditions.	• Revised project Startup Plan to include preparation of lift plans to move heaviest process equipment; • Reviewed and revised AHA 2005-03001 to address all identified issues; • USQD for Handheld Weapons Change for Security Force at K25/K27 Facilities; • Applicable AHAs revised to include Arc Flash Hazard and applicable controls", • Developed implementation plan to incorporate NFPA 70E in project activities; • All identified unsafe conditions corrective actions completed.	11/17/2005 Complete	K25/K27 Manager of Projects

Responsible Manager: K25/K27 Manager of Projects

Performance Objective WPC-5: Work Planning and Control Process – The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

Opportunity for Improvement #1

Although processes and procedures are in place that should assure an effective work planning process, work packages are often not adequate in defining the work instructions needed for safe and efficient performance.

BJC Action	Deliverable	Due Date	Owner/Org
1. An Independent Assessment of Work Control will be completed by BJC Field Services with support from BJC QA. Approximately 300 work packages, will be reviewed by teams of subject matter experts. Teams will interview planners, field engineering, supervisors and craft for a selection of the packages.	1. BJC-IA-06-002, Independent Assessment of Work Control	2/24/2006	Field Services Manager
2. K25/K27 work packages were reviewed and revised based on problems identified during the MSA and ORR.	2. Revised K25/K27 Work Packages	11/16/2005 Complete	K25/K27 Manager of Projects

Responsible Manager: Field Services Manager

Opportunity for Improvement #2

The DNFSB visit to an ORO-EM project found that the process used to identify and analyze the hazards associated with the planned work was not adequate to ensure that appropriate controls would be in place to protect workers. The prepared work instructions required significant improvement to enable safe and successful accomplishment of the sampling and characterization.

BJC Action	Deliverable	Due Date	Owner/Org
1. BJC prepared an Operational Development Plan that adds rigor, formality and documentation to ensure the radiological basis and controls are accurate and easily implemented by workers. It includes a Proof of Process, a Practice phase and an expanded Mockup with training.	1. Operational Development Plan, training records.	Complete	MV Manager of Projects
2. The AHA was streamlined and focused by placing general hazards into a separate section and emphasizing those hazards specific to each work step.	2. Revised AHA	Complete	MV Manager of Projects

Responsible Manager: Melton Valley Closure Project Manager of Projects

Performance Objective WPC-6: Work Planning and Control Oversight – Contractor personnel perform work in accordance with approved work control documents.

Opportunity for Improvement #1

Numerous deviations and inadequate practices were noted during the implementation of work instructions during the DOE ORR for the K25/27 High Risk Equipment and Other Process Gas Equipment Removal.

BJC/DOE Action	Deliverable	Due Date	Owner/Org
1. K25/K27 Project performed a causal analysis of this issue and held Supervisor/Personnel meeting to discuss and reinforce stop work authority and adherence to work package steps.	1. Causal analysis; Supervisor/Personnel meeting attendance rosters and agenda, validation checklists and attendance roster for standing work packages.	11/16/2005 Complete	K25/K27 Manager of Projects
2. Perform followup DOE reviews of project work practices will be conducted. WP&C CRADs will be incorporated into these reviews.	2. Review reports	3/31/2006	DOE Facility Representatives and Subject Matter Experts

Responsible Manager: K25/K27 Manager of Projects

Opportunity for Improvement #2

During the DOE ORR for K25/27, pre-job preparations were found to be inadequate for some work operations.

BJC/DOE Action	Deliverable	Due Date	Owner/Org
1. K25/K27 Project performed a causal analysis of this issue and held Supervisor/Personnel meeting to discuss and reinforce stop work authority and adherence to work package steps.	1. Causal analysis; Supervisor/Personnel meeting attendance rosters and agenda, validation checklists and attendance roster for standing work packages.	11/16/2005 Complete	K25/K27 Manager of Projects
2. Work packages were revised to add step to ensure work area is properly set up and daily operational checks are performed.	2. Revised work package	11/16/2005 Complete	K25/K27 Manager of Projects

Responsible Manager: K25/K27 Manager of Projects

Performance Objective WPC-7: Work Planning and Control Oversight – The contractor has an established process that requires line management and assessment personnel perform timely assessment/surveillances of the work planning and control process, including periodic reviews of active and in development work control documents.

Opportunity for Improvement #1

BJC management presence in the K-25 Building work area is not adequate to assure that safety roles and responsibilities are effectively accomplished. BJC-GM-1400, *Integrated Safety Management System Description,* states "Line Management is responsible for the safe and efficient conduct of work to ensure protection of the public, the workers, and the environment."

BJC Action	Deliverable	Due Date	Owner/Org
1. K25/K27 Manager of Projects distributed management expectations for increased sustained presence and involvement of managers at the work locations.	1. Manager of Projects Senior Field Oversight Expectations for the K25/K27 Project, "Management Walk-About"	11/7/2005 Complete	K25/K27 Manager of Projects
2. BJC will develop a management tool to make the Manager of Projects and functional managers accountable for their management assessments and encourage them to be proactive in self-identification of issues. Management assessment schedules are to be discussed at the BJC President's staff meeting where the MOPs and functional managers will report on management assessments scheduled, results, and effectiveness of corrective actions on a quarterly basis.	2. Management tool and meeting minutes from President's staff meeting.	4/30/06	BJC Quality Assurance Manager

Responsible Manager: BJC QA Manager

SECTION III – Foster Wheeler Environmental Corporation (FWENC)

Performance Objective WPC-3: Work Control Program Documentation – The contractor has developed an effective work planning and control process.

No opportunities for improvement noted at this time.

Performance Objective WPC-4: Work Planning and Control Activity; Definition and Hazard Activity – Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

Opportunity for Improvement #1
Personnel were observed operating a personnel lift within close proximity to an energized electrical line without appropriate controls in place.

FWENC Action	Deliverable	Due Date	Owner/Org
Stop work initiated and alternative means evaluated and used.	Stop work order.	12/31/2005 Complete	TRU Project General Manager
Charter a Safety Conscious Work Environment Group to evaluate related issues and make recommendations.	Working Group Charter	12/31/2005 Complete	TRU Project General Manager

Responsible Manager: TRU Project Operations Manager

Performance Objective WPC-5: Work Planning and Control Process – The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

Opportunity for Improvement #1
Several procedural discrepancies were noted during the DOE ORR which ranged from failure to flow down a requirement to inaccurately describing a requirement.

FWENC Action	Deliverable	Due Date	Owner/Org
Review and revise procedures. Designate Cognizant	Revised procedures	11/10/2005	TRU Project General

Engineer as appropriate.	Notification designating Cognizant Engineer	Complete	Manager
Train to revised procedures.	Training records	11/10/2005 Complete	TRU Project General Manager

Responsible Manager: TRU Project ESH&QA Manager

Opportunity for Improvement #2
Current glove box design and operational practices are not sufficient to ensure contamination control and minimal worker exposure to contamination during the drum insert process to the glove box line in the Process building

FWENC Action	Deliverable	Due Date	Owner/Org
Design, procure, and install flexible air lock	Drawing and completed work order	12/12/2005 Complete	TRU Project General Manager
Revise RWP to account for flexible air lock	Revised RWP	12/12/2005 Complete	TRU Project General Manager

Responsible Manager: TRU Project Deputy Project Manager

Performance Objective WPC-6: Work Planning and Control Oversight – Contractor personnel perform work in accordance with approved work control documents.

No opportunities for improvement noted at this time.

Performance Objective WPC-7: Work Planning and Control Oversight – The contractor has an established process that requires line management and assessment personnel perform timely assessment/surveillances of the work planning and control process, including periodic reviews of active and in development work control documents.

No opportunities for improvement noted at this time.

SEPARATION

PAGE

Carlsbad Field Office

Site Action Plan

Commitment 23, Work Planning and Work Control

DNSFB Recommendation 2004-1

Approved: David C. Moody

David C. Moody, Manager, Carlsbad Field Office

Note: Change Control for this Site Action Plan (SAP) resides with the Field Office Manager.

EXECUTIVE SUMMARY

Evaluation Process

This assessment was conducted as part of the Carlsbad Field Office (CBFO) response to Commitment #23 of the Department of Energy's Implementation Plan for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, *Oversight of Complex, High-Hazard Nuclear Operations*. This assessment was conducted in accordance with instructions provided in the November 18, 2005 DOE Headquarters memorandum from the Chief Operating Officer for Environmental Management. Specific direction was provided to perform a review of the DOE field office and contractor in the area of work planning and control. The assessment team utilized existing assessment data, and conducting a focused assessment of specific components as required to fully evaluate all work planning and control processes utilized at the Waste Isolation Pilot Plant (WIPP).

The assessment is the product of a team effort with participation by personnel from the CBFO, the CBFO Technical Assistance Contractor (CTAC), and the Management and Operating (M&O) Contractor. The assessment team included: 1) the Director of the CBFO Office of Disposal with 20 years geotechnical and environmental management experience, NQA-1 lead auditor training, and completed technical qualifications; 2) the CBFO Safety Officer with 25 years industrial and nuclear safety experience, bachelor's of science with a chemistry major and mathematics minor, and completed technical qualifications as safety officer and nuclear safety specialist; 3) a CTAC senior professional engineer with NQA-1 lead auditor training, 30 years experience in industrial operations management and in safety and environmental compliance; and 4) an M&O contractor senior engineer/VPP Program Coordinator for the WIPP Site with ASQ lead auditor certification, OSHA lead safety assessment certification, DOE Radiological Programs Assessor Certification, and over 20 years experience in safety and quality assurance.

Overall Evaluation Summary

The results of the WIPP assessment determined that CBFO meets objectives WPC 1 and 2 of the prescribed work planning and control Criteria Review and Approach Document (CRAD) with no issues noted. Washington TRU Solutions, the WIPP M&O contractor, was found to meet the objectives WPC 3 through 7 of the prescribed work planning and control

CRAD with one opportunity for improvement (OFI) noted involving the fact that some new technical safety TSRs are still in the process of being implemented at WIPP and with several specific strengths or best practices noted.

Work Planning and Control CRAD

Objective #	Objective Met	Objective Partially Met	Objective Not Met	Comments
WPC 1.	X			No OFI's Noted
WPC 2.	X			No OFI's Noted
WPC 3.	X			No OFI's Noted
WPC 4.	X			No OFI's Noted, 1 Strength
WPC 5.	X			1 OFI, 1 Strength
WPC 6.	X			No OFI's Noted, 1 Best Practice
WPC 7.	X			No OFI's Noted

At the WIPP site, all the work planning and work control processes fall under the same programs allowing a consistency in implementation that provides a strong foundation for overall effectiveness and compliance with the prescribed performance objectives. WIPP procedures adequately delineate responsibilities of the personnel involved in the work control program including initiating, analyzing, and developing work control packages. The process establishes in-depth reviews from field personnel to first line management and the approvals necessary for the various types of work packages to ensure risks are identified and mitigated. Preliminary walk-downs, work area inspections, pre-job briefings, and other prerequisites including required training and limitations, are incorporated fully into the work planning processes. The overall work planning process is effective in generating work control documents that lead to safe and efficient completion of work activities. Work in progress is overseen by direct line management supervision, senior management walk-arounds, CBFO field oversight, inspections, surveillances, and formal audits. These oversight activities and other avenues such as performance indicators and post job reviews are trended and lessons learned implemented. Subsequently continuous improvement in work planning and work control is part of the routine process at WIPP.

Objective 1

The DOE field element has an established process that ensures effective oversight of the contractor's work planning and control process.

Discussion:
The Carlsbad Field Office *Contractor Oversight Plan* (DOE/CBFO 04-3299) defines the process used by CBFO to oversee contractor work activities to verify that work is performed in a safe, secure and effective manner. DOE/WIPP 98-2287 the *CBFO Functions, Responsibilities, and Authorities Manual* (FRAM) defines responsibilities of field element personnel assigned safety oversight of contractor work planning and work control processes. CBFO established and utilizes these two documented processes to provide for, among with other outcomes, effective safety oversight of contractor work planning and work control at WIPP. The CBFO Contractor Oversight Plan and FRAM, and the objective evidence of their implementation at WIPP, which was reviewed in assessments associated with Commitment 23, satisfy this performance objective. Therefore, no opportunities for improvement were identified for this objective, and no currently open corrective actions from previous assessments were discovered related to this performance objective.

Objective 2
The DOE field element performs effective oversight of the contractor's work planning and control process.

Opportunity for Improvement:
No opportunities for improvement were identified for this objective, and no currently open corrective actions from previous assessments were discovered that are related to this objective. During fiscal year 2005, CBFO provided oversight for 24 operations assessments by the technical assistance contractor and conducted 8 direct assessments. For FY06 there are 16 operational assessments planned and 12 CBFO oversight assessments of the M&O Contractor. Implementation of the CBFO Contractor Oversight Program Plan, CBFO documented assessments, CBFO and independent ISMS reviews, and multiple work-place oversight activities conducted daily on an ongoing basis by CBFO technical staff deployed in Carlsbad and at the WIPP Site form the core for effective oversight of the contractors' work planning and control processes.

Objective 3
The contractor has developed an effective work planning and control process.

Opportunity for Improvement:
Washington TRU Solutions LLC, the management and operating contractor (MOC) at WIPP, has developed and implemented an effective work planning and control process. WIPP Procedure (WP) 10-2, Rev. 11, *Maintenance Operations Instruction Manual*, (MOIM) and WP 10-WC3011, Rev. 16, *Maintenance Process*, were reviewed to verify that the procedures contain the necessary attributes of an effective work control program. The procedures adequately delineate the roles and responsibilities of the personnel involved in the work control program including initiating, analyzing, and developing work control documents. The process establishes the level of review and approval necessary for the various types of work packages from skill of the craft, to preventive maintenance, corrective maintenance, up to major modifications.

There were no opportunities for improvement identified for this objective. No open corrective actions or initiatives from previous reviews or assessments related to this objective were discovered.

Objective 4
Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

Opportunity for Improvement:
A review verified that this objective is effectively met. In 2004, a Type B Investigation of an accident resulting in an injury to a WIPP underground miner led to the formulation of corrective actions to address findings of the investigations. A number of those corrective actions were connected to defining work activities and to analyzing and mitigating hazards. All corrective actions connected to the investigation have been implemented and closed by the management and operating contractor at WIPP, and independently verified by CBFO. Those corrective/verification activities have resulted in improved job hazard analysis at WIPP.

No current opportunities for improvement were identified for this objective. No open corrective actions or initiatives from previous reviews or assessments related to this objective were discovered.

Strength:
A particular strength was noted that as mitigation actions were identified to be taken in case of specific hazards identified in the work package, each worker to be conducting the work involved in that package had to additionally sign at each mitigation step to ensure they understood the importance of that aspect in the package.

Objective 5
The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

Opportunity for Improvement:
The work planning processes of the WIPP MOC and subcontractors are effective. An opportunity for improvement was identified related to this objective to incorporate safety basis requirements into work control documents. Since a new revision to the WIPP Documented Safety Analysis for contact-handled waste disposal operations includes new technical safety requirements (TSRs) that are in the process of being implemented at WIPP, the necessity to conduct a surveillance to verify full implementation of the new TSRs was identified as an opportunity for improvement for this objective. Implementation of TSRs will be assessed in the planned surveillance to verify that the application of TRSs to work planning processes result in their incorporation into work control documents in accordance with the criteria of this objective. No open existing corrective actions or initiatives related to this objective were identified.

Action Description	Deliverable(s)	Due Date	Owner
Verification of TSR Implementation	Surveillance Report	4/28/06	WTS Quality Assurance Manager

Strength:
The requirement for completion of a table identifying measurement and test equipment (M&TE) specifics such as instrument number, calibration date, and signature for each M&TE used to conduct the activities identified in the work package is considered a strength.

Objective 6

Contractor personnel perform work in accordance with approved work control documents.

Opportunity for Improvement:
This objective was verified through document reviews, interviews, and observing work in progress. In addition, quality assurance trending has demonstrated continued improvement in procedural compliance. No previously existing corrective actions or initiatives related to this objective were discovered. No opportunities for improvement were identified for this objective.

Strengths:

The WIPP Lessons Learned Program, which was acknowledged as evidence addressing the criteria for this objective, was specifically noted as a Best Practice by the DOE EH VPP review team in the fall of 2005.

Objective 7
The contractor has an established processes that requires line management and assessment personnel to perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents.

Opportunity for Improvement:
No opportunities for improvement were identified for this objective.

This objective was fully met through assessments/surveillances conducted in accordance with WIPP Procedure (WP) 13-1, the *WTS Quality Assurance Program Description*. These assessments/surveillances include independent assessments, management assessments, and informal walk-downs and reviews. No previous existing corrective actions or initiatives were discovered that are related to this objective.

SEPARATION

PAGE

Commitment #5
Site Action Plan

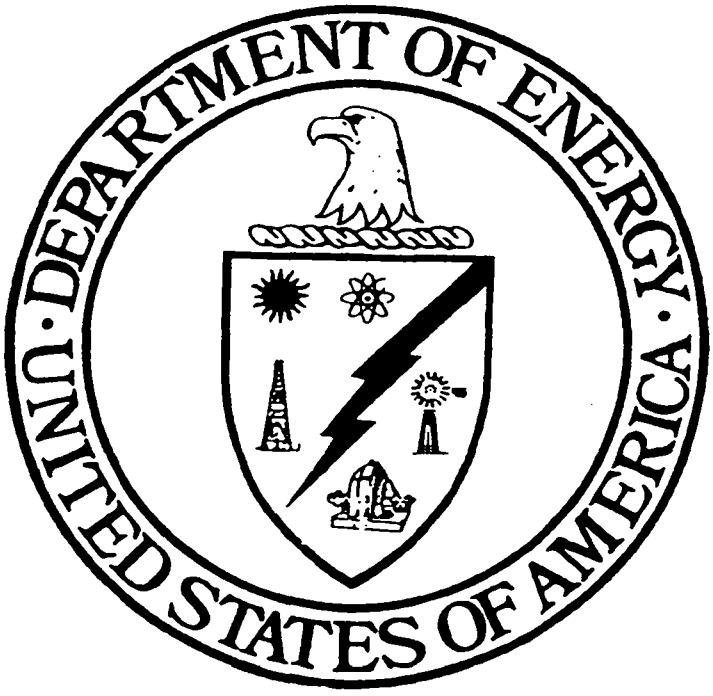
06.0429

Savannah River Site
Site Action Plan

Commitment 25, Feedback and Improvement
DNSFB Recommendation 2004-1

Approved, Jeffrey M. Allison, Manager
Savannah River Site

NOTE: Change Control for this Site Action Plan resides with the Field Office Manager (or designee), with a cc: to EM-3.2.



Assessment of the Effectiveness of Feedback & Improvement Processes at the Savannah River Site

January 2006

Results of Assessment of the
Effectiveness of Feedback & Improvement Processes
at the Savannah River Site

Executive Summary

This information provides the Performance Objectives and Department of Energy – Savannah River Operations Office (SR) and Washington Savannah River Site's (WSRC) assessment responses for Commitment 25 of the Department of Energy's (DOE) Implementation Plan for the Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, Oversight of Complex, High-Hazard Nuclear Operations. The Assessment was performed using the feedback and improvement Criteria and Review Approach Document (CRAD) located online at the 2004-1 Knowledge Portal. As a result of the assessment, it was concluded that Performance Objectives 2.1, 2.3, and 2.4 are fully met, while Performance Objectives 1, 2.2 and 3 are partially met. Below are the identified Opportunities for Improvement:

Opportunity for Improvement F&IP-1-OFI-1: This performance objective is considered to be partially met since the WSRC S/RID (contractual requirement) was just recently (12/27/05) changed to incorporate DOE O 226.1. With this S/RID change, WSRC will now complete a Compliance Assessment and Implementation Report within 60 days and will further schedule a revision to the WSRC Quality Assurance Management Plan to document WSRC's Contractor Assurance System. WSRC believes that the fundamental elements of the program are in place, but they are not documented as the Contractor Assurance System as required by DOE O 226.1.

Opportunity for Improvement F&IP-2.2-OFI-1: An identified Opportunity for Improvement is to review field lessons learned organizations' actions regarding the screening of site problems/issues and how potentially applicable field events (including results from the recently implemented sub-contractor Focused Observation Program) are best submitted to the Site Lessons Learned Coordinator for sitewide applicability determination.

Opportunity for Improvement F&IP-3-OFI-1: DOE has established adequate line management oversight processes per existing DOE-HQ directives. The site continues to upgrade its current tracking and trending databases and coordinate with the contractor(s) to ensure effective and efficient processes are identified and implemented in a timely manner. However, DOE has not completed a compliance and implementation review for DOE O 226.1.

Performance Objective 1: Contractor Program Documentation

Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.

Results

WSRC has established a comprehensive and integrated operational assurance system. The elements of the system are documented in the WSRC Integrated Safety Management Description and the WSRC Quality Assurance Management Plan and approved by the DOE. The key elements of the program are the Management Assessment process, Independent Assessment process, Continuous Improvement process, Corrective Action process, Lessons Learned process, Performance Indicators, Annual ISMS review, and Personnel Qualification process as described below.

WSRC's approach to Management Assessment incorporates two major program activities: Self-Assessment and Performance Analysis. Both of these activities are jointly implemented to ensure the adequacy and effectiveness of WSRC's management control system is appropriately assessed throughout the organization. While retaining overall responsibility for the Management Assessment, senior management requires managers to assess the performance of the activities assigned to their organization. The Management Assessment program is a major mechanism of WSRC's Integrated Safety Management System.

Self-Assessments are planned and performed to verify conformance to applicable requirements and identify opportunities to improve performance and cost effectiveness. Results and conclusions from these assessments are documented and evaluated. Problems identified are documented using a site-wide database system called "Site Tracking, Analysis, and Reporting (STAR)" for management of problem resolution as required by the company level corrective action program includes provisions to track and follow-up on planned corrective actions from the self-assessment.

STAR was implemented site wide July 1, 2004 and was a major step by the company in being able to capture problems in a single database and, more importantly, capture data (causes, functional bins, etc.) associated with problems. The STAR system is a valuable tool that also supports meaningful performance analysis. An effectiveness review has been performed on STAR data, corrective actions have been implemented, and a second effectiveness review has been scheduled in 2006, to ensure the quality and consistency of data input into the system.

Performance Analysis of event-based and review-based data from various sources {i.e., the WSRC Corrective Action Program, WSRC Management and Independent Assessment Programs, and the DOE Occurrence Reporting System (ORPS)}, is

performed periodically to identify recurring problems and identify potential areas of future concern.

This is accomplished at two different levels within the company. Site-level performance analysis is performed quarterly under the leadership of the Performance Analysis Advisory Group, and overseen by WSRC's Management Council, and is used to identify recurring problems. Organizational-level performance analysis is performed semi-annually, as directed by the Business Unit Directors, and identifies recurring organizational problems within their areas of responsibility. All problems identified as recurring are processed in accordance with the company-level corrective action program and as applicable in the DOE ORPS system and DOE PAAA Non-Compliance Tracking System (NTS). Results from the site-level and organizational-level performance analysis activities are documented, and issues are managed through STAR. (For details see WSRC Manuals 1Q and 12Q, and S/RID FA01 and 02.)

Independent performance-based Integrated Safety Management Evaluations (ISMEs) are planned and conducted by the Internal Oversight organization's Facility Evaluation Board (FEB) team(s). These ISMEs, part of the Integrated Safety Management feedback and improvement function, are separate from, and in addition to, the management assessments. These unannounced assessments provide a factually accurate comparative evaluation of performance; evaluate facility and programmatic self-assessment programs; and verify conformance to established requirements and contractual obligations. The allocation of resources is based on the status, hazard, complexity, and prior performance of the activity or process being assessed. The WSRC President has direct organizational oversight of the FEB process and approves and issues the ISME report to the facility manager. In turn, the evaluated organization responds to the President with the corrective actions taken or being planned in response to the ISME.

The group performing independent assessments has sufficient authority and freedom from the line to carry out its responsibilities. Personnel performing independent assessments do not have direct responsibilities in the area they are assessing. Assessment results are tracked and management responsibilities for their resolution are clearly assigned. The need for follow-up review of areas found deficient during an assessment is determined by cognizant management. Continuous improvement is fostered by applying WSRC's formal corrective action methodology to the assessment results.

Readiness requirements for the startup/restart of nuclear activities are determined in accordance with WSRC Manual 12Q, which implements the requirements of DOE Order 425.1 (series). A graded approach is utilized to determine the scope and depth of readiness determinations, the appropriate level of approval authority and the rigor and formality of process documentation. The methodologies range from use of routine restart procedures, to graded approach Readiness Assessments (RA), up to complete Operational Readiness Reviews (ORR). Each process identifies Core Requirements. Independent audits, assessments, and surveillances are also performed by units within designated WSRC organizations to address special programs. These requirements apply only to specific organizations/Business Units. (For details see WSRC Manuals 1Q, 12Q, SCD-4,

and S/RID FA 02). The Operations Evaluation Department has established a start-up readiness manager who oversees the entire process.

Problem prevention and continuous quality improvement are addressed in various implementing procedures. These objectives are met by measuring and evaluating performance against key performance indicators/standards. Item characteristics, process implementation, and other quality-related information are reviewed and the data analyzed to identify items, services, and processes needing improvement. This data is also used to identify adverse trends that impact the quality of items and processes. Examples of quality related information used include:

- Process capability studies
- Performance analysis results
- Studies which define assignable and inherent causes of process variability
- Deficiencies identified within the Corrective Action Program
- Failure rates
- Corrective maintenance performance and backlog analysis
- Preventive maintenance performance

To assure that appropriate improvement opportunities are identified, information from internal and external sources (DOE, industry data, various subcontractors/suppliers) is used. WSRC policies for managing and continuously improving how work is performed, in order to meet customer expectations for quality and to measure and produce results aligned with strategic objectives, involves all personnel in the respective organizations. (For details see WSRC Policy Manual 1-01 and WSRC Manuals 1B, 9B, 11B, 1Q, 1S, 2S, 11Q, 12Q, E7, and S/RID FA 02, 07, and 09).

Corrective action procedures require personnel to report identified nonconforming items and processes. These procedures define the reporting system used to identify such items and processes; to correct deficiencies; and to ensure adequate closure of corrective actions. All personnel are granted the freedom and authority to identify those items and processes determined to be nonconforming, and, as appropriate, to stop work or request that work be stopped until effective corrective action is completed. Procedures for bringing events, conditions, employee concerns, and issues to management's attention have been established by senior management. These procedures are in compliance with DOE Orders for Occurrence Reporting and the processing of operations information, and encourage and support identification and reporting of unsatisfactory conditions.

Processes to detect and prevent quality problems have been established and implemented. Items, services, and processes that do not meet established requirements are identified, controlled, and corrected according to the importance of the problem and the affected work. Correction includes identifying the causes of problems and taking action to prevent recurrence based on the significance of the problem. The WSRC system for identifying and controlling quality problems incorporates a single company-level problem identification and corrective action control system.

The WSRC Corrective Action Policy is described in WSRC Policy Manual 1-01, MP 5.35, *Corrective Action Program.* While the inputs to the system come from multiple problem identification sources per MP 5.35, the tools used to resolve each type of problem have consistent process steps. The corrective action system, as a whole, forms a comprehensive process with site-wide applicability as defined in implementing procedures. Continuous improvement is fostered by integrating the Corrective Action Program with feedback processes such as:

- Price Anderson Amendments Act (PAAA) noncompliances
- Occurrence Reporting
- Management Assessments
- Independent Assessments
- Lessons Learned processes
- Customer reviews

The corrective action program includes the following elements:

- Problem identification/extent of problem determinations
- Problem significance determination
- Problem evaluation
- Lessons learned evaluation
- Corrective action development/extent of condition determination
- Corrective action implementation
- Corrective action closure
- Effectiveness reviews of those corrective actions implemented to prevent recurrence.

The corrective action methodology yields quality improvements that are implemented in a tailored manner. The significance of identified problems is the basis for the tailored application of the requirements within the corrective action process. The extent of causal analysis (i.e., Apparent Cause, Root Cause) is commensurate with the importance or significance of the problem: Significance Category 1 Problems include recurring and significant specific problems; Significance Category 1 and 2 Problems are analyzed for Root Cause through the corrective action program.

Implementation of the required corrective actions to all problems is performed and documented by the responsible organization and verified commensurate with the Significance Category of the problem. The Corrective Action Program also includes the requirement for an effectiveness review to be performed on those corrective actions identified to prevent recurrence of the problem for Significance Category 1 and 2 problems. All problems/issues reported into the DOE-HQ, Office of Enforcements, Noncompliance Tracking System are assigned as Significance Category 1.

The WSRC Corrective Actions Program, along with the Management Assessment Program and STAR system, are being used to address both event-based and review-based problems. The Quarterly company-level WSRC Performance Analysis (PA) reports are being used to identify recurring problems that may represent potential adverse performance trends requiring increased management attention. Additionally, the Quarterly PA Report includes a feature for identifying items to be added to a "Watch List" for further monitoring during the next reporting period. Watch List items are identified since they could be precursors to recurring problems and some type of action may be appropriate to proactively address the situation.

Controls exist for preventing the inadvertent testing, installation, or use of nonconforming items and processes. Established controls include tagging of items, segregation of items when possible, and conditional release for post-installation testing. Nonconformances are reviewed and approved by the organizations that reviewed and approved the original items or processes unless another organization with qualified and knowledgeable personnel is designated. Justification for the disposition action is documented in accordance with procedures for those items or processes not returned to their original, as-designed conditions. Nonconforming items that are subsequently reworked, repaired, or replaced are inspected and/or tested to either the original requirements or to specified alternative requirements. Such inspections or tests are conducted prior to the final acceptance of the items or processes.

The Cognizant Technical Function (CTF), chartered with having an adequate technical understanding of the work and access to pertinent background information, is responsible for the analysis and disposition of nonconformances involving "Repair" or "Use-As-Is" dispositions.

QA activities associated with nonconforming items and processes include validation of the nonconformance, review of dispositions, verification of completion of disposition actions, and closure of the reporting document. Alternative reporting documents (for example, deficiency reports and condition reports) may be used depending on the consequence of failure or operational status. Alternative controls are approved by the WSRC Site Quality Assurance Manager in accordance with established procedure. (For details see WSRC Policy Manual 1-01, and WSRC Manuals 1B, 9B, 1Q, and S/RID FA 02).

WSRC has established a comprehensive Operating Experience/Lessons Learned Program that promotes safe, effective operation of Savannah River Site (SRS) facilities and enhances the safety and health of SRS employees and the public by applying the lessons

learned from the systematic review of operating experience at SRS facilities, and of similar Department of Energy (DOE) complex and commercial nuclear industry facilities.

The WSRC Lessons Learned Program reviews internal and external events for SRS applicability and shares information from these sources as its applicable. Also, the WSRC Lessons Learned Program routinely submits lessons learned to the DOE ESH Lessons Learned System for sharing of events across the DOE Complex. Also, post-job critiques and reviews are held after job performance to assure that lessons learned/worker feedback/job history information is captured for future improvement.

An effective employee concerns program is established and implemented that encourages the reporting of ES&H concerns. The ECP program provides thorough investigations and effective corrective actions and recurrence controls. All WSRC employees have the right and responsibility to express their workplace issues and concerns with the expectation that they will be addressed, and no adverse action will be taken against them as a result of their voicing concerns.

WSRC uses three individually focused sets of performance measures and indicators:

- The Key Performance Indicators (KPIs), a comprehensive set of metrics developed to measure and guide improvements in overall performance. These metrics are kept on a site basis for corporate use and tailored metrics are kept at lower levels of the organization and at the facility level for internal use. The methodology and display of these metrics were patterned after a system utilized by the commercial nuclear industry.

- The WSRC Disciplined Operations Summary Indicator (DOSI) includes all of the reportable occurrences in the following ORPS Reporting Group classifications as components of the metric: Personnel Safety and Health, Nuclear Safety Basis, Facility Status, Environmental, Contamination/Radiation Control, Transportation and Noncompliance Notifications.

- The WSRC Safety Goals are established on a calendar year basis and are submitted to DOE-SR in December for the following year. Performance to these goals is tracked monthly by WSRC and the status is updated quarterly to DOE-SR.

The annual ISMS review utilizes a number of feedback mechanisms, such as self-assessments, independent assessments, occurrence reports, external assessments, and a host of others that serve a specific programmatic need. Each of those existing appraisal and assessment activities provides necessary feedback to maintain and, coupled with an effective Corrective Action Program, improve the ISMS. WSRC recognizes a higher need to review, from a high-level, holistic perspective, the effectiveness of the entire WSRC Integrated Safety Management System as a system. By analyzing and reviewing the aggregate of those feedback data, it is possible to gain a perspective that can inform top-level line management of any major adjustments that need to be part of a long-term

ISM improvement strategy. The Annual ISMS Review is sponsored by the WSRC Management Council to provide that higher perspective. The Annual ISMS review, conducted according to WSRC-IM-2001-00026, *Guidance for Conducting the WSRC Annual ISMS Review*, serves as a basis for continual improvement of the WSRC ISMS, and:

- Provides an overall measure of the effectiveness of Integrated Safety Management (ISM) implementation relative to the Continuing Core Expectations contained in DOE G 450.4-1B, *Integrated Safety Management System Guide*
- Provides an integrated macro perspective of company performance
- Provides a focused input for strategic planning processes
- Allows for refinement and improvement of performance metrics
- Captures strengths and improvement opportunities for lessons learned sharing (site, DOE Complex, EFCOG Best Practices etc.)

WSRC personnel are trained and qualified, commensurate with their responsibilities, to ensure they are capable of performing their assigned work. Management establishes initial and continuing training and qualification requirements with supporting processes for specific job categories. The qualification of personnel supports the program, all of the ISM core functions, and satisfies the third ISM Guiding Principle to ensure personnel have the competence commensurate with their responsibilities.

Programs are structured to be in compliance with DOE Order requirements for training and qualification of managers, operators, technicians, and maintenance personnel. All requirements are described in WSRC Manual 4B, *Training and Qualification Program Manual*, applicable lower-tier implementing procedures and Training Program plans. (For details see WSRC Manuals 1Q, 4B, and S/RID FA 02 and 04.)

WSRC has demonstrated the sufficiency of the comprehensiveness and integration of the program throughout the organization and its associated programs and operations. During FY05, this was assured by feedback from the following examples of internal and external reviews and assessments:

- Annual WSRC ISMS Review
- Independent Evaluations by WSRC's Independent Oversight Department using the Facility Evaluation Board (FEB) process
- Company Key Performance Indicators (KPIs) presented in this ISMS Declaration
- Quarterly WSRC Performance Analysis Reports
- INPO Assist Visits

- DOE Office of Price-Anderson Enforcement (EH-6) PAAA Program review

Additionally, WSRC has leveraged the feedback and improvement process to manage and direct the program. Examples of effective use of feedback and improvement are evidenced in the Assisted Hazards Analysis process, Employee Concerns, Management Assessment process, and Corrective Action process as cited below.

WSRC has implemented an improved Assisted Hazards Analysis (AHA) process and a new Safe Work Permit (SWP) tool that is responsive to feedback received from several assessments that identified specific weaknesses in the AHA process initiated in FY04.

Elements of work control have been improved to ensure scopes of work are defined in a way that supports proper identification of specific hazards relating to that work scope. The SWP will ensure that any identified controls are in place and remain intact until the completion of the specified scope of work

Industrial Hygiene staff has been increased to better support the exposure monitoring requirements, but continues to be challenged by frequent changes in activity schedules requiring quick unplanned deployment of monitoring personnel and equipment. IH is focusing on improvements in the area of field support and has personnel assigned to work with field operations management to develop solutions for some of the challenges involving their specific activities.

WSRC has an established program to independently investigate concerns raised by employees in the areas of environment, safety, health, safeguards and security, quality assurance, waste, fraud, and abuse, management practices, reprisal, and others. A site Key Performance Indicator is maintained to alert senior managers to adverse trends in the timely resolution of ECP issues. In cases where the resolution process takes more than 30 days, the originator is notified of that fact in writing.

Feedback information from DOE oversight and WSRC's ongoing Integrated Safety Management Evaluations (unannounced Independent Assessments) and implementation of a Management Assessment Program that includes both Self-Assessments and Performance Analysis, have provided the following important conclusions about the WSRC processes:

- WSRC currently has an effective program that has the mechanisms to maintain that effectiveness into the future.

- The WSRC program exhibits minor weaknesses yielding opportunities for improvement that are addressed by maturing causal analysis and corrective action methods and are tracked to closure using a single site electronic corrective action program database (STAR).

As both identified low-significance precursor problems and opportunities for improvement are processed by the improved Corrective Action process, the entire program will benefit. Additionally, the WSRC Lessons Learned Program examines DOE program reviews and other feedback information from other DOE sites to identify similar problems and best practices for possible applicability at SRS. One of those items was a "Best Practices Summary" for "Effective Uses of Time Outs" as a tool to prevent safety incidents and improve performance.

Last year, WSRC introduced a re-engineered Management Assessment Program (MAP) comprised of Self-Assessments and Performance Analysis, institutionalized in WSRC Manual12Q, Assessment Manual Procedures SA-1 and PA-1 respectively. To fully integrate these two elements into the WSRC ISMS, it was necessary to make revisions to the WSRC 1Q Quality Assurance Manual Procedure 18-4, Management Assessment Program and to ensure full integration with the WSRC Corrective Action program in WSRC 1-01, MP 5.35. Implementation of these improvements began in FY04 with the benefits being fully realized in FY05.

In March 2005, an Effectiveness Review of the Management Assessment Program was conducted to evaluate the implementation of the program from the perspective of management's understanding, support and involvement within their areas of responsibility. Also reviewed were the institutionalization and implementation of the program at the company and business unit levels.

The conclusion from the review was that WSRC has adequately implemented the requirements of the MAP as specified in WSRC Manual 12Q. Opportunities for Improvement identified during the review provided a framework of actions that are being addressed with associated actions being tracked and managed using STAR described in WSRC Manual 1B, MRP 4.23.

WSRC has a mature system for the flowdown of requirements into work performed by the WSRC team, and to work and materials obtained through subcontracts and vendors. The primary mechanism for the flowdown of DOE ES&H-related requirements is the WSRC Standards/Requirements Identification Document (S/RID) feeding requirements in 20 Functional Areas (two of which are Environmental Management and Quality Assurance) into the WSRC system of company-level policies and procedures used in the performance of work. That process is governed by WSRC company-level procedures.

The flowdown of requirements for all work performed under the WSRC team contract, regardless of the performer of the work is further satisfied by specific company-level procedures for management of construction and services subcontracts. Those procedures are a well-coordinated set including Requirement Specifications, Purchase Requisitioning, and Workplace Safety and Health Program for SRS Visitors, Vendors, and WSRC/BSRI Subcontracts. Company-level procedures, programmatic tools, and subject matter experts in the 20 S/RID Functional Areas are available to assist the requester in defining the statement of work to include performance of the work to an appropriate set of requirements from the WSRC S/RID that are specifically cited in the subcontracts. Depending on the level of hazard and other considerations, the

subcontractor will be required to either develop a task specific worker protection plan or work to the subcontractor's existing safety plans if they are relevant and approved by WSRC. Likewise, the company-level procedures for the procurement process ensure that those and other regulatory requirements are placed as General (and/or Special) Provisions into the subcontracts. All quality requirements associated with the performance of work and the procurement of services and materials are driven by the company-level Quality Assurance Manual and specific roles and responsibilities and controls for quality are specified in each company-level procedure and in the subcontract. After the award of subcontracts, during the conduct of work (delivery of service) phase, monitoring of the subcontractor's performance of work by the appropriately trained WSRC Subcontract Technical Representative assigned to the subcontract, who keeps detailed records of actions and issues associated with the subcontract. Additionally, Focused Safety Observations are conducted by WSRC ES&H staff personnel as defined by the procedures. Subcontractor safety performance data is kept for evaluation of any future bid for work by that subcontractor. At the completion of the subcontract, all records are kept by the procurement organization.

The WSRC Subcontract Management Program defines the process functions, roles, responsibilities and authority of WSRC personnel involved in subcontract management activities. This Program is implemented by WSRC Manual 11B and includes responsibilities and expectations of Procurement Representatives, Subcontract Technical Representatives, and Subcontract Management Representatives. Subcontract Management includes all relationships between WSRC and the Subcontractor which grow out of subcontract performance. It encompasses all dealings between the parties from the time the subcontract is awarded until the work has been completed and accepted, all badges have been returned, government-furnished equipment has been returned, payment has been made and disputes have been resolved.

Evaluation: Performance Objective partially met.

Opportunity for Improvement F&IP-1-OFI-1:

This performance objective is considered to be partially met since the WSRC S/RID (contractual requirement) was just recently (12/27/05) changed to incorporate DOE O 226.1. With this S/RID change, WSRC will now complete a Compliance Assessment and Implementation Report within 60 days and will further schedule a revision to the WSRC Quality Assurance Management Plan to document WSRC's Contractor Assurance System. WSRC believes that the fundamental elements of the program are in place, but they are not documented as the Contractor Assurance System as required by DOE O 226.1.

Performance Objective 2: Contractor Program Implementation

2.1 Assessments & Performance Indicators

Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring

basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.

Results

WSRC has an established assessment program consisting of self assessments, management assessments, performance analysis and independent assessments. These programs are used to evaluate and demonstrate the adequacy of the WSRC Functional Areas and programs on a periodic basis. The WSRC assessment program is formalized and documented in controlling procedures to ensure a consistent rigor is applied in evaluating processes as well as obtaining performance information. The qualitative and quantitative information resulting from the WSRC assessment program is analyzed and presented to management for their direction on making process improvements.

The WSRC assessment program is detailed in WSRC Manuals 1Q and 12Q, and SCD-4 documents. WSRC Manuals 1Q and 12Q describe the assessment process while the SCD-4 document contains a smart sample of requirements that can be used to perform assessments in each of the various Functional Areas. Assessments and evaluations of contractors are performed under the WSRC supplier surveillance and supplier audit programs.

Construction subcontract field verifications are performed and assessed in accordance with the Construction Management Department Manual (1E6). Operations subcontracts are controlled in accordance with WSRC Manual 11B, *Subcontract Management Manual*.

These programs are applied using a graded approach based on a number of factors including risk. The scope and frequency of management assessments are defined in assessment plans or schedules that are based on past performance as well as importance to the process. Independent assessment schedules are not published and are unannounced. The schedules are based on past performance and emerging issues. The assessment program allows for both performance based and review based evaluations. The performance analysis element of the assessment process is designed to identify precursor issues and trends as well as cross cutting issues.

Self assessments are identified in assessment plans or schedules, performed, and documented. The self assessments are used to determine the effectiveness of processes, compliance to requirements, or degree of implementation.

WSRC independent internal assessments are performed by Internal Oversight's independent Facility Evaluation Board, which reports to the office of the president. These assessments are typically unannounced and focused on key emerging issues. The assessors have the authority and independence from line management to provide in depth unbiased evaluations.

WSRC management has various programs, in addition to the assessment program, established to identify, gather, verify, analyze, trend, disseminate, and improve performance. These include Behavior Based Safety observations, management observations, management-by-walking-around (MBWA), time outs, near miss, lessons learned, post-job work histories, and corporate metrics. The trends are used to identify best practices as well as opportunities for improvement. The corporate metrics have clearly identified goals and standards as well as analysis of the trend. The metrics are indicative of work performance and are clearly linked to various parts of WSRC programs/processes and clearly delineate management expectations.

WSRC uses a Key Performance Indicators (KPIs) system (described in *Savannah River Site Performance Metric Manual*, WSRC-RP-2002-00252, latest revision) that measures performance across the company in the following Focus Areas: Safety and Security; Technical Capability and Performance; Community, State and Regulatory Relationships; Cost Effectiveness; and Contract Performance. Under the Safety and Security Focus Area the specific performance measures are:

- Industrial Safety and Health
- Emergency Services
- Radiological Safety
- Nuclear Safety
- Physical Security

The format for the KPIs is an annunciator-type system of Key Performance Indicators (KPIs) with a color rollup scheme, established by the commercial nuclear industry. It provides a quick status, overall summary of key operational, safety, and business performance. The underlying principle behind each metric is the use of objectivity to assess performance. This system provides not only key information at a glance, but also provides WSRC and DOE-SR Program and Project Managers the ability to "drill down" through the Focus Area Level 1 metrics to help identify the sources and effects of issues and actions. Instead of focusing only on individual events, it provides a view of emerging trends over the past twelve months. These KPIs are kept at the site (company) level. WSRC also uses the same annunciator-type system tailored to the needs of lower levels of the organization and facilities. Senior management reviews the corporate metrics and holds responsible managers accountable. Performance analysis reviews focus on performance improvement, degradation, or identification of precursor minor events before they become serious events.

WSRC management uses the various performance improvement tools in conjunction with the budget process to determine performance against established goals or revise goals as necessary, allocate resources, establish compensatory measures and corrective actions. Management also makes use of the lessons learned process to facilitate the sharing of good practices.

An example of performance trends being evaluated and used to improve performance are the quarterly Site Performance Analysis reports that are used identify repetitive issues and minor problems before they become significant issues.

Evaluation: Performance Objective fully met.

2.2 Operating Experience

The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, incident/event analyses, and post-job work histories to potential users for application to future work activities.

WSRC has established a comprehensive Operating Experience/Lessons Learned Program that promotes safe, effective operation of Savannah River Site (SRS) facilities and enhances the safety and health of SRS employees and the public by applying the lessons learned from the systematic review of operating experience at SRS facilities, and of similar Department of Energy (DOE) complex and commercial nuclear industry facilities.

The program is defined in WSRC Manual 1B, Procedure 4.14, and is the responsibility of Regulatory Services Section of Technical and Quality Services. The program is administered by the Site Lessons Learned Coordinator. A staff of technical reviewers assists in the screening and dissemination of lessons learned information. Lessons Learned Coordinators from each business unit/organization, matrixed to the Site Lessons Learned Coordinator, have the responsibility for implementing and directing their own organizational Lessons Learned Programs. These programs effectively evaluate issues disseminated by the Site Lessons Learned Coordinator and implement appropriate corrective actions.

The Site Lessons Learned Group technical reviewers, who report to the Site Lessons Learned Coordinator, obtain and screen information from several sources for Site applicability. These sources include, but are not limited to:

- DOE Notification Occurrence Reports
- DOE Final Occurrence Reports
- DOE ESH Suspect/Counterfeit Web Page data
- DOE ESH Defective Item Web Page data
- DOE ESH Operating Experience Special Operations Reports
- DOE ESH Operating Experience Safety Alerts
- DOE ESH Special Reports
- DOE ESH Safety Bulletins
- DOE ESH Operating Experience Summaries
- DOE ESH Just-In-Time Reports
- DOE ESH Advisories
- DOE ESH Operating Experience Program Lessons Learned Alerts
- DOE Office of Independent Oversight and Performance Assurance reviews
- DOE Type A & B Investigation Reports
- INPO Operating Experience Reports
- PAAA items from WSRC and the complex
- Defense Nuclear Facility Safety Board information
- OSHA Safety and Health Bulletins

- SRS events
- Wackenhut-SR Lessons Learned items
- Savannah River Ecology Lab (SREL) Lessons Learned items
- US Forestry Service-SR Lessons Learned items

Items with potential lessons learned value to SRS facilities are forwarded to the appropriate Functional Program Manager/Subject Matter Expert (FPM/SME) or designee, for further evaluation or information to assist in making an applicability determination.

Applicable lessons learned documents are then prepared and distributed to the Organization Lesson Learned Coordinators.

All Site Lessons Learned items that are distributed by the Site Lessons Learned Group are entered into STAR and each Organization Lessons Learned Coordinator is given an action in STAR regarding each lessons learned.

The Organization Lesson Learned Coordinators determine which departments in their organizations may need to take action on the lessons learned documents they receive from the Site Lessons Learned Group. They monitor progress of the departmental evaluation, corrective actions, and report the status to the Site Lessons Learned Coordinator. In addition, these coordinators screen their organization occurrences/events for lessons learned that may apply to other WSRC business units/organizations and forward to the Site Lessons Learned Coordinator, if applicable.

The Site Lessons Learned Coordinator administers the program and tracks the progress of required lessons learned item evaluations and corrective actions within STAR. The Site Lessons Learned Coordinator makes the final decision on whether an issue should be brought to the attention of organizational safety committees or WSRC Senior Managers. A hierarchy of lessons learned documents has been established to help identify the relative significance of the items and assist in the development of appropriate corrective actions. These include:

- Site Lessons Learned Directive
- Site Lessons Learned Bulletin
- Site Lessons Learned Product Information Notice
- Site Lessons Learned Special Information Notice
- Site Lessons Learned First Alert
- Site Lessons Learned Best Practice

The WSRC Lessons Learned Program has been effective at communicating lessons learned to potential users. As of 12/16/05, the WSRC Lessons Learned Program has issued 75 site lessons learned internally at WSRC and have shared 45 lessons learned to the other sites in the DOE Complex via the DOE ESH Operating Experience/Lessons Learned System.

At WSRC, a recent lessons learned (2005-LL-0074, Site Excavation Working Group Clarifies Excavation Sketch Layout Information) was issued to the site, clarifying information regarding excavation activities. This information was received/distributed by the Organization Lessons Learned Coordinators, including the Bechtel Savannah River Incorporated (BSRI) Lessons Learned Coordinator. The BSRI Lessons Learned Coordinator shared with BSRI personnel, and subsequently led to this lessons learned being reviewed by all Direct Hire Construction and Construction Managed Subcontractors who perform excavation or trenching activities at SRS. This isn't the only group who has received this information, but does demonstrate how lessons learned information gets shared throughout the site.

Also, WSRC Lessons Learned Program information that has been shared with the DOE Complex has proven to be valuable. Lessons learned shared with the DOE Complex include SRS's Time Out program, results from the DOE Type A Investigation (Pond B Fatality), under-responding neutron electronic personal dosimeters, etc.

An effective employee concerns program is established and implemented that encourages the reporting of ES&H concerns. The ECP program provides thorough investigations and effective corrective actions and recurrence controls. All WSRC employees have the right and responsibility to express their workplace issues and concerns with the expectation that they will be addressed, and no adverse action will be taken against them as a result of their voicing concerns. A technical assistance review was conducted of the Savannah River Site Equal Employment Opportunity and Employee Concerns Program July 18 -27, 2005.

Evaluation: Performance Objective partially met.

Opportunity for Improvement F&IP-2.2-OFI-1:

An identified Opportunity for Improvement is to review field lessons learned organizations' actions regarding the screening of site problems/issues and how potentially applicable field events (including results from the recently implemented sub-contractor Focused Observation Program) are best submitted to the Site Lessons Learned Coordinator for sitewide applicability determination.

2.3 Event Reporting

Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.

Results

WSRC has established formal programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.

Management of operational events and incidents is contractually required {through direct inclusion in the WSRC Standards/Requirements Identification Document (S/RID)} to comply with the Contractor Requirements Document (CRD) specified as Attachment 2 to DOE M 231.1-2, *Occurrence Reporting and Processing of Operations Information.* In accordance with this CRD, WSRC procedural controls are specified in WSRC Manual 9B, Procedure 1-0, *Occurrence Reporting.*

Management of occupational injuries and illnesses is contractually required (through direct inclusion in the WSRC S/RID) to comply with the CRD specified as Attachment 2 to DOE O 440.1A, *Worker Protection Management for DOE Contractor Employees*, as well as the recordkeeping and reporting CRD requirements specified as Attachment 2 to DOE M 231.1-1A, *Environment, Safety, and Health Reporting.* In accordance with the applicable portions of these CRDs, WSRC procedural controls are specified in WSRC Manual 8B, Procedure 18, *Reporting, Responding, Investigation, and Recording of Operational Injury/Illness or Near Miss.*

These programs and processes are further integrated through the WSRC Corrective Action Program (WSRC Manual 1-01, MP 5.35) to ensure, based on a graded approach tied to problem significance, completion of a problem analysis (to identify causes), identification of corrective actions, determination of lessons learned, and completion of appropriate action verifications and effectiveness reviews. Formal Extent of Problem and Extent of Condition determinations are also performed for problems categorized at higher levels of significance. Performance in these areas is routinely evaluated in a variety of manners to determine trends, possible recurrent problems, and/or the need for performance improvements. These include:

- A company-level Quarterly Performance Analysis of reportable occurrences of all significance categories, plus WSRC-determined non-reportable events in order to prevent serious events from occurring.

- A monthly statistical trending of reportable and non-reportable events to identify any statistical trends or "alerts" where statistical trends are being approached.

- A weekly management review of all occupational injuries/illness, along with a monthly review of performance indicators, directed at an overall goal of "zero injuries".

While some elements of the WSRC processes are still relatively new and should be expected to improve as they continue to be implemented, some specific performance improvements can be attributed to these programs. For example, one of the WSRC Quarterly Performance Analyses identified recurring problems related to Inadvertent Transfer and TSR Violation events. This identification led to a rigorous causal analysis that identified corrective actions to realize a performance improvement. Those actions have been completed and WSRC's performance has benefited with measurable performance improvement in both areas.

As another example, WSRC routinely screens Price-Anderson items reported by other contractors across the complex. Occasionally these reviews result in identification of an appropriate action for WSRC to take to determine whether the same or similar problem exists at SRS. Such application of lessons learned from other sites is an important component of feedback and improvement to help identify potential problems before they turn into an event with more serious consequences.

WSRC reporting of operational events and incidents into ORPS is reasonably consistent with the DOE reporting criteria and other contractor practices across the complex. Some WSRC ORPS reported events are conservatively reported into ORPS for some of the subjective reporting criteria. WSRC recently completed an evaluation of 364 H-Completion Project problems/critiques identified between 11/1/03 and 11/1/05 to determine whether any of the items should have been (but were not) reported into ORPS. This evaluation (considered as a representative sample for the site) did not identify any items that should have been reported into ORPS.

Evaluation: Performance Objective fully met.

Noteworthy Practice: Also, WSRC as named one of the 12 safest companies in America by Occupational Hazards magazine. According to the magazine, their choices for safest companies not only have employee involvement and empowerment in safety, but they also have upper management commitment to safety.

2.4 Issues Management

The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.

Results

WSRC has implemented an issues management process, detailed in WSRC Manual 1B, to provide documented analysis, resolution and tracking of program and performance deficiencies based on the requirements of the WSRC Policy for the Corrective Action Program identified in WSRC Manual 1-01. The corrective action program has been established to prevent recurrence of problems affecting personnel safety, operational safety, regulatory compliance, or business operations. All personnel are granted the freedom and authority to identify those processes determined to be deficient and, as appropriate, to stop work or request that work be stopped until effective corrective action is completed. While the inputs to the issues management process come from multiple problem identification sources, each type of deficiency is resolved through application of the following process elements in a tailored manner:

- Deficiency identification
- Determination of extent of deficiency

- Determination of deficiency significance
- Evaluation of deficiency for cause
- Evaluation for lessons learned
- Development of corrective action
- Determination of the extent of the condition
- Implementation of corrective action
- Verification of corrective action performance
- Closure of corrective action
- Review for the effectiveness of those corrective actions implemented to prevent recurrence

The significance of identified deficiencies is the basis for the tailored application of the process elements. The extent of causal analysis (i.e., Apparent Cause, Root Cause) is commensurate with the importance or significance of the problem.

Significance Category 1 deficiencies include recurring and significant specific deficiencies. Significance Category 1 and 2 deficiencies are analyzed by qualified personnel for Root Cause through structured methodologies detailed in the SCD-9 Manual. Implementation of the required corrective actions to all deficiencies is performed and documented by the responsible organization and verified commensurate with the Significance Category of the deficiency. The Corrective Action Program also includes the requirement for an effectiveness review to be performed on those corrective actions identified to prevent recurrence of the deficiency for Significance Category 1 and 2 deficiencies.

A site-wide effectiveness review of the issues management system was performed in February of 2005. Findings and observations/opportunities for improvement identified during performance of the effectiveness review were managed through the issues management system established in WSRC Manual 1B.

While some elements of the WSRC issues management process are still relatively new and should be expected to improve as they continue to be implemented, some specific performance improvements can be attributed to this program. For example, this process is now utilized to provide consistent screening of issues for the identification of Price-Anderson items. In conjunction with this, resolution of the Price-Anderson item is consolidated in the single issues management process. Another example of improvements attributable to this new process is in the area of trending. Through this process, issues,

integrated from multiple sources across the site, are now trended at lower levels before significant problems result.

Controls exist in WSRC Manual 1Q for preventing the inadvertent testing, installation, or use of nonconforming items and processes. Established controls include tagging of items, segregation of items when possible, and conditional release for post-installation testing. Nonconformances are reviewed and approved by the organizations that reviewed and approved the original items or processes unless another organization with qualified and knowledgeable personnel is designated. Justification for the disposition action is documented in accordance with procedures for those items or processes not returned to their original, as-designed conditions. Nonconforming items that are subsequently reworked, repaired, or replaced are inspected and/or tested to either the original requirements or to specified alternative requirements. Such inspections or tests are conducted prior to the final acceptance of the items or processes. The Cognizant Technical Function, chartered with having an adequate technical understanding of the work and access to pertinent background information, is responsible for the analysis and disposition of nonconformances involving repair or use-as-is dispositions.

A site-wide assessment of the process for documenting identified nonconforming items and managing their resolution to meet the requirements of WSRC Manual 1Q was performed in November of 2004. Findings and observations/opportunities for improvement identified during performance of the assessment were managed through the issues management system established in WSRC Manual 1B.

Evaluation: Performance Objective fully met.

Performance Objective 3: DOE Line Management Oversight

DOE line management have established and implemented effective oversight processes that evaluate the adequacy and effectiveness of contractor assurance systems and DOE oversight processes.

Results

DOE line management oversight at SR is designed with multiple channels to provide diverse perspectives and a degree of check/balance. The organization is structured such that programs/projects, engineering, and operations report through different supervision with some degree of overlap in responsibilities. Information flow starts with morning staff meetings where input from the Facility Representatives is reviewed along with other emergent issues. Daily Reports distribute the FR information internal and external to the organization. Weekly reports summarize both programmatic and performance status/issues. An integrated FR and Technical Assessment Plan is developed for the organization. The results of the technical assessments are reported routinely to their contractor counterparts. Contract performance reports are prepared usually on monthly basis.

Safety Evaluation Reports are prepared for every Safety Analysis change to provide management a technical basis to judge risks and benefits of the proposed limits for operations. The AM and each Director are required to be Senior Technical Safety Manager qualified. In addition, DOE has a management walkthrough program to encourage direct observation of activities and facility material condition.

Per SRIP 200, Chapter 223.4, "Savannah River Technical Assessment Program", the DOE line management develops an "Assessment Plan for Calendar Year 200#," that outlines an integrated plan for all required technical assessments and evaluations of the contractor performed self-assessments (2006 Plan signed out by AM on November 2, 2005). The required assessments historically represent slightly less than half the actual number of assessments performed. This balance allows for individuals and supervisors to conduct reactive assessments of emergent issues and other management areas of interest as well. A list of program elements to be considered for assessment can be found in the Technical Assessment procedure. The Quality Assurance program is included in that listing. In addition, the Assessment Plan integrates Facility Representative walk-downs and broad-based assessments as required by SRIP 400, Chapter 430.1, "Facility Representative Program".

The results of individual assessment and operational awareness activities are entered into the SR wide database – SIMTAS – and tracked to closure. The results are informally communicated to the contractor at time of performance and formally transmitted under cover letter to the contractor on a routine basis. Formal responses are required for findings and concerns and corrective actions are tracked to closure. Closure is accomplished in the SIMTAS database and formally documented by DOE.

Primary products of the line organizations' contractor oversight activities are comprised of assessments, weekly facility representative (FR) reports documenting operational awareness of their facilities and contractor activities, field walk downs performed by line managers, Safety Evaluation Reviews (SERs) submitted by the line for my approval, and letters of concern or direction to the contractor issued by my line managers. An important source of information for DOE management is the planned and unscheduled assessments performed by both the facility representatives and the line organizations' technical support personnel. In FY05 there were 1020 FR assessments and 508 technical assessments completed and entered into the DOE SIMTAS.. These were a mixture of scheduled and reactive assessments. Also recorded in SIMTAS were 337 FR weekly reports and 1264 management walk downs representing over 1900 field hours. The line organizations also review the contractor's self-assessments, conducted internally by the contractor's facility staff and externally by the contractor's independent Facility Evaluation Board (FEB). This is done to validate that the contractor is performing effective self-assessments, to compare results from these activities with the conclusions generated by the performance monitoring systems at the Site and facility/program level and provide assurance that there is a robust feedback and improvement process. Information from the facility representatives on their operational awareness on facility activities, and occurrences/events is gathered to support my morning staff meeting.

The oversight and analysis of WSRC performance provided by the line organizations has identified issues that are consistent with those flagged by the performance indicators monitored. This provides assurance that the performance indicators that are monitored are a reasonable set to use for monitoring safety performance as well as a validation of the quality and effectiveness of the line organizations oversight. The PIs used by the federal and contractor staff are constantly scrutinized and challenged by internal and by external organizations. A six-month trend assessment is required in the annual Technical Assessment Plan that typically addresses both events, assessment results, and other performance indications.

The adequacy of the line organizations' contractor oversight activities and the quality and accuracy of analysis, conclusions and information resulting from this oversight is critical in enabling DOE-SR to effectively interface with senior contractor management, DOE HQs, and the DNFSB, and to properly manage the site. An example of this are the routine meetings senior staff and line managers have with the site representative from the Defense Nuclear Facility Safety Board to discuss issues and to ensure we have their perspective on safety. To ensure a balance of perspective the DOE Manager meets routinely with Environment, Safety, and Health (ES&H) staff and line organizations to review and discuss trends that may be emerging from the site safety metrics. To add continuity we also use a technical advisor, who briefs the Manager on all occurrences/safety issues and follow-up research of details to augment the daily flow of information emanating from line organizations and ES&H staff.

Over the past year, there have been several instances in various projects where the contractor has been in some cases slow to recognize some of the performance issues which have required letters to be issued by DOE or line managers. The line organizations are engaged in the daily operation of facilities under their oversight responsibilities by ensuring that the contractor conducts their operations and work in a safe manner and in accordance with the contract. This expectation includes providing the contractor with clear and timely notice of issues and safety concerns identified by DOE through routinely conducted performance out briefs and through formal correspondence when warranted. Examples of this are Documented Safety Basis DSA issues involving transuranic (TRU) waste at the Solid Waste Management Facility (see letter from Charlie Hansen to Conner dated 2/10/05), criticality safety issues identified at H-Canyon (see letter from Kevin Smith to WSRC dated 6/08/05), and the industrial and radiological safety issues affecting D&D projects (see letter from William Spader to Devine dated 3/25/05). All of these performance issues resulted in the contractor voluntarily placing their respective projects in operational stand downs. Once identified, the contractor has been prompt to take corrective actions to address the problems identified. The line organizations are tasked by the DOE-SR Manager to validate their basis and rational for my issuing letters of direction to the contractor or challenge it if they believe there is information that does not support the action. An example where the line organizations and ES&H staff provided sufficient evidence supporting specific direction to the contractor is my 6/15/05 letter addressing Electrical Safety.

The responsibility for line oversight is clearly defined in the SRM 300.1.1B, Chapter 1, Section 1.1, "SR Functions, Responsibilities, and Authorities Procedure (FRAP)". The

FRAP provides a mission and function statements for each DOE organizational entity identifying responsibilities assigned to each organization as defined by the DOE Strategic Plan, the Savannah River Site Environmental Management Program Performance Management Plan, and the DOE-SR Organizational Performance Management Plan. Personnel are held accountability for their responsibilities through the annual performance appraisal process.

Specifically, a six month trend assessment is required in the annual assessment plan that typically addresses both events and assessment results.

DOE-SR currently has a process procedure that establishes and maintains appropriate qualification standards for personnel with oversight responsibility. The current procedure is SRM 300.1.1B, Chapter 6, Section 6.1, "DOE-SR Technical Training and Qualification Program". This procedure is being revised and was submitted to DOE-SR for review and comments. All comments have been resolved and properly dispositioned and the procedure is currently being formatted for the Manager's signature. The revised procedure is titled: DOE-SR Technical Qualification Program and Acquisition Career Development Program Process Procedure. It should be issued shortly.

DOE implements an Employee Concerns Program (ECP), which is available to all SRS employees, in compliance with DOE Order 442.1A, *Employee Concerns Program.* The mechanism for implementing the programmatic requirements within SR is SRIP 400, Chapter 442.1, *Employee Concerns Program.* SR requires that its prime contractors implement ECPs that comply with the Order requirements, accomplished through specific requirements. The DOE ECP is also available to employees of US Forrest Service, SR Ecology Lab, and DOE-managed contracts through provisions of their agreements and/or contracts with DOE regarding operations-related concerns.

All site employees are provided initial information about the ECP by attending General Employee Training and are reminded annually in Consolidated Annual Training. ECP contact information is posted on bulletin boards across the site. Companies on DOE-managed contracts and subcontractors of WSRC and Wackenhut are required to post contact information for the ECP at their respective work sites.

All three ECPs maintain toll-free, 24-hour hotlines, which employees may call to report all types of concerns, including ESH. It is DOE ECPs practice to ensure that, during normal duty hours, the Hotline is answered by ECP personnel, whenever possible, to ensure that all concerns, especially ESH concerns, are addressed expeditiously; however, ECP Hotlines have voice-mail capability for employees to report concerns during off-duty hours. Employees calling during off-duty hours to report imminent danger concerns are instructed to contact the SRS Emergency Operations Center.

DOE O 442.1A has established timeframes for safety-related concerns to be investigated and resolved, based on the severity of the alleged unsafe condition. Concerns received by an ECP identifying imminent danger conditions must be investigated within 24 hours of receipt of the concern. Concerns identifying serious conditions must be investigated within three working days. Concerns identifying other-than-serious conditions must be

investigated within 20 working days. Immediately upon receipt of ESH concerns, ECP personnel notify appropriate management and/or ESH organizations in order for the appropriate actions to be taken, such as issuing a Stop Work Order.

Safety-related concerns received by the DOE ECP are coordinated with the appropriate DOE line management with oversight responsibility to determine the appropriate method for investigation of the concern. Since the majority of ESH concerns received by the DOE ECP relate to WSRC operations, the majority of safety-related concerns are referred to the WSRC ECP to investigate. WSRC ECP staff includes investigators with health and safety-related experience appropriate for investigating ESH concerns. A small percentage of safety-related concerns received by the DOE ECP are investigated by DOE line organizations.

Upon receipt, concern investigation reports are routed to appropriate DOE line management and ESH for review and concurrence. Concern investigations that are inadequate are referred back to the investigating organization for further fact-finding. Upon completion of the investigation and review process, DOE ECP provides a written response, summarizing the results of the investigation, to employees who have identified themselves at the time of raising the concern.

DOE ECP conducts oversight of contractor ECP performance through monthly evaluation reports and meetings with the contractor ECP management. Performance metrics have been established regarding quality of investigation reports and timeliness of concern closure.

In addition to the database that tracks open concerns, DOE ECP maintains a database that tracks corrective actions resulting from substantiated EC investigations. When they concur with EC investigations relating to their line organization responsibilities, DOE line managers commit to ensuring that identified recommendations are implemented. DOE ECP tracks the completion of those corrective actions and periodically assesses the effectiveness of corrective actions identified for concerns.

DOE ECP provides periodic reports and briefings to DOE management regarding concerns received, in addition to complying with quarterly reporting requirements to DOE HQ.

Evaluation: Performance Objective partially met.

Opportunity for Improvement F&IP-3-OFI-1:

DOE has established adequate line management oversight processes per existing DOE-HQ directives. The site continues to upgrade its current tracking and trending databases and coordinate with the contractor(s) to ensure effective and efficient processes are identified and implemented in a timely manner. However, DOE has not completed a compliance and implementation review for DOE O 226.1.

References

WSRC Manual 1Q, *Quality Assurance Manual*

WSRC Manual 12Q, *Assessment Manual*

Standards/Requirements Identification Documents (S/RID) FA 01, *Management Systems*

S/RID FA 02, *Quality Assurance*

WSRC SCD-4, *Assessment Performance Objectives and Criteria*

WSRC Manual 1-01, *Management Policies*

WSRC Manual 1B, *Management Requirements and Procedures*

WSRC Manual 9B, *Site Item Reportability and Issue Management (SIRIM)*

WSRC Manual 11B, *Subcontract Management Manual*

WSRC Manual 1S, *SRS Waste Acceptance Criteria Manual*

WSRC Manual 2S, *Conduct of Operations Manual*

WSRC Manual 11Q, *Facility Safety Document Manual*

WSRC Manual E7, *Conduct of Engineering*

S/RID FA 07, *Engineering Program*

S/RID FA 09, *Conduct of Operations*

WSRC Manual 1-01, MP 5.35, *Corrective Action Program*

S/RID FA 04, *Training and Qualifications*

WSRC Manual 4B, *Training and Qualifications Manual*

WSRC Manual 12Q, Procedure SA-1, *Self-Assessment*

WSRC Manual 12Q, Procedure PA-1, *Performance Analysis*

WSRC Manual 1Q, Procedure 18-4, *Management Assessment Program*

WSRC Manual 1B, MRP 4.23, *Site Tracking, Analysis, and Reporting (STAR)*

WSRC Manual 1B, MRP 4.14, *WSRC Lessons Learned Program*

WSRC SCD-9, *Problem Analysis Manual*

SRIP 200, Chapter 223.4, *Technical Assessment Program*

SRIP 400, Chapter 430.1, *Facility Representative Program*

SRIP 400, Chapter 442.1, *Employee Concerns Program*

SRM 300.1.1B Human *Capital Management Systems Manual*

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SEPARATION

PAGE

Attachment
06-ESQ-011

Office of River Protection

Site Action Plan

Commitment 25, Feedback and Improvement
DNFSB Recommendation 2004-1

for Approved, Roy J. Schepens, Manager
Office of River Protection

NOTE: Change Control for this Site Action Plan resides with the Field Office Manager (or designee), with a cc: to EM-3.2.

Executive Summary

Evaluation Process

The U.S. Department of Energy (DOE), Office of River Protection (ORP) conducted this assessment in response to Commitment #25 of the DOE's Implementation Plan for Defense Nuclear Facilities Safety Board Recommendation 2004-1, "Oversight of Complex, High-Hazard Nuclear Operations." ORP conducted this assessment in accordance with the instructions provided in DOE Environmental Management (EM) memorandum, Chief Operating Officer for Environmental Management to Distribution, "Feedback and Improvement Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 25," dated November 17, 2005. Specific direction was provided to perform a review of the DOE field office and contractor in the area of Feedback and Improvement (F&I). The assessment team determined that a combination of existing assessment data and conduct of a new assessment would be required to fully evaluate all F&I processes used by ORP and ORP prime contractors.

The assessment is the product of a joint effort of ORP and the three ORP prime contractors, CH2M HILL Hanford Group, Inc., (CH2M HILL), Bechtel National Inc. (BNI), and Advanced Technologies and Laboratories International, Inc. (ATL). The team consisted of one member each from these contractors and was led by a representative of ORP. Generally, the contractor members evaluated the F&I processes of their own companies, with oversight from the ORP team lead. The ORP representative also evaluated the ORP F&I processes.

The assessment team used the criteria and review approach documents (CRAD) specified in the EM memorandum. The team found the criteria in the CRADs were straightforward, which facilitated efficient conduct of the assessment. The assessment team compared the criteria to existing processes and identified gaps, reviewed previous internal and external assessments, and addressed effective implementation of existing requirements.

ORP, CH2M HILL, and BNI had existing F&I processes intended to respond to contract requirements. ATL, a new contractor, was still in the process of finalizing its F&I processes. For ATL, the assessment team compared existing and scheduled procedures to the CRADs, and only documented issues where the existing and scheduled procedures failed to address a criterion. There was insufficient ATL F&I activity to assess implementation of its F&I processes. Following approval of the ATL Integrated Safety Management System (ISMS) description, ORP will conduct phased verification of ISMS.

In addition to the opportunities for improvement (OFI) identified by the assessment team, ORP and its contractors identified supplemental OFIs associated with Human Performance Improvement (HPI). We plan to train our staffs on the principles of HPI and apply these principles to improve our feedback and improvement processes.

Overall Evaluation Summary

The assessment team found that ORP, CH2M HILL, and BNI had processes that complied with existing contract requirements, even though they did not satisfy all CRAD criteria. The assessment team concluded that the CRAD criteria that were not implemented at the time of the assessment represented new requirements in DOE O 226.1, "Implementation of Department of Energy Oversight Policy." None of the contractors had been directed to implement the new order, pending F&I workshops scheduled for Spring 2006. There was a range of opinions among the ORP contractors regarding the cost of implementing new requirements, and ORP contractors were awaiting clarification of requirements in the workshops before going ahead with implementation. However, at the time of the assessment, ORP was already in the process of revising its own oversight procedures to implement DOE O 226.1.

The assessment team identified a total of six OFIs.

CRAD #	Objective Met	Objective Partially Met	Objective Not Met	Comments
1	X			Five OFIs Noted
2	X			No OFIs Noted
3	X			Two OFIs Noted

ORP and the ORP contractors subsequently identified three supplemental OFIs addressing human performance improvement that did not flow directly from the assessment CRADs.

The F&I assessment was documented in ORP memorandum, R. J. Schepens to I. R. Triay, EM-2, "U.S. Department of Energy, Office of River Protection, Feedback and Improvement Assessment Report," 05-ESQ-094, dated December 29, 2005.

Action Plan Organization

Sections I-III contain those actions important to improving the effectiveness of F&I.

Section IV contains F&I "Good Practices" for sharing across the DOE.

Section VI contains the supplemental OFIs identified by ORP and the ORP contractors.

SECTION I – DOE Oversight

Performance Objective F&I-3: DOE Line Management Oversight

Opportunity for Improvement: **F&I-ORP-OFI-1**
ORP M 220.1, "Integrated Assessment Program," should be revised to explicitly address oversight of all features of contractor assurance systems specified in DOE O 226.1, including cyber security, business processes, and safeguards and security.

ORP Action	Deliverable	Due Date	Owner/Org
a. Revise ORP M 220.1 to explicitly address oversight of all features of contractor assurance systems, including cyber security, business processes, and safeguards and security.	Revised ORP M 220.1	January 5, 2006 (Completed)	Patrick P. Carier / Office of Environmental Safety and Quality
b. Revise ORP M 220.1 to address oversight of other feedback systems, such as worker feedback. It should also be revised to comprehensively address oversight of communication of information, such as dissenting opinion.	Revised ORP M 220.1	January 5, 2006 (Completed)	Patrick P. Carier / Office of Environmental Safety and Quality
c. Revise ORP M 220.1 to describe a process for resolving professional disagreements over assessment issues, including provisions for independent technical reviews for significant findings.	Revised ORP M 220.1	January 5, 2006 (Completed)	Patrick P. Carier / Office of Environmental Safety and Quality

d. Revise ORP M 220.1 to the requirements for ORP oversight of contractor employee concerns processes.	Revised ORP M 220.1	January 5, 2006 (Completed)	Patrick P. Carier / Office of Environmental Safety and Quality

Responsible Manager: Robert Barr / Director, Office of Environmental Safety and Quality

Opportunity for Improvement **F&I-ORP-OFI-2**
Facility Representative requirements and procedures should be revised to implement requirements of DOE O 226.1.

ORP Action	Deliverable	Due Date	Owner/Org
a. Revise Facility Representative Instructions to include provisions for: 1) resolving professional disagreements over assessment issues (i.e. minority opinions); and 2) consideration for independent technical reviews for significant findings.	Revised Facility Representative Instructions	March 31, 2006	Mark C. Brown, Tank Farm Operations Division (Responsible for all Facility Representative Instructions)

Responsible Manager: T. Zack Smith / Assistant Manager, Tank Farms Project

SECTION II – CH2M HILL

Performance Objective F&I-1: Contractor Program Documentation

Opportunity for Improvement **F&I-CH2-OFI-1**

CH2M HILL has implemented the required elements of an assurance system and some elements, such as the Quality Assurance Program Description document, have been approved by DOE. However, a single program description document that fully details the programs and processes that comprise the assurance system has not been developed, approved by contractor management, and forwarded to DOE for review and approval.

CH2M HILL Action	Deliverable	Due Date	Owner/Org
a. Attend Headquarters (HQ)-sponsored workshops on implementation of DOE O 226.1.	Workshop attendance	Spring 2006	Richard L. Higgins / Assessment & Corrective Actions
b. Submit a detailed contractor assurance system program description to ORP for approval.	Contractor assurance program description	October 1, 2006	Richard L. Higgins / Assessment & Corrective Actions

Responsible Manager: Richard L. Higgins / Manager, Assessment & Corrective Actions

Performance Objective F&I-2: Contractor Program Implementation

No opportunities for improvement noted at this time.

SECTION III – BNI

Performance Objective F&I-1: Contractor Program Documentation

Opportunity for Improvement **F&I-BNI-OFI-1**
BNI cannot determine the impact of developing a complete contractor assurance system until the DOE implementation manual/workshops for DOE O 226.1 are provided and a detailed gap analysis can be performed.

BNI Action	Deliverable	Due Date	Owner/Org
a. Attend HQ-sponsored workshops on implementation of DOE O 226.1.	Workshop attendance	Spring 2006	George T. Shell / Quality Assurance Department
b. Receive ORP direction to implement DOE O 226.1. (ORP to provide, based on outcome of workshops.) Based on the outcome of the workshops, perform gap analysis for implementation of DOE O 226.1.	Gap analysis for DOE O 226.1.	60 days following workshop	George T. Shell / Quality Assurance Department

Responsible Manager: George T. Shell / Manager, Quality Assurance Department

Opportunity for Improvement **F&I-BNI-OFI-2**
Hanford Tank Waste Treatment and Immobilization Plant (WTP) assurance activities may not encompass WTP subcontractor activities to the degree required by Appendix A to the Contractor Requirements Document of DOE O 226.1, "Implementation of Department of Energy Oversight Policy."

BNI Action	Deliverable	Due Date	Owner/Org
a. Issue implementation plan for DOE O 226.1.	Implementation plan	30 days following completion of GAP analysis	George T. Shell / Quality Assurance Department
b. Submit to ORP for approval revised or new assurance system	Assurance system description(s) addressing all requirements of DOE O 226.1	8/14/06	George T. Shell / Quality Assurance

description(s) addressing all requirements of DOE O 226.1, Appendix A.			Department
c. Complete implementation of DOE O 226.1.	Letter to ORP confirming implementation	9/14/06	George T. Shell / Quality Assurance Department

Responsible Manager: George T. Shell / Manager, Quality Assurance Department

Opportunity for Improvement **F&I-BNI-OFI-3**
WTP assurance activities may not encompass WTP business operations to the degree required by Appendix A to the Contractor Requirements Document of DOE O 226.1, "Implementation of Department of Energy Oversight Policy."

BNI Action	Deliverable	Due Date	Owner/Org
a. Submit to ORP for approval revised or new assurance system description(s) addressing business operations assurance system requirements of DOE O 226.1, Appendix A. (With BNI commitment F&I-BNI-OFI-2.b)	Assurance system description(s) addressing business operations assurance system requirements of DOE O 226.1, Appendix A.	8/14/06	George T. Shell / Quality Assurance Department
b. Complete implementation of DOE O 226.1, including requirements for business operations assurance systems. (With BNI commitment F&I-BNI-OFI-2.c.)	Letter to ORP confirming implementation	9/14/06	George T. Shell / Quality Assurance Department

Responsible Manager: George T. Shell / Manager, Quality Assurance Department

Performance Objective F&I-2: Contractor Program Implementation

No opportunities for improvement noted at this time.

SECTION IV – ATL

Performance Objective F&I-1: Contractor Program Documentation

Opportunity for Improvement F&I-ATL-OFI-1
ATL does not have a procedure for causal analysis.

ATL Action	Deliverable	Due Date	Owner/Org
a. Issue a procedure for causal analysis.	Procedure for causal analysis	3/1/06	Phyllis H. Bruce / Contract Assurance Program

Responsible Manager: Phyllis H. Bruce / Contract Assurance Program Manager

Performance Objective F&I-2: Contractor Program Implementation

No opportunities for improvement noted at this time.

SECTION V – ORP Site F&I Good Practices

Good Practice(s)	Site Point of Contact
Good Practice #1: ORP's oversight procedure includes tables specific to each contractor that comprehensively specify all DOE assessment requirements applicable to the contractor. The tables were developed from systematic reviews of contract requirements, regulations, and DOE directives. ORP found these tables are extremely valuable in developing annual assessment plans by assuring required assessments are always included.	Patrick P. Carier (509) 376-3574
Good Practice #2: ORP senior management is active in the assessment program. The Assessment Program Committee, which includes the Deputy Manager, meets quarterly. During quarterly meetings, management evaluates the past years ORPs reports, PAAA activities and assessment findings and observations to identify trends. When trends are identified the assessment plan is revised to assess weak areas.	Patrick P. Carier (509) 376-3574
Good Practice #3: CH2M HILL enters DOE Lessons Learned, Safety Notices, Safety Bulletins, and Data Collection Sheets into its issues management system, the Problem Evaluation Request system. This documents the review of each issue by the appropriate subject matter experts and tracks actions taken in response.	Richard Higgins (509) 373-5305
Good Practice # 4: Senior CH2M HILL managers review the results of internal and external assessments as part of bi-weekly Executive Safety Review Board meetings.	Richard Higgins (509) 373-5305
Good Practice # 5: CH2M HILL assessment schedules and copies of assessments are available on the company's intranet for retrieval by employees.	Richard Higgins (509) 373-5305

Good Practice #6: The BNI Quality Assurance Information System's user-friendly design and standard reporting features permit ready and consistent retrieval of corrective action information for analysis and development of quality-related performance indicators.	George T. Shell (509)371-2377

SECTION VI – Supplemental Goals

Supplemental Goal F&I-1: Human Performance Improvement (HPI)

Opportunity for Improvement **F&I-ORP-SUPOFI-1**
ORP and its contractors should implement human performance improvement programs.

ORP Action	Deliverable	Due Date	Owner/Org
a. Develop and approve a joint ORP/Prime Contractor HPI strategic plan that addresses the eight initiatives of the HPI leadership framework.	Approved strategic plan	June 1, 2006	Shirley J. Olinger / DEP
b. Train ORP Facility Representatives and supervisors on HPI principles and techniques.	Lesson plans and training rosters	September 1, 2006	Shirley J. Olinger / DEP
c. Provide contract direction to BNI, CH2M HILL, and ATL for implementing the strategic plan. Resolve funding issues, identify achievable dates, identify performance measures.	Contract changes for CH2M HILL, BNI, and ATL	September 30, 2006	For CH2M HILL and ATL: Dana Bryson / AMTP For BNI: Mike Thomas / AMWTP

Responsible Manager: Shirley Olinger / Deputy Manager

SEPARATION

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Portsmouth/Paducah Project Office

Site Action Plan

February 2006

Commitment 25, Feedback and Improvement

DNSFB Recommendation 2004-1

Approved, William Murphie, Manager
Portsmouth/Paducah Project Office

Note: Change Control for this Site Action Plan (SAP) resides with the PPPO Manager, with a cc to EM-3.2.

Executive Summary

The Department of Energy (DOE) Chief Operating Officer for Environmental Management (EM) requested via memorandum, dated November 17, 2005 that EM sites take specific actions to address the Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, Commitment 25. These actions are in support of the DOE Under Secretary for Energy, Science and Environment memorandum, dated November 9, 2005, that establishes the path forward for meeting Commitment 25 of the DOE Implementation Plan for DNFSB 2004-1, *Oversight of Complex, High Hazard Nuclear Operations.*

This action plan documents the results of a self-assessment conducted as an on-site review of field element performance. The Portsmouth Paducah Project Office (PPPO) conducted a review of the Criteria and Review Approach Documents (CRADs) provided.

The PPPO has demonstrated partial compliance with the feedback and improvement oversight performance objective. This action plan incorporates report results from assessments conducted for feedback and improvement oversight at the Portsmouth and Paducah sites during calendar year 2005. PPPO procedures are common to both the Portsmouth and Paducah sites. PPPO oversight activities include scheduled assessments, periodic surveillances, walk-throughs, readiness reviews and Implementation Validation Reviews (IVRs) conducted at one/or both sites. Limited site assessment activities were also conducted in December to provide additional self-assessment information to address the performance objective.

Overall Evaluation Summary

The following table provides the results of this assessment.

Commitment 25 Criteria and Review Approach Document	Feedback & Improvement - 1	Feedback & Improvement - 2	Feedback & Improvement - 3
DOE PPPO			Partially Met (5 Opportunities for Improvement (OFI's))
Uranium Disposition Services, LLC	Partially Met (2 OFI's)	Partially Met (4 OFI's)	
LATA/Parallax Portsmouth, LLC	Met	Partially Met (4 OFI's)	
Theta Pro2Serve Management Company, LLC	Partially Met (3 OFI's)	Partially Met (See OFI's for F&I -1)	
Bechtel Jacobs Company	Met (1 OFI)	Met	
Swift and Staley Mechanical Contractors, Inc.	Partially Met (1 OFI)	Partially Met (5 OFI's)	

Section I – DOE Oversight

Performance Objective F&I-1: Contractor Program Documentation

No opportunities for improvement noted at this time.

Performance Objective F&I-2: Contractor Program Implementation

No opportunities for improvement noted at this time.

Performance Objective F&I-3: DOE Line Management Oversight

Opportunity for Improvement #1

Update and complete PPPO oversight procedures and plans.

DOE Action	Deliverable	Due Date	Owner / Org
Complete the preparation and implementation of the oversight plans and procedures associated with the PPPO contracts.	Update and issue Federal Employee Occupational Safety & Health Plan.	03/31/06	D. Kozlowski/ PPPO R. Underwood/ PPPO
	Review, update and issue the Corrective Action Closure Program procedures.	04/30/06	D. Kozlowski/ PPPO R. Underwood/ PPPO
	Review, update and issue the Independent Assessment Program procedures.	04/30/06	D. Kozlowski/ PPPO R. Underwood/ PPPO
	Issue PPPO Oversight Plan.	04/30/06	D. Kozlowski/ PPPO R. Underwood/ PPPO

Responsible Manager: Rachel Blumenfeld

Opportunity for Improvement #2:
Provide training, unless exempted by previous experience and knowledge, to PPPO staff designated to conduct work planning and work control oversight. Training should include surveillance/assessment techniques and the methods for documenting surveillance/assessment results.

DOE Action	Deliverable	Due Date	Owner / Org
Conduct training activities to strengthen the current PPPO resources and increase the site oversight capabilities of the contractors' work activities.	Provide training on surveillance/assessment techniques and the methods for documenting surveillance/assessment results.	5/31/06	L. Maghrak/ PPPO J. Saluke/ PPPO

Responsible Manager: Rachel Blumenfeld

Opportunity for Improvement #3:
Prepare and implement oversight schedules based on hazards, risks and available resources.

DOE Action	Deliverable	Due Date	Owner / Org
Develop integrated oversight schedules based for the Paducah and Portsmouth sites. Include oversight of ISMS elements, such as work planning, work control and feedback and improvement management systems.	Prepare and implement an integrated assessment schedule.	03/31/06	R. Underwood/ PPPO J. Saluke/PPPO L. Maghrak/PPPO
	Prepare and implement an integrated surveillance schedule.	03/31/06	R. Underwood/ PPPO J. Saluke/PPPO L. Maghrak/PPPO
	Prepare and implement a management walkthrough schedule.	03/31/06	R. Underwood/ PPPO J. Saluke/PPPO L. Maghrak/PPPO

Responsible Manager: Rachel Blumenfeld

Opportunity for Improvement #4:
Clarify PPPO staff roles and responsibilities to conduct oversight of all stages of the Contractors' work planning and work control process on a routine basis.

DOE Action	Deliverable	Due Date	Owner / Org
Revise existing PPPO requirements to clearly identify PPPO staff oversight roles and responsibilities for work planning and work control processes.	Revise PPPO Management Plan	5/31/06	D. Kozlowski/ PPPO R. Underwood/ PPPO

Responsible Manager: Rachel Blumenfeld

Opportunity for Improvement #5:
Establish routine performance communication within PPPO and to contractors.

DOE Action	Deliverable	Due Date	Owner / Org
Develop tools for routinely communicating performance results internally within PPPO and externally to the contractors.	Establish performance metrics information to be collected by contractors.	03/31/06	D. Kozlowski/ PPPO
	Implement periodic reporting of operational performance information to PPPO management and site contractors.	03/31/06	D. Kozlowski/ PPPO

Responsible Manager: Rachel Blumenfeld

Section II – UDS

Performance Objective F&I-1: Contractor Program Documentation

Opportunity for Improvement #1:
Some implementing plans and procedures need to be revised based on recent contract changes.

UDS Action	Deliverable	Due Date	Owner/Org.
Review plans and procedures for compliance with revised DOE contract	Initiate action item reports in internal tracking system for identified deficiencies	2/28/06	Jim Brackett, QA Manager Don Parker, ES&H/SM Doug Adkisson
Revise implementing procedures based on review	Revised procedures issued	3/31/06	Jim Brackett, QA Manager Don Parker, ES&H/SM Doug Adkisson

Responsible Manager: Josie Blackmon, Compliance Officer

Opportunity for Improvement #2:
Some Departments have been inconsistent in meeting requirements of the management assessment procedure.

UDS Action	Deliverable	Due Date	Owner/Org.
Clarify expectations of managers to comply with management assessment	Letter from Project Manager to managers identified in the management assessment procedure instructing them: A. to re-read management assessment procedure and provide documentation completion of reading; B. to perform at least two management assessments each year; C. to identify the topic and dates that their management assessments are to be conducted.	01/16/06	Tim Forden, PM
	Planned management assessments input shall be provided to QA Manager by managers for developing Integrated	01/30/06	Jim Brackett, QA Manager

UDS Action	Deliverable	Due Date	Owner/Org.
	Management Assessment Schedule.		
	Integrated Management Assessment Schedule issued	02/03/06	Jim Brackett, QA Manager
	Updated Integrated Management Assessment Schedule issued on the first working day of each month.	03/01/06	Jim Brackett, QA Manager

Responsible Manager: Josie Blackmon, Compliance Officer

Performance Objective F&I-2: Contractor Program Implementation

Opportunity for Improvement #1:
Trending program has not been implemented. Trend codes are not being assigned in the condition reporting system.

UDS Action	Deliverable	Due Date	Owner/Org.
Revise Trending Program Procedure	Issue revised Trend Analysis procedure	03/01/06	Jim Brackett, QA Manager
	Conduct training on revised procedure	03/01/06	Jim Brackett, QA Manager
	Review all condition reports and assign trend codes where missing	03/01/06	Jim Brackett, QA Manager

Responsible Manager: Josie Blackmon, Compliance Officer

Opportunity for Improvement #2:
Lessons learned program has not been fully implemented. Data is not being entered into the DOE lessons learned system and data from the system is not being utilized.

UDS Action	Deliverable	Due Date	Owner/Org.
Revise Lessons Learned Procedure	Issue revised procedure	06/30/06	Jim Brackett, QA Manager
	Commence entering lessons learned into DOE database	06/30/06	Jim Brackett, QA Manager

UDS Action	Deliverable	Due Date	Owner/Org.
	Commence dissemination of lessons learned from DOE database	06/30/06	Jim Brackett, QA Manager

Responsible Manager: Josie Blackmon, Compliance Officer

Opportunity for Improvement #3:
Occurrence Notification and Reporting procedure revision that incorporates latest DOE order changes is currently being revised.

UDS Action	Deliverable	Due Date	Owner/Org.
Revise Occurrence Reporting and Notification Procedure	Issue revised procedure	1/31/06	Josie Blackmon, Compliance Officer
	Conduct training of appropriate personnel	1/31/06	Josie Blackmon, Compliance Officer

Responsible Manager: Josie Blackmon, Compliance Officer

Opportunity for Improvement #4:
Condition Report resolution and closure is not as aggressive as it should be.

UDS Action	Deliverable	Due Date	Owner/Org.
Improve compliance to condition reporting procedure	Revise UDS-QAP-005, Condition Reporting, to include description of periodic condition report status reporting to UDS management and DOE.	2/16/06	Jim Brackett, Quality Manager

Responsible Manager: Josie Blackmon, Compliance Officer

Performance Objective F&I-3: DOE Line Management Oversight

No opportunities for improvement noted at this time.

Section III – LPP

Performance Objective F&I-1: Contractor Program Documentation

No opportunities for improvement noted at this time.

Performance Objective F&I-2: Contractor Program Implementation

Opportunity for Improvement #1

LPP should institute a better reporting system for how feedback is implemented into work packages and job tasks.

LPP Action	Deliverable	Due Date	Owner / Org
Revise LPP-PO-1001 to incorporate the appropriate criteria from LPP-0043, *Work Control Improvement Plan*	LPP-PO-1001 *Work Control Process*	3/13/06	Tim Larabee Work Control

Responsible Manager: Tim Larabee, Work Control Manager

Opportunity for Improvement #2

LPP should make better use of the work control software for feedback tracking.

LPP Action	Deliverable	Due Date	Owner /Org
Evaluate SOMAX software for use in tracking feedback.	Correspondence documenting the determination of the adequacy of SOMAX to track feedback and the path forward.	4/01/06	Tim Larabee Work Control

Responsible Manager: Tim Larabee, Work Control Manager

Opportunity for Improvement #3

LPP needs to develop a system to encourage the initiation of positive lessons learned.

LPP Action	Deliverable	Due Date	Owner /Org
Revise LPP-PO-1001 to incorporate the appropriate criteria from LPP-0043, *Work Control Improvement Plan.*	LPP-PO-1001 *Work Control Process*	3/13/06	Tim Larabee Work Control

Responsible Manager: Tim Larabee, Work Control Manager

Opportunity for Improvement #4
LPP needs to develop a web site that includes access to site specific performance metrics based on feedback for continuous improvement.

LPP Action	Deliverable	Due Date	Owner /Org
Develop an Intranet Web Site For LATA/Parallax that utilizes Microsoft SharePoint Portal	Develop the Intranet Web Site for use by LPP Users	02/06/2006	Jeff Pinkerton Public Affairs & IT

Responsible Manager: Ken Sheldon, IT Manager

Performance Objective F&I-3: DOE Line Management Oversight

No opportunities for improvement noted at this time.

Section IV – TPMC

Performance Objective F&I-1: Contractor Program Documentation and Performance Objective F&I-2: Contractor Program Implementation

Opportunity for Improvement #1
Performance documents were coversheeted from the previous Contractor and have not been revised to be fully integrated into the TPMC system to accurately reflect organization roles and other administrative differences.

TPMC Action	Deliverable	Due Date	Owner/Organization
Managers prioritize (0, 1, 2 and 3, with 1 as the highest priority) assigned performance documents for revision, and provide lists to Procedure Manager.	Prioritized lists of assigned performance documents.	January 16, 2006	Managers (collectively under Buck Sheward, President)
Procedure Manager combine Manager prioritized lists into one list.	Combined prioritized list of performance documents.	January 23, 2006	Chip Stanizzo, Procedure Manager, Environmental, Safety, Health and Quality
Procedure Manager meet with Managers to develop Performance Documents Work-Off Plan to revise prioritized performance documents [Priority 1 and 2, including those needed to implement the Integrated Safety Management System (ISMS), by June 30, 2006, and Priority 3 by December 31, 2006].	Performance Documents Work-Off Plan	February 15, 2006	Chip Stanizzo, Procedure Manager, Environmental, Safety, Health and Quality
Quality Assurance (QA) Specialist enter rolling 30-day look-ahead action assignments to implement the Performance Documents Work-Off Plan into the Commitment Tracking System (Tracker) for closure tracking.	Tracker 30-day look-ahead Performance Documents Work-Off Plan action assignments.	February 20, 2006	Cathy Forshey, QA Specialist, Environmental, Safety, Health and Quality

TPMC Action	Deliverable	Due Date	Owner/Organization
Complete Priority 1 and 2 performance document revisions.	Tracker action assignments closure documentation.	June 30, 2006	Managers (collectively under Buck Sheward, President), and Chip Stanizzo, Procedure Manager, Environmental, Safety, Health and Quality
Complete Priority 3 performance document revisions.	Tracker action assignments closure documentation.	December 31, 2006	Managers (collectively under Buck Sheward, President), and Chip Stanizzo, Procedure Manager, Environmental, Safety, Health and Quality

Responsible Manager: Elise Allison, ESH&Q Manager

Opportunity for Improvement #2
The Oversight Plan is in "Draft" completion and will be issued by January 2006.

TPMC Action	Deliverable	Due Date	Owner/Organization
QA Program Lead issue Oversight Plan	Oversight Plan	January 31, 2006	Dan Longpre, QA Program Lead, Environmental, Safety, Health and Quality

Responsible Manager: Elise Allison, ESH&Q Manager

Opportunity for Improvement #3
The QA Trending Program is in development and will periodically (expected Quarterly, beginning March 2006) compile selected assurance data into a summary report for review by management and DOE to help in focusing on improvement areas, where needed.

TPMC Action	Deliverable	Due Date	Owner/Organization
QA Program Lead meet with Managers and DOE to identify trending criteria.	Memo to file of list of Trending Criteria	February 3, 2006	Dan Longpre, QA Program Lead, Environmental,

TPMC Action	Deliverable	Due Date	Owner/Organization
			Safety, Health and Quality
QA Program Lead meet with Information Technology (IT) Programmer and QA Specialist to develop Trending System Plan.	Trending System Plan	February 20, 2006	Dan Longpre, QA Program Lead, Environmental, Safety, Health and Quality
IT Programmer work with QA Specialist to complete Trending System Plan, and enter trending data into database, as appropriate.	Tracker action assignments closure documentation.	April 3, 2006	Tim Burton, Computing and Telecommunications Manager
QA Specialist work with IT Programmer to generate first Quarterly Trending Report	Trending Report	April 17, 2006	Cathy Forshey, QA Specialist, Environmental, Safety, Health and Quality

Responsible Manager: Elise Allison, ESH&Q Manager

Performance Objective F&I-3: DOE Line Management Oversight

No opportunities for improvement noted at this time

Section V – BJC

(NOTE: BJC is transitioning out as the Remediation Contractor for the Paducah Site. PRS will assume responsibility on April 24, 2006)

Performance Objective F&I-1: Contractor Program Documentation

Opportunity for Improvement #1
The Quality Assurance Program Plan (QAPP) has not been submitted for DOE for 2006.

BJC Action	Deliverable	Due Date	Owner/Organization
Submit QAPP to DOE for annual approval	QAPP and Implementing Flowdown Matrix	January 31, 2006	D. L. Chumbler Quality Assurance

Responsible Manager: D. L. Chumbler, Quality Assurance

Performance Objective F&I-2: Contractor Program Implementation

No opportunities for improvement noted at this time

Performance Objective F&I-3: DOE Line Management Oversight

No opportunities for improvement noted at this time

Section VI – SST

Performance Objective F&I-1: Contractor Program Documentation

Opportunity for Improvement #1
Minor deficiencies noted during daily oversight of work activities by the safety organization are not reported. There is no data collection system for the minor deficiencies. The Safety Department monitors and reinforces expected performance and corrects minor deficiencies as they occur, yet these problem areas are not recorded for trends or recurrence. The ES&H Manager will review this Observation and determine if corrective actions are required

SST Action	Deliverable	Due Date	Owner / Org
ES&H Manager to evaluate this apparent underreporting of minor safety deficiencies and take appropriate action.	SST to develop a method of documenting and tracking minor safety deficiencies.	02/28/06	J. McVey, SST
	If documentation and tracking of minor safety deficiencies are determined to be not necessary, SST to provide justification to the local DOE office.	02/28/06	J. McVey, SST

Responsible Manager: J. McVey, SST

Performance Objective F&I-2: Contractor Program Implementation

Opportunity for Improvement #1
Because of the nature of SST's workforce, none of the assessments have been conducted by work performers. All assessments have been completed by members of SST management team. This practice excludes a very knowledgeable portion of the workforce from making a contribution to the feedback and improvement process.

SST Action	Deliverable	Due Date	Owner / Org
SST should discuss possible assessment	Results of the SST/PACE discussions regarding participation	02/28/06	T. Stanberry, SST

SST Action	Deliverable	Due Date	Owner / Org
program participation with PACE Union leadership.	in the assessment program will be communicated to the local DOE office.		

Responsible Manager: T. Stanberry, SST

Opportunity for Improvement #2

The Swift & Staley Integrated Assessment Plan (issued 10/4/05) identified five performance indicators to be developed. To date, none of these performance indicators have been established.

SST Action	Deliverable	Due Date	Owner /Org
Develop the following Performance Indicators: • Gold Chart Performance Metrics • ALARA Metrics • Personal Injury/Accident TRC Rates • Labor Costs • Epidemiological Analysis – OSH Studies	SST to establish the Performance Indicators specified in the Integrated Assessment Plan. For those PIs not developed per the Integrated Assessment Plan, prepare a basis document detailing reasons for non-implementation.	02/28/06 02/28/06	S. Polston, SST T. Stanberry, SST

Responsible Manager: S. Polston, SST

Opportunity for Improvement #3

SST's current performance indicator activity has not been finalized. Five customers were selected for the Customer Grade Card pilot, but only two responded. Continued effort or a different approach is required by SST to enlist the cooperation of the customer base when the Grade Card goes active.

SST Action	Deliverable	Due Date	Owner / Org
Place the customer grade card performance measure into protection.	SST to develop and implement a revised marketing strategy. Results from the initial response will be published as a	02/28/06 04/30/06	S. Polston, SST T. Stanberry, SST

SST Action	Deliverable	Due Date	Owner / Org
	performance indicator.		

Responsible Manager: T. Stanberry, SST

Opportunity for Improvement #4

There have been at least two product alerts or recalls received by SST in the past month. The Corrective Action Tracking System (CATS) was not utilized in either of these cases to identify, assign, track and close actions associated with the alert or recall. The CATS database preliminary version was completed in November and has not entered full service as of this date.

SST Action	Deliverable	Due Date	Owner / Org
Complete the Corrective Action Tracking System and utilize this system for corrective actions, safety alerts, lessons learned, etc.	SST to complete testing of the CATS database and place in service.	01/31/06	T. Stanberry, SST
	Input previous assessment findings, safety alerts and applicable lessons learned into CATS.	01/31/06	T. Stanberry, SST
	Input assessment observations into CATS.	02/28/06	T. Stanberry, SST

Responsible Manager: T. Stanberry, SST

Opportunity for Improvement #5

Several lessons learned from external sources (e.g., Bechtel Jacobs Corp, WGI) have been received and investigated. However, the mechanism for lessons learned needs to be better defined. SST will develop a lessons learned method that encompasses internal as well as external sources and provides closure documentation.

SST Action	Deliverable	Due Date	Owner / Org
Develop and publish a lessons learned procedure that includes internal and	SST to develop and issue a lessons learned procedure.	04/30/06	T. Stanberry, SST

SST Action	Deliverable	Due Date	Owner / Org
external sources.			

Responsible Manager: T. Stanberry, SST

Performance Objective F&I-3: DOE Line Management Oversight

No opportunities for improvement noted at this time.

Feedback & Improvement Good Practices

Although good practices were identified by DOE and the Contractors, these good practices lacked adequate justification or specificity to be included. DOE will identify future good practices as part of our oversight program.

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Richland Operations

Site Action Plan

Commitment 25, Feedback and Improvement
DNSFB Recommendation 2004-1

Approved, Keith Klein, Manager
Richland Operations

NOTE: Change Control for this Site Action Plan resides with the Field Office Manager (or designee), with a cc: to EM-3.2.

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Executive Summary

Evaluation Process

This assessment was conducted as part of the U.S. Department of Energy, Richland Operations Office (RL) response to Commitment #25 of the Department of Energy's Implementation Plan (IP) for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, "Oversight of Complex, High-Hazard Nuclear Operations". The assessment was performed in accordance with the Criteria and Review Approach Document (CRAD) at the 2004-1 Knowledge Portal and the supplemental lines of inquiry provided by EM staff via email on December 2, 2005. Washington Closure Hanford, LLC (WCH) was not evaluated at this time due to the recent contract transition and impending ISMS verification scheduled for FY 2006. WCH ISMS verification actions have been incorporated into this action plan.

Feedback and Improvement, specifically Fluor Hanford, Inc. (FH) Corrective Action Management, has been a focus area of RL oversight for the past three years. RL performed a core surveillance of corrective action management each of the last three years and Core Surveillances are scheduled for Independent/Management Assessment and ISMS/Feedback and Improvement for FY 2006. In each case, a surveillance guide is developed and performed simultaneously at each FH project to determine individual and sitewide issues. RL just completed a core surveillance on Independent/Management Assessment that was integrated into the single Feedback and Improvement assessment. The assessment resulted in the identification of nine opportunities for improvement in RL and FH processes. This action plan contains the actions to address the programmatic opportunities for improvement and does not include the individual facility resolution of specific issues identified in each of the surveillance reports. Those items will be evaluated and resolved at the facility level through the corrective action management process.

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Overall Evaluation Summary

The results of this assessment determined that RL and FHI have Feedback and Improvement mechanisms in place, however, DOE O. 226.1 and the proposed DOE O. 210.x are expected to further improve these processes. The objectives for three of the CRADs was identified as fully met with four objectives as partially met. Actions have been designed to address each of the opportunities for improvement as discussed in greater detail below.

CRAD #	Objective Met	Objective Partially Met	Objective Not Met	Comments
1		X		3 OFIs noted
2.1	X			No issues noted
2.2		X		1 OFI noted
2.3	X			No issues noted
2.4	X			1 OFI noted
3		X		3 OFIs noted
Sup		X		1 OFI noted

Summary of Results for F&I-1:

Program Documentation: Based upon the Feedback and Improvement assessment, RL and FHI have established the necessary operational assurance programs, however, the programs are not integrated in accordance with DOE O 226.1, requirements. RL is in the process of implementing DOE O 226.1 in site contracts, and these actions are incorporated into this action plan. In addition, WCH was not evaluated at this time due to the recent contract transition and impending ISMS verification scheduled for FY 2006. WCH ISMS verification actions have been incorporated into this action plan. Finally, a recently completed RL core surveillance in November 2005 on Independent and Management Assessment identified the need for improved self-critical evaluation to improve the effectiveness of the FHI management assessment program to identify and resolve latent organizational weaknesses. Thus, RL found that adequate program documentation was in place to support feedback and improvement with three opportunities for improvement.

Summary of Results for F&I-2.1:

Assessments and Performance Indicators: Based upon the F&I assessment above, RL and FHI have established adequate assessment and performance indicator processes, with some indications of continuous improvement evident. Thus, this objective and its criteria have been met with exceptional practices for RL (MOP and IEP) and FHI oversight (QDAWG) planning.

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Summary of Results for F&I-2.2:

Operating Experience: Based upon the documented F&I assessment, RL and FHI have established operating experience processes for the requirements that are currently established. It is recognized that implementation of DOE O 210.x, when approved, will drive numerous changes to the operating experience process. Thus, this objective and its criteria have been met with actions to improve the process through implementation of DOE O. 210.x once it has been issued.

Summary of Results for F&I-2.3:

Event Reporting: Based upon the F&I assessment, RL and FHI have established adequate event reporting processes. ORPS is adequately implemented and has been supplemented by a CRD to provide additional RL requirements related to hazardous energy control and near miss events. Thus, this objective and its criteria have been met with no opportunities for improvement noted.

Summary of Results for F&I-2.4:

Issues Management: Based upon the F&I assessment and routine RL oversight, RL and FHI have established adequate issues management processes, with some minor opportunities for continuous improvement that have been documented and evaluated. Specifically, a recent RL self-assessment identified a need to strengthen RL processes to identify and respond to vulnerabilities and improvement opportunities. Thus, this objective and its criteria have been met with one opportunity for improvement.

Summary of Results for F&I-3:

RL Line Management Oversight: Based upon the F&I assessment, RL has established adequate line management oversight processes, with some minor opportunities for continuous improvement. The first opportunity for improvement is to establish mechanisms to effectively evaluate HQ and RL overlap and redundancy in oversight. The second opportunity is to clarify roles and responsibilities for QA oversight. This issue was identified during a recent EM assessment of the RL QA program. The final opportunity for improvement is to establish mechanisms to evaluate RL processes against others in the DOE complex or industry practices. The objective and its criteria have been partially met. One exceptional practice for routine documentation, communication, and trending of RL oversight using the Operational Awareness database, was identified.

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Summary of Results for F&I-Sup:

Supplemental Criteria: Evaluation of RL and FHI processes against the supplemental criteria found that processes are in general compliant with the criteria; however, there are opportunities to improve causal analysis and the resulting corrective actions to consistently identify latent organizational weaknesses and take corrective actions that foster a work environment of error identification and resolution. Numerous indications are available that indicate error suppression tendencies and pockets that do not indicate a receptive, learning environment. To foster these attributes and improve overall safety culture, RL, FHI, and WCH are pursuing a joint strategic plan to integrate Human Performance Improvement into site management systems. General training has commenced with a systematic plan currently in development.

Conclusion:
In general, feedback and improvement across RL and FHI facilities is being performed adequately to support overall continuous improvement. Numerous opportunities to improve exist, including significant management system changes driven by the implementation of DOE O. 226.1 and DOE O. 210x. The single largest area of improvement will be realized through the effective implementation of Human Performance Improvement across RL, FHI, and WCH.

Section I contain those actions important to improving the effectiveness of the RL feedback and improvement.

Section II contains those actions necessary to verify Washington Closure Hanford ISMS, including feedback and improvement.

Section III contains those actions important to improving the effectiveness of FHI feedback and improvement.

Section IV contains RL feedback and improvement "Good Practices" for sharing across the DOE.

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SECTION I – DOE-RL

Performance Objective F&I-1: Program Documentation

Opportunity for Improvement #1

DOE O. 226.1 was issued in September 2005 and requires implementation for RL contracts. RL has completed a record of decision, and actions are established to incorporate this order into the FHI and WCH contracts. A number of the criteria were not fully met within the feedback and improvement assessment since they were based upon DOE O. 226.1 that has not been fully implemented. RL has also included the action to revise the Feedback and Improvement CRAD to encompass the draft oversight manual CRAD for use in future RL core surveillances of this topic.

DOE Action	Deliverable	Due Date	Owner/Org
Incorporate CRD 226.1 into prime contracts.	Copy of the contract modification for both FHI and WCH.	June 30, 2006	Rob Hastings, RL
Incorporate DOE O. 226.1 into Richland Integrated Management System.	Copy of the changes to RIMS procedures that demonstrate DOE O. 226.1 implementation.	April 30, 2006	Charlie Kasch, RL
Incorporate draft Oversight Manual Feedback and Improvement CRAD into the RL Surveillance Guide.	Copy of the revised Feedback and Improvement Surveillance Guide.	March 15, 2006	Rob Hastings, RL

Responsible Manager: Assistant Manager for Safety and Engineering

Performance Objective F&I-2.1: Assessment and Performance Indicators

No opportunities for improvement noted at this time.

Performance Objective F&I-2.2: Operating Experience

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Opportunity for Improvement #1

RL has reviewed the draft DOE O 210.x and met with EH to provide initial comments to the draft directive. Once issued, RL will evaluate the directive per the established requirements management process and enhance the existing site process using the requirements of DOE O 210.x.

DOE Action	Deliverable	Due Date	Owner/Org
Perform Record of Decision against DOE O. 210.x.	Copy of the approved Record of Decision.	Four months following DOE 210.x approval.	Al Hawkins, RL
Incorporate DOE O. 210.x into prime contracts.	Copy of the contract modification.	Twelve months following DOE 210.x approval.	Al Hawkins, RL

Responsible Manager: Office of Organizational Effectiveness and Communication

Performance Objective F&I-2.3: Event Reporting

No opportunities for improvement noted at this time.

Performance Objective F&I-2.4: Issues Management

Opportunity for Improvement #1

A recent EM QA assessment identified opportunities for improvement in the RL self-assessment process.

DOE Action	Deliverable	Due Date	Owner/Org
Train RL supervisors/managers on the expectations and requirements for self-assessments.	Copy of the training materials and course completion rosters.	September 30, 2006	Al Hawkins, RL
Establish requirements for RL self-assessment refresher training.	Copy of the RIMS procedure change to capture the refresher requirements.	September 30, 2006	Al Hawkins, RL

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Responsible Manager: Office of Organizational Effectiveness and Communication

Performance Objective F&I-3: DOE-RL Line Management Oversight

Opportunity for Improvement #1

Although RL incorporates HQ oversight schedules into the annual Integrated Evaluation Plan, no mechanisms are in place to routinely interface to minimize overlap.

DOE Action	Deliverable	Due Date	Owner/Org
Establish RIMS processes to periodically evaluate HQ and RL overlap of oversight.	Copy of the revised RIMS procedure.	May 30, 2006	Rob Hastings, RL

Responsible Manager: Assistant Manager of Safety and Engineering

Opportunity for Improvement #2

A recent EM assessment of RL and contractor QA implementation identified a weakness in staff understanding of responsibilities for QA oversight. RL is currently developing a corrective action plan to strengthen QA oversight roles and responsibilities for RL staff.

DOE Action	Deliverable	Due Date	Owner/Org
Clarify responsibilities for QA oversight in RIMS and communicate to RL staff.	Copy of the revised RIMS procedure and communication to staff.	July 1, 2006	Charlie Kasch, RL

Responsible Manager: Assistant Manager of Safety and Engineering

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Opportunity for Improvement #3

Mechanisms are not currently in place to evaluate contractor assurance program descriptions across the DOE complex nor industry practices. During RL implementation of DOE O. 226.1, RIMS procedures will be revised to include consideration of DOE complex and industry practices.

DOE Action	Deliverable	Due Date	Owner/Org
Revise RIMS to include evaluation of contractor assurance programs against the DOE complex and industry practices.	Copy of the revised RIMS procedure and communication to staff.	May 30, 2006	Charlie Kasch, RL

Responsible Manager: Assistant Manager of Safety and Engineering

Performance Objective F&I-Sup: Supplemental Criteria

Opportunity for Improvement #1

Prior to this feedback and improvement assessment, FHI identified an opportunity to improve project performance through training and adoption of Human Performance Improvement principles. This effort will involve a change in culture expected to span multiple years, however, RL and FHI will develop a strategy in accordance with the Human Performance Leadership Framework developed at a 2000 INPO industry working meeting in May 2000. The eight initiatives included the following: strategic plan, organizational structure, expectations, communication plan, reward and reinforcement plan, work processes and jobsite conditions, training and education, information system/sharing/learning. The actions below establish the foundation for RL, FHI, and WCH continuous improvement in this area.

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DOE Action	Deliverable	Due Date	Owner/Org
Develop and approve a joint DOE-RL/FHI/WCH HPI strategic plan that addresses the eight initiatives of HPI leadership framework.	Copy of the Strategic Plan.	June 30, 2006	Doug Shoop, RL
Train RL Facility Representatives and supervisors on Human Performance Improvement principles and techniques.	Course completion evidence in training records.	September 1, 2006	Doug Shoop, RL

Responsible Manager: Assistant Manager of Safety and Engineering

SECTION II – Washington Closure Hanford (WCH)

Performance Objective F&I-1: Program Documentation

Opportunity for Improvement #1

WCH recently received the contract for RL River Corridor Closure workscope and is, therefore, in the process of developing an ISMS system description for all WCH workscope. Based upon this process, an opportunity for improvement has been identified to capture the need for ISMS verification of WCH in FY 2006.

DOE Action	Deliverable	Due Date	Owner/Org
Complete the WCH ISMS phase I verification.	Phase I ISMS verification report.	May 30, 2006	Doug Shoop, RL
Complete WCH ISMS Phase II verification.	Phase II ISMS verification report.	September 30, 2006	Doug Shoop, RL

Responsible Manager: Assistant Manager for Safety and Engineering

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Performance Objective F&I-2.1: Assessment and Performance Indicators
No opportunities for improvement noted at this time.

Performance Objective F&I-2.2: Operating Experience
No opportunities for improvement noted at this time.

Performance Objective F&I-2.3: Event Reporting
No opportunities for improvement noted at this time.

Performance Objective F&I-2.4: Issues Management
No opportunities for improvement noted at this time.

Performance Objective F&I-Sup: Supplemental Criteria
No opportunities for improvement noted at this time.

SECTION III – Fluor Hanford Inc. (FHI)

Performance Objective F&I-1: Program Documentation

Opportunity for Improvement #1

RL recently completed surveillances of FHI implementation of QA Management Assessment requirements identifying a need for increased self-critical evaluation to improve the effectiveness of the program and resolve latent organizational conditions. Over the last several years, FHI has implemented a number of actions to monitor management assessment quality and establish performance indicators. Some improvement has been observed, however, continued maturation and integration of Human Performance Improvement (HPI) techniques are warranted to achieve consistent, high quality error identification and resolution.

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FHI Action	Deliverable	Due Date	Owner/Org
Enhance management assessment process through the use of mentors, identification of oversight areas using the QDAWG, and HPI techniques for infield performance observations.	Products (QDAWG Reports, MA, MA Mentor Package, etc.) that demonstrate improved effectiveness of Management Assessment process.	June 30, 2006	Donna Busche, FHI

Responsible Manager: Vice President of Regulatory Compliance, FHI

Performance Objective F&I-2.1: Assessment and Performance Indicators

No opportunities for improvement noted at this time.

Performance Objective F&I-2.2: Operating Experience

No opportunities for improvement noted at this time.

Performance Objective F&I-2.3: Event Reporting

No opportunities for improvement noted at this time.

Performance Objective F&I-2.4: Issues Management

No opportunities for improvement noted at this time.

Performance Objective F&I-Sup: Supplemental Criteria

Opportunity for Improvement #1

Prior to this feedback and improvement assessment, FHI identified an opportunity to improve project performance through training and adoption of HPI principles. This effort will involve a change in culture expected to span multiple years, however, RL and FHI will develop a strategy in accordance with the Human Performance Leadership Framework developed at a 2000 INPO industry working meeting in May of 2000. The eight initiatives include the following; strategic plan, organizational structure, expectations,

communication plan, reward and reinforcement plan, work processes and job site conditions, training and education, information system/sharing/learning. The actions below establish the foundation for FHI continuous improvement in this area.

FHI Action	Deliverable	Due Date	Owner/Org
Train FHI line management and senior management on Human Performance Improvement principles and techniques.	Evidence of training completion	September 1, 2006	Tony Umek, FHI

Responsible Manager: Vice President of Safety and Health, FHI

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SECTION IV – DOE-RL F&I Good Practices

Good Practice(s)	Site Point of Contact
Good Practice #1: FHI has adopted a Quarterly Data Analysis Working Group (QDAWG) to evaluate performance data for trends and use of assessment, event reporting, or corrective action management tools to improve performance. This effort has allowed for early identification and resolution of precursor trend indications	Bob Barmettlor, FHI: (509) 373-9501
Good Practice #2: RL uses a Master Oversight Plan to quarterly identify project weaknesses or areas in need of oversight. This information is used to propose oversight areas which is then integrated between FRs, SMEs, SSOs, and project staff to maximize the utilization of RL oversight resources and the opportunity to influence project performance	Rob Hastings, RL: (509) 376-9824
Good Practice #3: RL uses a Core Surveillance process to evaluate multiple facilities simultaneously against a common surveillance guide/CRAD. The results of the oversight are evaluated for cross-cutting and programmatic issues that are then transmitted to the contractor for evaluation and action.	Rob Hastings, RL: (509) 376-9824
Good Practice #4: RL uses an access "Operational Awareness" database to provide real-time documentation and tracking of daily operational oversight results. This data is further utilized to communicate field information to RL senior management on a regular basis and directly supports trend analysis on a monthly and quarterly basis. Finally, this tool allows for prompt identification of issues to contractor staff so issues can be addressed at the lowest level necessary. The tool also provides data that is integrated with RL formal oversight documented in the form of surveillances and assessments.	Rob Hastings, RL: (509) 376-9824

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Carlsbad Field Office

WIPP Site Action Plan

Commitment 25, Feedback & Improvement

DNFSB Recommendation 2004-1

Approved by: David C. Moody

David C. Moody, Manager, Carlsbad Field Office

Note: Change Control for this Site Action Plan (SAP) resides with the Field Office Manager.

EXECUTIVE SUMMARY

Evaluation Process

This assessment was conducted as part of the Carlsbad Field Office (CBFO) response to Commitment #25 of the Department of Energy's Implementation Plan for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, *Oversight of Complex, High-Hazard Nuclear Operations*. This assessment conducted in accordance with instructions provided in the November 17, 2005 DOE Headquarters memorandum from the Chief Operating Officer for Environmental Management and the November 9, 2005 memorandum from the Assistant Secretary for Environmental Management. Specific direction was provided to perform a review of the DOE field office and management and operating contractor in the area of "feedback and improvement". The assessment team utilized existing assessment data, and conducted a focused assessment of specific components as required to fully evaluate the feedback and improvement processes used at the Waste Isolation Pilot Plant (WIPP).

The assessment is the product of a team effort with participation by personnel from the CBFO, the CBFO Technical Assistance Contractor (CTAC), and the Management and Operating (M&O) Contractor, Washington TRU Solutions. The assessment team included 1) the Director of the CBFO Office of Disposal with 20 years geotechnical and environmental management experience, NQA-1 lead auditor training, and completed technical qualifications; 2) the CBFO Safety Officer with 25 years industrial and nuclear safety experience, bachelor's of science with a chemistry major mathematics minor, and completed technical qualifications as safety officer, and nuclear safety specialist. 3) a CTAC senior professional engineer with NQA-1 lead auditor training, 30 years experience in industrial operations management and in safety, and environmental compliance; and 4) an M&O contractor quality assurance auditor with ASQ lead auditor certification and NQA-1 lead auditor training.

Overall Evaluation Summary

The results of this assessment determined that WIPP meets all objectives of the prescribed feedback and improvement (F&I) Criteria Review and Approach Document (CRAD). F&I objective 1 was met with one opportunity for improvement. The objectives F&I-2, and F&I-3 were met with no new opportunities for improvement, but noted corrective actions in progress from previous findings. CBFO also noted several areas of particular strength as feedback and improvement

have been fully integrated into WIPP processes. This is key to meeting expectations related to consistently changing initiatives that are foundational to WIPP's core work scopes.

Feedback and Improvement CRAD

Objective #	Objective Met	Objective Partially Met	Objective Not Met	Comments
F&I 1	X			No OFI's noted, 1 previous, 1 strength
F&I 2.1	X			No OFI's
F&I 2.2	X			No OFI's, 1 strength
F&I 2.3	X			No OFI's, 1 previous
F&I 2.4	X			No OFI's, 1 strength
F&I 3	X			No OFI's, 3 previous

The WIPP site has adequately established, maintained, and effectively implemented processes to ensure effective feedback and improvement. From systems for identifying deficiencies and reporting such as the Issues Management Program, to conducting formal and informal assessments and reviews, to operator input in programs such as close call and post-job reviews, the processes are extensive and effective for initial reporting. Qualitative and quantitative information is tracked, trended, and analyzed to ensure continued and improved reliability in process implementation. The WIPP lessons learned program has been benchmarked by several organizations and noted as a best practice in a recent DOE EH VPP review. Programs and processes have proven effective in identifying, investigating, reporting, and responding to operational events and incidents, including not only occupational injuries and illnesses, but even first-aid and near-miss cases.

Objective 1

Contractor line management has established a comprehensive and integrated operational assurance system which encompasses all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.

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Opportunity for Improvement

During review of the contractor assurance system, it was identified that some of the newer directives related to various assessment requirements were in the process, but had not been fully implemented into the Department of Energy's (DOE's) contract with Washington TRU Solutions, LLC (WTS), the Waste Isolation Pilot Plant (WIPP) management and operating contractor (MOC) (Contract No. DE-AC29-01AL66444). Though many components of the referenced directives have been implemented (such as an effective issues management program), the actual requirements to do so have not been incorporated into the WTS contract. Specific actions related to this objective are provided in the following table.

Action Description	Deliverable(s)	Due Date	Owner
Implement new DOE oversight and assurance directives into WIPP procedures and processes.	1. Revise DOE/CBFO 94-1012, *CBFO Quality Assurance Program Document* (QAPD) in accordance with DOE O 414.1C, *Quality Assurance*.	7/31/06	CBFO Quality Assurance Manager
	2. Incorporate applicable requirements of DOE O 226.1, *Implementation of Department of Energy Oversight Policy*, into the CBFO QAPD, DOE/WIPP 98-2287, *CBFO Functions, Responsibilities, and Authorities Manual* (FRAM), and DOE/CBFO 04-3299, *CBFO Contractor Oversight Plan*.	8/31/06	CBFO Manager
	3. Incorporate applicable requirements of DOE O 414.1C into DOE's contract with WTS.	Completed 1/31/06	CBFO Contracts Manager
	4. Incorporate DOE O 226.1 into DOE's contract with WTS.	Completed 1/31/06	CBFO Contracts Manager
	5. Contractor implements DOE O 414.1C at WIPP pursuant to contract	9/30/06	WTS Quality Assurance Manager

Action Description	Deliverable(s)	Due Date	Owner
	requirements.		
Implement new DOE oversight and assurance directives into WIPP procedures and processes.	6. Contractor implements DOE O 226.1 at WIPP pursuant to contract requirements.	9/30/06	WTS Quality Assurance Manager
	7. In accordance with the CBFO *Contractor Oversight* and *Integrated Evaluation* Plans, assess and verify effective implementation.	On-Going FY 2006	CBFO Assistant Manager of Operations

Strength:

WTS has an Issues Management Program that has been in place less than two years, but has already provided significant improvement in allowing a forum for identifying, reporting, and addressing deficiencies and opportunities for improvement receiving immediate management attention and support and using a committee approach for long-term effective resolution. This best practice was recently identified during the DOE EH VPP review as a major strength, and has been benchmarked by other DOE facilities.

Objective 2.1

Contractor line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance, and this information is effectively used as the basis for informed management decisions to improve performance.

Opportunity for Improvement

No opportunities for improvement were identified related to this objective. WTS, the WIPP MOC, has adequately established, maintained, and effectively implemented a process for planning, scheduling, and performing assessments;

and trending and tracking other qualitative and quantitative information to identify items, services, activities, and processes needing improvement.

Objective 2.2

The contractor has developed and implemented an Operating Experience Program that communicates effective practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.

Opportunity for Improvement

No opportunities for improvement were identified related to this objective. The WIPP Lessons Learned program, which involves both Carlsbad Field Office (CBFO) and WTS staff activities/responsibilities, received comments from DOE EH during recent Voluntary Protection Program (VPP) recertification as a DOE complex best practice.

Objective 2.3

Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents, and occupational injuries and illnesses.

Opportunity for Improvement

No opportunities for improvement were identified related to this objective. However, previous existing corrective actions related to a Price-Anderson Amendment and Authorization Act (PAAA) noncompliance, NTS-ALO-CAO-WIPP-2005-0002, have not yet been closed. Specific actions related to this objective are provided in the following table.

Existing Corrective Actions Identified at WIPP

Criterion	Source of Corrective Action / Identification Number	Corrective Action	Due Date	Action Owner/ Organization
2 of Objective F&I-2.3	WTS Commitment Tracking System (CTS) No. 27583	Revise Mobile Visual Examination and Repackaging System (MOVER) Health and Safety Plan, MOVER Startup and Shutdown procedures, or appropriate WIPP Central Characterization Program (CCP) documents to incorporate recommendations and improvements identified in the Price-Anderson noncompliance report.	09/30/06	WTS CCP Manager

Objective 2.4

A formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions, have been developed and implemented.

Opportunity for Improvement

No opportunities for improvement were identified related to this objective, and no outstanding related corrective actions were identified. The WTS Issues Management Program has been benchmarked in FY2005 as a best practice by the M&O Contractor and DOE Management of the Yucca Mountain Project.

Objective 3

DOE line management have established and implemented effective oversight processes that evaluate the adequacy and effectiveness of contractor assurance systems and DOE oversight processes.

Opportunity for Improvement

No opportunities for improvement were identified related to this objective. However, the following previous corrective actions from the *CBFO Annual Review of the WIPP Integrated Safety Management System*, November 2005, are considered related to this objective and are included in this action plan. The actions are provided in the following table.

Existing Corrective Actions Identified at WIPP

Criterion	Source of Corrective Action/Identification Number	Corrective Action	Due Date	Action Owner/ Organization
8 of Objective F&I-3	CBFO ISMS Annual Review, Deficiency-D2 and CAR 06-015	Complete the Technical Position Risk Surveys referenced in the FRAM for regulatory and environmental compliance, business, and characterization and transportation positions.	CAR Response 1-31-06 Complete Resulting Corrective Action Due Date TBD	CBFO Authorization Basis Senior Technical Advisor (ABSTA)
8 of Objective F&I-3	CBFO ISMS Annual Review Area for Improvement-AI2	Revise CBFO FRAM	8/31/06	CBFO CBFO Authorization Basis Senior Technical Advisor (ABSTA)
11 of Objective F&I-3	CBFO ISMS Annual Review Area for Improvement AI4	CBFO should update the Employee Concerns Program document, and provide more awareness information to the employees about the process.	3/15/06	CBFO Director, Office of Disposal

SEPARATION

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United States Government **Department of Energy**

Oak Ridge Office

memorandum

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DEFENSE NUCLEAR FACILITY SAFETY BOARD

DATE: February 6, 2006

REPLY TO
ATTN OF: EM-94:Kadas

SUBJECT: **ASSESSMENT AND ACTION PLANS FOR DEFENSE NUCLEAR FACILITY SAFETY BOARD RECOMMENDATION 2004-1, COMMITMENTS 23 AND 25**

TO: Dae Y. Chung, Director, Office of Licensing, EM-24, CLVRLF

Please find attached the Oak Ridge Office (ORO) Environmental Management (EM) final action plans prepared in response to the memoranda dated November 17 and 18, 2005, from Dr. Inés Triay on Commitment 23, Work Planning and Work Control (WP&C); and Commitment 25, Feedback and Improvement (F&I), as identified in the Implementation Plan for the Defense Nuclear Facility Safety Board (DNFSB) Recommendation 2004-1. The attached action plans incorporate comments received from EM-3 on January 26, 2006, and during the 2004-1 WP&C Commitment 23 and F&I Commitment 25 Televideo Conference on January 31, 2006. Also, attached is a compact disk containing the electronic version of the action plans.

If you have any questions, please contact me at (865) 576-0742, Cissy Perkins at (865) 576-2552, or Karen Kadas at (865) 241-2224.

Stephen H. McCracken
Assistant Manager for
Environmental Management

Attachments

cc w/attachments:
T. Evans, EM-3.2, CLVRLF
T. Krietz, EM-3.2, CLVRLF
K. Kadas, EM-94, ORO
H. Monroe, SE-30, ORO

Oak Ridge Office – Environmental Management

Site Action Plan

Commitment 25, Feedback and Improvement

DNSFB Recommendation 2004-1

NOTE: Change Control for this Site Action Plan resides with the Assistant Manager for Environmental Management (or designee), with a cc: to EM-3.2.

Executive Summary

Evaluation Process

The November 2005 memorandum from U.S. Department of Energy (DOE) Under Secretary David K. Garman provided criteria review and approach documents (CRADs) to be used to assess the status of field office completion of Commitment 25, "Feedback and Improvement," as discussed in the Implementation Plan responding to Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1. The purpose of this report is to summarize the results of the U.S. Department of Energy (DOE) Oak Ridge Office (ORO) Environmental Management (EM) program evaluation of Commitment 25 and to describe the corrective actions, as necessary, resulting from reviews of these CRADs.

A principle function of an Integrated Safety Management System (ISMS) directly correlates to Commitment 25: to provide feedback and continuous improvement. DOE ORO has in place ORO M100, Oak Ridge Management System Description (MSD) which incorporates the principles of ISMS. Further, the DOE ORO Office of Environmental Management has a Management System Description document which provides a comprehensive high-level description of the roles and responsibilities within the EM organization to manage its work and to manage the contracts under its responsibility. Also incorporating the foundations of ISM, the description of each management system in the EM MSD includes an identification of the requirements associated with that system as well as reference to the processes used by the EM to fulfill those requirements. The EM MSD is consistent with OR0 M 100, and it provides the foundation upon which the organization can foster a culture of continuous improvement and effectively integrate the OR0 safety philosophy into all aspects of work.

In 2005, each DOE ORO organization conducted a self-assessment of continued compliance with ISMS. Specifically, this self assessment included a review of the following scope elements:

(1) Work scope, organizational structure, and roles and responsibilities are defined and workers understand their specific job functions.
(2) For assigned work scope and duties, workers are aware of the specific safety concerns that apply to them (vehicles, plant access, emergencies, etc.)
(3) For assigned work scope and duties, workers are fully aware of the procedures that they must follow with respect to safety and general requirements of their job.
(4) Oversight processes which ensure that work is implemented in compliance with defined management controls are implemented.

(5) A system is in place and is functioning for providing consistent feedback relating to safety goals and management expectations, for improving performance, and from providing Lessons Learned.
(6) DOE line management provides effective and formal oversight of their contractor ISMS program to ensure that hazards are analyzed, controls are developed and that feedback and improvement programs are in place and effective.

In September 2005, an independent assessment was conducted of the DOE ORO ISMS program as a whole. This independent assessment was an implementation review of the DOE ORO ISMS using Phase II CRADs derived from DOE Handbook 3027-99, ISMS Verification Team Leader's Handbook, and the DOE Implementation Plan in response to Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1. The results of the previous self assessments and the following objectives were specifically reviewed:

- DOEs procedures and mechanisms should ensure that work is formally and appropriately authorized and performed safely. DOE line managers should be involved in the review of safety issues and concerns and should have an active role in authorizing and approving work and operations.
- DOE procedures and mechanisms ensure that the hazards are analyzed, controls are developed, and feedback and improvement programs are in place and effective. DOE line managers are using these processes effectively, consistent with ORO FRAM requirements.
- High-reliability principles to establish effective ISM implementation are in place.

Both the self-assessments, as well as the independent assessment, determined that ORO, including EM, continued to effectively implement ISM. The independent assessment stated, in part:

"ORO's ISMS implementation has significantly improved since . . . 2003."
"ORO's self-assessments and contractor reviews accurately depict the state of their respective ISM programs."

Additionally, in October and November 2005, DOE ORO EM conducted Operational Readiness Reviews (ORRs) on projects to be completed by each of two prime contractors: Bechtel Jacobs Company, LLC (BJC) and Foster Wheeler Environmental Corporation (FWENC). These ORRs included independent reviews of DOE ORO EM oversight activities. Management Self Assessments were conducted prior to the initiation of the DOE ORRs. Also, a DNFSB visit occurred in November 2005 which resulted in opportunities for improvement.

During the course of these recent reviews, the feedback and improvement processes utilized by DOE ORO EM and its contractors were thoroughly assessed. As such, in completing the evaluation of the CRADs for Commitment 25, these recent reviews were referenced to demonstrate compliance with each criterion. Corrective actions for issues related to feedback and improvement resulting from the recent reviews have been included.

A Type B investigation is currently underway to evaluate the causes of a recent event. Corrective actions resulting from this investigation will be added to this Site Action Plan, once they have been identified.

Overall Evaluation Summary

The results of this evaluation determined that DOE-ORO-EM meets the objectives for CRAD-3 with opportunities for improvement noted. BJC and FWENC were found to meet the objectives of CRAD-1 and CRAD-2 opportunities for improvement noted. The following table provides the results of this evaluation.

CRAD #	Objective Met	Objective Partially Met	Objective Not Met	Comments
1	X			2 OFIs noted (1 BJC, 1 FWENC)
2	X			1 OFI noted (1 BJC)
3 (DOE)	X			2 OFIs noted (2 DOE)

This evaluation determined that DOE ORO EM, BJC, and FWENC have programs in place to meet the F&I CRADS when applied to various work being performed at ORO EM projects, and its oversight. The opportunities for improvement noted by this evaluation were generally not the result of a need to align current programs polices or practice to that of the expectations of improved incorporation of integrated safety management and quality assurance into work planning and control processes, but the reasonable maintenance and continual improvement of these items.

Section I-III contains those actions important to improving the effectiveness of ORO EM feedback and improvement. These sections include corrective actions taken and/or planned in response to recent ORRs and ISMS reverification as well as those resulting from reviews of these CRADs

SECTION I – DOE Oversight

Performance Objective F&I-3: DOE Line Management Oversight - DOE line management have established and implemented effective oversight processes that evaluate the adequacy and effectiveness of contractor assurance systems and DOE oversight processes.

Opportunity for Improvement #1
The DOE ORO ISMS Self Assessment found inconsistent use of the issues tracking system, ORION2, is not supportive of efficient reporting and analysis of assessment results, performance measurement, or timely and effective closure of deficiencies and corrective actions.

DOE Action	Deliverable	Due Date	Owner/Org
EM is participating in the AMESH-led Assessment Improvement Initiative which includes improvements to ORION2 and revision of ORO O 220, Assessments.	Updated ORION system	3/31/2006	Nuclear & Operational Safety Performance Team Lead (Led by the Assistant Manager for Environment Safety and Health
Train EM technical staff on the use of the updated ORION system.	EM technical staff training	4/30/2006	Nuclear & Operational Safety Performance Team Lead

Responsible Manager: DOE ORO EM Technical Support and Assessment Division Manager

Opportunity for Improvement #2
The DOE ORO EM ISMS Self Assessment identified a weakness in the flowdown of roles and responsibilities and training requirements.

DOE Action	Deliverable	Due Date	Owner/Org
The AMEM issued a Training Policy requiring technical staff to acquire the appropriate site access training.	ORO EM Site Access Training Policy	9/20/2005 Complete	AMEM
EM Position Descriptions will be reviewed and updated to incorporate MSD and M110 roles and responsibilities.	Updated Position Descriptions	6/30/2006	EM Chief Operating Officer

Responsible Manager: DOE ORO EM Chief Operating Officer

SECTION II – Bechtel Jacobs Company, LLC (BJC)

Performance Objective F&I-1: Contractor Program Documentation - Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.

Opportunity for Improvement #1
The K-25/K-27 Operational Readiness Review found that the BJC Quality Assurance Program Plan has not been adequately revised to meet DOE requirements.

BJC Action	Deliverable	Due Date	Owner/Org
BJC has submitted a revised QA plan for DOE review.	Revised QA plan	11/30/2005 Complete	QA Program Manager

Responsible Manager: BJC Quality Assurance Program Manager

Performance Objective F&I-2: Contractor Program Implementation –

2.1 Assessments & Performance Indicators - Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.

2.2 Operating Experience - The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.

2.3 Event Reporting - Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.

2.4 Issues Management - The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.

Opportunity for Improvement #1
The DOE ORR for K-25/K-27 found that corrective action plans were not developed for some post-start findings noted during the contractor Operational Readiness Review (ORR).

BJC Action	Deliverable	Due Date	Owner/Org
1. Prior to completion of the ORR, BJC supplied closure evidence for this issue. The evidence was reviewed and determined to be adequate.	1. Closure evidence	10/31/2005 Complete	Project QA Manager
2. BJC will develop a management tool to make the Manager of Projects and functional managers accountable for their management assessments and encourage them to be proactive in self-identification of issues. Management assessment schedules are to be discussed at the BJC President's staff meeting where the MOPs and functional managers will report on management assessments scheduled, results, and effectiveness of corrective actions on a quarterly basis.	2. Management tool and meeting minutes from President's staff meeting.	4/30/06	BJC Quality Assurance Manager

Responsible Manager: BJC Quality Assurance Manager

SECTION III – Foster Wheeler Environmental Corporation (FWENC)

Performance Objective F&I-1: Contractor Program Documentation - Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.

Opportunity for Improvement #1
The FWENC Contractor ORR found a number of deficiencies with the Corrective Action Management Program such as corrective action reports that were not complete and lack of trend analysis.

FWENC Action	Deliverable	Due Date	Owner/Org
Revise the CAMP procedures to clarify unclear requirements. Train to revised procedures.	Revised procedures.	1/31/2006 Complete	ES&H Manager
Perform trending and issue report.	Trend report	12/31/2005 Complete	ES&H Manager

Responsible Manager: ES& Manager

Performance Objective F&I-2: Contractor Program Implementation –

2.1 Assessments & Performance Indicators - Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.

2.2 Operating Experience - The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.

2.3 Event Reporting - Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.

2.4 Issues Management - The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.

No opportunities for improvement noted at this time.

SEPARATION

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Idaho Operations Office and

Idaho National Laboratory Site

Site Action Plan

Commitment 23, Work Planning and Control
Commitment 25, Feedback and Improvement
DNSFB Recommendation 2004-1

ED Sellers

Approved, E. D. Sellers, Manager

Executive Summary

Evaluation Process

Three of the Performance Objectives (PO), consisting of nineteen individual review criterion, associated with Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, Oversight of Complex, High-Hazard Nuclear Operations, Commitment 23 and Commitment 25, pertain specifically to Department of Energy Idaho Operations Office (DOE-ID) performance. A team consisting of fifteen DOE-ID employees performed a self-assessment of those Performance Objectives using review criteria provided in memoranda issued by Under Secretary Garman.

Overall Evaluation Summary

The DOE-ID self-assessment team concluded that Work Planning and Control (WPC) PO-1 Criterion 3, WPC PO-1 Criterion 4, Feedback and Improvement (F&I) PO-3 Criterion 1, F&I PO-3 Criterion 6, F&I PO-3 Criterion 8, F&I PO-3 Criterion 9, F&I PO-3 Criterion 10, and F&I PO-3 Criterion 11 were Fully Met; WPC PO-1 Criterion 1, WPC PO-1 Criterion 3.a, WPC PO-2 Criterion 1, WPC PO-2 Criterion 2, WPC PO-2 Criterion 3, F&I PO-3 Criterion 2, F&I PO-3 Criterion 3, F&I PO-3 Criterion 4, F&I PO-3 Criterion 5, and F&I PO-3 Criterion 7 were Partially Met, and WPC PO-1 Criterion 2 was Not Met.

For each instance when full compliance with a review criterion was not obtained, the DOE-ID self-assessment team provided a recommendation that could be used for developing a corrective action plan. The DOE-ID self-assessment team also concluded that, in most instances, a process for obtaining full compliance with the review criteria exists within DOE-ID and is available for implementation.

There were 17 recommendations (opportunities for improvement) identified. These recommendations were presented to Idaho Issues Review Board (IIRB) on January 18, 2006, for evaluation. All recommendations were accepted by the IIRB and were assigned responsible and issue managers to prepare action plans.

SECTION I – DOE-ID Oversight

Performance Objective WPC-1: DOE-ID Work Planning and Control Oversight

Opportunity for Improvement #1
DOE-ID should provide guidance on the continued maintenance and use of the previous ESH&QA Oversight Plan. (ICATS 064-01-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Identify those oversight elements for FR's previously addressed in the AM Manuals, Chapter 4, and revise WI-133 to implement in the Oversight Plan.	An issued revision to WI-133 that incorporates the oversight elements from the previous AM Manuals.	03/15/2006	R.D.E. Newbry, FR Team Leader (SOSO)

Responsible Manager: R.M. Stallman, Senior Operations and Safety Officer (SOSO)

Opportunity for Improvement #2
DOE-ID should revise OD-101, Functions, Responsibilities, and Authorities, to reflect the current reporting chain for DOE-ID NE FRs. (ICATS 064-14-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Revise DOE-ID IDMS OD-101, Functions, Responsibilities, and Authorities, to reflect the reporting chain for DOE-ID NE FRs as identified in the DOE-ID organizational chart dated January 2006.	An issued revision to DOE-ID IDMS OD-101, Functions, Responsibilities, and Authorities, reflecting the reporting chain for DOE-ID NE FRs as identified in the DOE-ID organizational chart dated January 2006.	05/01/2006	M.D. Hicks, Quality and Safety Dividion

Responsible Manager: G.L. Beausoleil, Quality and Safety Division

Opportunity for Improvement #3
DOE-ID should evaluate how work planning and control oversight will continue to be selected based upon the degree of risk, hazards, and complexity of work activity. (ICATS 064-02-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Evaluate whether work planning and control oversight will continue to be selected and performed based upon risk determination, or if all stages as specified in the criterion need to be performed, regardless of risk. Based on results of the evaluation, provide additional guidance for work planning and control oversight activities in work instructions.	Issue new or revise current work instructions to provide additional guidance for work planning and control oversight activities.	03/15/2006	R.D.E. Newbry, FR Team Leader (SOSO)

Responsible Manager: R.M. Stallman, Senior Operations and Safety Officer (SOSO)

Opportunity for Improvement #4
The DOE-ID Technical Qualification Program should be modified to ensure that candidates who are expected to provide oversight of the contractor work control processes are knowledgeable of those processes.
(ICATS 064-03-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
(1) Identify DOE-ID positions that require demonstrated knowledge of the contractor work control processes. (2) Determine level of knowledge required for each position. (3) Cross-walk identified positions to TQP functional areas to determine which TQP standards must be modified. (4) Modify standard to include criterion for candidate to demonstrate either a working or familiarity level of knowledge of the contractor work control processes.	Signed facility specific qualification standards with work control criterion incorporated.	03/31/2006	C.S. Henning, Human Resource Team

Responsible Manager: D.W. Desautel, Human Resources Team

Performance Objective WPC-2: DOE Work Planning and Control Oversight

Opportunity for Improvement #1
DOE-ID should develop a formal process for tracking and trending the results of oversight of the contractor's work planning and control process.
(ICATS 064-05-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Implement Pegasus that has tracking and trending features.	Pegasus in place and operating.	04/01/2006	R.D.E. Newbry, FR Team Leader (SOSO)

Responsible Manager: R.M. Stallman, Senior Operations and Safety Officer (SOSO)

Opportunity for Improvement #2
DOE-ID should consider maintaining Performance Metrics summaries on the O-drive as a read-only copy to allow easier review by personnel involved in oversight.
(ICATS 064-06-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
(1) Create a link for the Operational Performance Metrics Reports on the internal DOE-ID web page.	Ability to access from the web page.	1/31/06 Complete	K. Brown/ITST
(2) Ensure the DOE-ID IDMS documentation contains appropriate instruction(s) for Performance Oversight Lead (POL) to transmit monthly performance data to the DOE-ID Web master for posting on the DOE-ID internal web page.	The DOE-ID IDMS document is issued and contains instruction(s) for the POL to transmit performance data to the DOE-ID web master.	3/31/06	P. Contreras/QSD

Responsible Manager: W. D. Jensen, Information Technology Services Team (ITST)

Performance Objective F&I-3: DOE-ID Line Management Oversight

Opportunity for Improvement #1
DOE-ID NE should document the process for transmitting oversight information to the contractor.
(ICATS 064-16-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Revise Work Instructions 122 (Conduct of Operational Oversight Activities) and 123 (Monthly Review of EM/ICP Oversight Results) to include the NE side for transmitting oversight information to the contractor.	Revised Work Instructions 122 and 123 are in place that includes the NE side for transmitting oversight information to the contractor.	03/01/2006	R.D.E. Newbry, FR Team Leader (SOSO)

Responsible Manager: R.M. Stallman, Senior Operations and Safety Officer (SOSO)

Opportunity for Improvement #2
DOE-ID should develop a procedure/instruction for determining what DOE identified issues are of sufficient magnitude to merit transmittal to senior contractor management by the CO.
(ICATS 064-07-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Develop and implement a process/procedure that applies severity weighting to findings and concerns that merit formal transmittal to senior contractor management.	A procedure is in place that applies severity weighting to findings and concerns that merit formal transmittal to senior contractor.	04/01/2006	R.D.E. Newbry, FR Team Leader (SOSO)

Responsible Manager: R.M. Stallman, Senior Operations and Safety Officer (SOSO)

Opportunity for Improvement #3
DOE-ID should develop a process and implement a procedure for verification and validation of corrective actions for contractor (ORPs and NTS issues) and DOE-ID identified issues that applies to both NE and EM.
(ICATS 064-08-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Develop a process, and implement a procedure for verification and validation of corrective actions for contractor (ORPs and NTS issues) and DOE-ID identified issues that applies to both NE and EM.	Procedure issued that requires verification and validation of corrective actions for contractor (ORPs and NTS issues) and DOE-ID identified issues that applies to both NE and EM.	04/01/2006	R.D.E. Newbry, FR Team Leader (SOSO)

Responsible Manager: R.M. Stallman, Senior Operations and Safety Officer (SOSO)

Opportunity for Improvement #4
DOE-ID NE should provide guidance on corrective action associated activities (documentation, reporting, and closure).
(ICATS 064-17-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Implement guidance on corrective action associated activities (documentation, reporting, and closure).	Procedure issued that provides guidance on corrective action associated activities (documentation, reporting, and closure).	04/01/2006	R.D.E. Newbry, FR Team Leader (SOSO)

Responsible Manager: R.M. Stallman, Senior Operations and Safety Officer (SOSO)

Opportunity for Improvement #5
DOE-ID should fully implement WI-108, ID Lessons Learned.
(ICATS 064-10-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
(1) QSD Management has identified a Lessons Learned Coordinator.	Formal appointment of lessons learned coordination duties by memorandum from the QSD Division Director.	02/10/2006 Complete	G.L. Beausoleil, Quality and Safety Division
(2) The Lessons Learned Coordinator will include lessons learned, and external events of relevance to ID into the existing Daily Summary and Weekly Summary.	Copies of Daily Summary and Weekly documentation including lessons learned and external events of relevance.	02/17/2006	H.M. Worrell, Quality and Safety Division
(3) Solicit feedback on relevance and distribution of the summaries.	Feedback from ID organizations concerning the effectiveness of the Daily Summary and Weekly for the dissemination of lessons learned information.	04/07/2006	H.M. Worrell, Quality and Safety Division

Responsible Manager: G.L. Beausoleil, Quality and Safety Division

Opportunity for Improvement #6
The DOE-ID NE organization should develop a process to determine the effectiveness of site programs, management systems, and CAS.
(ICATS 064-18-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Revise procedure WI-121, *Management of ID Environmental Management Quarterly Oversight Review Meetings*, to include the NE organization.	Revised procedure issued.	03/01/2006	R.D.E. Newbry, FR Team Leader (SOSO)

Responsible Manager: R.M. Stallman, Senior Operations and Safety Officer (SOSO)

Opportunity for Improvement #7
DOE-ID EM should complete the implementation of the scorecard process for BBWI.
(ICATS 064-12-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Complete the implementation of the monthly operational performance report (scorecard) process for BBWI.	Issuance of BBWI scorecard	4/30/06	G. A. Girard

Responsible Manager: E. J. Ziemianski, Waste Disposition Project

Opportunity for Improvement #8
DOE-ID NE should complete the implementation of the scorecard process for BEA.
(ICATS 064-13-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Implement a monthly operational performance report (scorecard) process for BEA.	Issuance of BEA scorecard	04/01/2006	R.F. Wilbur, LO

Responsible Manager: R.F. Wilbur, Laboratory Operations

Opportunity for Improvement #9
DOE-ID should ensure that the DOE-ID employee concern web links are re-established and that employees are aware of the web link locations.
(ICATS 064-11-00)

DOE-ID Action	Deliverable	Due Date	Owner/Org
Repair web links for Employee Concerns Program on the DOE-ID HR homepage.	Upon entry into the ECP web Link all of the links will be active	01/19/2006 Complete	J.E. Ogilvie, Human Resources Team

Responsible Manager: D.W. Desautel, Human Resources Team

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Idaho National Laboratory
Action Plan

Commitment 25, Feedback and Improvement
DNSFB Recommendation 2004-1

Executive Summary

Evaluation Process

On December 2, 2005, DOE Idaho Operations Office (DOE-ID) directed Battelle Energy Alliance, LLC (BEA) to perform a self-assessment of feedback and improvement to meet Commitment 25 of the DOE Implementation Plan for Defense Nuclear Facilities Safety Board Recommendation 2004-1. The assessment was performed by a team of BEA managers and subject matter experts, using a Criteria Review and Approach Document (CRAD) supplied by DOE-ID, to determine the adequacy and effectiveness of feedback and improvement at the Idaho National Laboratory (INL).

The assessment was performed by completing three activities:

- Comparing INL program and process documentation to the criteria listed in the CRADs,
- Evaluating program and process implementation by reviewing the results of internal and external assessments performed since February 1, 2005 (the date of formation of the INL and initiation of the BEA contract), and
- Evaluating performance by reviewing previous assessment reports and performance measurement and analysis reports.

To the extent possible, the assessment included a comparison of the criteria used in the previous assessments to the criteria listed in the DOE CRADs. In some cases, the discussion and results of the assessments were used as evidence that criteria were addressed even if the criteria were not formally specified. Some additional review was performed in cases where specific DOE criteria did not appear to have been addressed.

Overall Evaluation Summary

The assessment concluded that the criteria of the performance objectives in the DOE Feedback and Improvement CRAD were adequately addressed by the INL programs and processes. The internal and external assessments reviewed during the evaluation concluded that the program and processes were effectively implemented for four of the performance objectives but implementation improvements were needed for two objectives. The evaluation ratings were the following:

February 6, 2006
INL Action Plan
F&I Commitment 25 – DNFSB Recommendation 2004-1

Feedback and Improvement		
Performance Objective		Evaluation
F&I-1	Contractor Program Documentation	Fully Met
F&I-2.1(a)	Assessment	Partially Met
F&I-2.1(b)	Performance Indicators	Fully Met
F&I-2.2	Operating Experience	Fully Met
F&I-2.3	Event Reporting	Fully Met
F&I-2.4	Issues Management	Partially Met

The assessment identified six opportunities for improvement (OFIs). Four of the OFIs involved corrective actions for findings identified by the DOE Office of Independent Oversight and Performance Assurance (DOE-OA) assessment performed during FY 2005. One involved corrective actions for a reported noncompliance of Price-Anderson Amendment Act (PAAA) requirements.

The assessment format provided by DOE-ID included an identification of noteworthy practices for each objective. These noteworthy practices were described as those processes and procedures which are worthy of sharing with other sites looking to improve existing processes. Such practices were not identified in the results for two reasons:

- Many of the current INL processes are being consolidated and transformed to more effectively address the needs of the new laboratory, and

- Identifying noteworthy practices requires knowledge of the activities and practices of other sites which INL does not fully possess.

However, INL is willing to share any current or future processes and procedures which may benefit other sites in improving performance.

February 6, 2006
INL Action Plan
F&I Commitment 25 – DNFSB Recommendation 2004-1

Performance Objective F&I-1: Contractor Program Documentation

Opportunity for Improvement
The INL contractor assurance system documentation needs to be revised to address new DOE Order 226.1 requirements.

Action	Deliverable	Due Date	Owner / Organization
Revise INL contractor assurance system documentation to address DOE Order 226.1 requirements and submit to DOE-ID for approval	Revised documents and INL submittal letter	6/30/2006	D. K. Jensen / Performance Assurance

Performance Objective F&I-2: Contractor Program Implementation

Opportunity for Improvement #1
BEA has not implemented a fully effective program of ATR assessment activities with sufficient scope and rigor tailored to ongoing activities, conditions, and past performance to ensure that ES&H performance is consistently and accurately evaluated. (DOE-OA Assessment, June 2005)

Action	Deliverable	Due Date	Owner / Organization
Complete 11 actions in CATS INEEL-08/19/2005-0005-1	Closure documentation identified in CATS	10/06/2006	K. W. Baldwin / Nuclear Operations Quality Assurance

Opportunity for Improvement #2
The INL assessment program has not been effectively implemented. (INL Internal Assessment)

Action	Deliverable	Due Date	Owner / Organization
Complete 13 actions in NTS-ID-BEA-INLPROGM-2005-0001	Closure documentation identified in NTS	8/31/2007	D. K. Jensen / Performance Assurance

February 6, 2006
INL Action Plan
F&I Commitment 25 – DNFSB Recommendation 2004-1

Opportunity for Improvement #3
BEA has not consistently implemented its corrective actions program at ATR in a manner that ensures that ES&H deficiencies are appropriately documented, categorized, and evaluated in a rigorous and timely manner, with causes, extent of condition, and appropriate recurrence controls identified. (DOE-OA Assessment, June 2005)

Opportunity for Improvement #4

Screening of external operating experience and development and tracking of responsive actions should be improved. (DOE-OA Assessment, June 2005)

Opportunity for Improvement #5
Documentation, analysis, and correction/prevention of injuries and illnesses should be improved. (DOE-OA Assessment, June 2005)

These three opportunities for improvement are addressed in one action plan.

Action	Deliverable	Due Date	Owner / Organization
Complete 18 actions in CATS INEEL-08/19/2005-0006-1	Closure documentation identified in CATS	12/12/2006	K. W. Baldwin / Nuclear Operations Quality Assurance

Idaho Cleanup Project

Action Plan

Commitment 23, Work Planning and Control
Commitment 25, Feedback and Improvement
DNSFB Recommendation 2004-1

February 6 2006
Site Action Plan
WP&C Commitment 23 / F&I Commitment 25 – DNFSB Recommendation 2004-1

Idaho Cleanup Project

NOTE: Change Control for this Site Action Plan resides with the Field Office Manager (or designee), with a cc: to EM-3.2.

Executive Summary

Evaluation Process

This assessment was conducted as part of the Idaho Cleanup Project (ICP) response to Commitments #23 and #25 of the Department of Energy's Implementation Plan (IP) for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, "Oversight of Complex, High-Hazard Nuclear Operations". This assessment was conducted in accordance with the instructions provided in the November 18, 2005 DOE Headquarters memorandum from the Chief Operating Officer for Environmental Management. Specific direction was provided to perform a review of the contractor in the area of work planning and control, and feedback and improvement. The assessment team determined that a combination of existing assessment data and a conducting a focused assessment would be required to fully evaluate all work planning and control, and feedback and improvement processes utilized by CWI.

The CWI assessment team was organized into five groups with the Project Evaluation Board Manager as the lead for the assessment. Four of the groups were assigned to specific ICP areas (INTEC, RWMC, Construction, and D&D) to evaluate work practices and program implementation. The fifth group was assigned to evaluate ICP programs. Each of the teams was led by an experienced assessor who was familiar with requirements for work control and the ISMS. A pre-assessment meeting was held with the team leaders and the assessment team members to review expectations and the assessment methodology. Daily debriefings were held with the PEB Department Manager to ensure the assessment remained focused and to identify key issues. The assessment started on December 12, 2005 and completed on January 6, 2005. CWI management was briefed on the results of the assessment.

The CWI assessment teams used the Criteria Review and Approach Documents (CRADs) as specified in the following:

- Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 23; David K. Garman, Under Secretary for Energy, Science and Environment, November 9, 2005
- Defense Nuclear Facilities Safety Board Recommendation 2004-1, Integrated Safety Management System Feedback and Improvement; David K. Garman, Under Secretary for Energy, Science and Environment, November 9, 2005

The CRADs and associated criteria were reviewed by the team in preparation for the assessment. In addition, the daily debriefings ensured that assessment of the CRADs and their associated criteria remained focused and met the expected needs of the assessment.

Overall Evaluation Summary

WORK PLANNING AND CONTROL, COMMITMENT 23

The results of this assessment determined that ICP meets the objectives for CRAD-3 (*The contractor has developed an effective work planning and control process*). The objectives for CRAD 4 (*Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls*); CRAD 5 (*The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities*); and CRAD 6 (*Contractor personnel perform work in accordance with approved work control documents)* were partially met. The objective for CRAD 7 (*The Contractor has an established process that requires line management and assessment personnel to perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents*) was not met.

The following table provides the results of this assessment.

CRAD #	Objective Met	Objective Partially Met	Objective Not Met	Comments
3	X			2 OFI's noted
4		X		1 OFI noted
5		X		2 OFI's noted
6		X		2 OFI's noted
7			X	2 OFI's noted

FEEDBACK AND IMPROVEMENT, COMMITMENT 25

The results of this assessment determined that ICP meets the objectives for CRAD 2.2 (The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities); CRAD 2.3 (Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses); and CRAD 2.4 (The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions). The objectives for CRAD 1(Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and

opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation) and CRAD 2.1 (Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance) were partially met. The following table provides the results of this assessment.

CRAD #	Objective Met	Objective Partially Met	Objective Not Met	Comments
1		X		2 OFI's noted
2.1		X		2 OFI's noted
2.2	X			No OFI's noted
2.3	X			No OFI's noted
2.4	X			No OFI's noted

This assessment was completed and submitted as requested by Department of Energy's Implementation Plan Commitment 23 and Commitment 25 for Defense Nuclear Facilities Safety Board Recommendation 2004-1, *Oversight of Complex, High-Hazard Nuclear Operations*; Request for Action (OS-QSD-05-13); E. M. Sellers, December 2, 2005. Due to the short amount of time to prepare and complete this assessment and the limited amount of actual work occurring during the assessment period, findings are based upon a limited sample size.

The most significant findings involve: (1) situations where personnel failed to follow work control documents as written (one of these involved a routine task that is performed typically three times a week), (2) excessive reliance on maintenance planners to identify hazards and establish controls for maintenance work without input or review from subject matter experts, and (3) needed improvements in the conduct of self-assessments. Additionally, there appears to be an excessive amount of unscheduled/emergent work that is added to the planned work schedules. This increases worker and supervisor frustration, impacts craft utilization and has the potential to create error likely situations.

These areas of improvement appear to stem from the ineffective implementation of existing programs and processes. Programs, such as the Safety Assessment Center and Executive Safety Review Board, have been implemented for a short period of time and the Site has not been able to fully realize the feedback and improvement value inherently imbedded. In another area, the process outlined within MCP-3562, *Hazard Identification Analysis and Control of Operational Activities*, provides a foundation for a highly rigorous hazard identification program for the development of operating procedures. This same rigor is not imposed upon the development of work documents.

These, and other, programs and processes are in themselves identified as Good Practices later in this document. This evaluation determined that the issues identified from the CRADs of Commitments #23 and 25 are implementation related, not program breakdowns.

SECTION I – DOE Oversight

SECTION II – CWI-ICP

Performance Objective WPC-3: Work Control Program Documentation

When CWI began work on the ICP in May 2005, the work control program documentation that was in effect at the INL remained in effect to provide a framework within which CWI could conduct business under the new, performance based contract. The document hierarchy which existed at the start of the contract continues to be in effect today.

The controlling documents (STD-101, *Integrated Work Control Process*, MCP-3192, *Hazard Identification Analysis and Control of Operational Activities*, and GDE-6210, *Maintenance Guide*) describe and establish requirements for initiating, analyzing and developing work control documents, including job hazard analyses.

There are several different document types used for control of work, including three levels of maintenance work orders (minor maintenance, expedited maintenance, or planned maintenance each according to increasing hazards, complexity and risk), project work orders and operating procedures. Levels of review and approval are established for each of these work control documents in their respective MCPs, STDs and other company-level procedures. The choice of which work control document is used is a function of the organization performing the work, the nature of the work (operations, corrective maintenance [e.g. repair], routine or preventive maintenance [e.g. calibration], D&D, construction and environmental restoration), as well as the degree of risk, hazards and complexity of the work.

Subcontractor work is controlled using project work orders and is subject to the same level of control as that used by CWI organizations, except as noted elsewhere in this report.

Extensive training and qualification requirements exist for crafts and operations personnel. These training topics involve company requirements, craft and operations skills and qualifications, safety and health training and other relevant topics. In addition, many positions, such as maintenance personnel, have core, position specific and facility specific training requirements. Training and qualification requirements also exist for work control managers and planners as well as for other line managers involved in the work control process. Auditable training records are maintained on a web-based system (*TRAIN*) to which first line supervisors and above have access to assure that crafts, technicians, operators, planners, safety subject matter experts and line managers are trained and qualified.

Turnover requirements exist for transfer of responsibilities of first line supervisors in operations and maintenance. Turnovers are used in operations environments as required in MCP-2980. This MCP outlines the process and requirements for recording shiftily/daily activities. Operations personnel promptly record information regarding activities or events for each key position throughout the shift to ensure the accuracy of the entry. Maintenance criteria for turnover are located in STD-101 (chapter 6) and GDE 6210 (chapter 10).

These documents provide direction regarding interfaces and work control coordination, work boundaries, system operability and testing turnover of physical tasks as well as personnel.

Mechanisms exist to collect and utilize lessons learned and feedback from work activities to be used in planning future activities. ICP uses the same lessons learned database that existed at the INL prior to the contract change that is now shared with the INL. Planners are trained in and have access to this database for use in preparing work packages. In some case (e.g. for construction projects), lessons learned were maintained in hard copy and were found to be functional, but were cumbersome to use. Construction projects also lack mechanisms to track and ensure incorporation of post-work review lessons learned on projects related to Voluntary Consent Orders. Furthermore, the assessment identified weaknesses in post-task feedback responses for field operations and maintenance tasks.

Opportunity for Improvement #1

The requirements for periodic review of JSAs in MCP-135 REV 17, Creating, Modifying, And Canceling Procedures and Other DMCS-Controlled Documents, and the requirements in PRD-25, Activity Level Hazard Identification, Analysis and Control need to be evaluated and the procedure(s) needs to be revised as necessary to provide a correct and consistent periodic review frequency. In addition, a review of JSAs needs to be performed to ensure that the periodic JSA reviews are performed at the proper frequency.

CWI Action	Deliverable	Due Date	Owner/Org
Revise MCP-135 REV 17 to provide correct and consistent periodic review frequencies, as applicable.	Evaluation and revision of the MCP-135 REV 17 procedure	3/1/06	Bill Grace Director, Industrial Safety
Ensure JSAs have been reviewed within the required periodic review frequency.	Verification that JSAs have been reviewed within the required periodic review frequency.	5/1/06	Area Project Managers

Responsible Manager: Bill Grace, Director – Industrial Safety

Opportunity for Improvement #2

To support the development of ensuring appropriate changes are made to the controlling documents: STD-101, *Integrated Work Control Processs*, and GDE-6210, *Maintenance Guide*. A review of the feedback process is warranted. The results of this review will be integrated into improvements to the documents.

CWI Action	Deliverable	Due Date	Owner/Org
Perform an in depth review of the feedback process for work activities and recommend process performance improvements in this area, as appropriate.	Formal evaluation of the feedback and improvement processes, including recommendations for process improvements.	3/1/06	William J. Johnson, COO

Responsible Manager: William J. Johnson, Chief Operating Officer

Performance Objective WPC-4: Work Planning and Control Activity; Definition and Hazard Activity

PDD-1004, *Integrated Safety Management System*, is the program document that describes the flow down of ISMS requirements from the contractual level (ISMS DEAR Clauses and DOE policies and orders) to implementing documents. Work planning and control activity definition for maintenance work is described in STD-101, *Integrated Work Control Process*.

GDE-6210, *Maintenance Guide*, and GDE-6212, *Hazard Mitigation Guide for Integrated Work Control Process*, whereas operating activities are governed by MCP-3562, *Hazard Identification Analysis and Control of Operational Activities*.

Maintenance activity planning involves receipt of a request to perform work and assignment of the request to a maintenance expediter or planner to prepare work documents. Initial discussions of work scope, identification of a team to participate in work package development and walk downs and hazard analyses are primarily performed or led by maintenance planners. For planned and project maintenance work orders, planners perform hazard analysis and identification of controls by filling out a Hazards Profile Screening Checklist (HPSC), Form 430.10. In completing this computer-based checklist, planners use the information obtained during the scope of work development and review of facility documents (e.g., the Facility Hazards List (FHL), equipment history, Documented Safety Analyses (DSA), Fire Hazard Assessments (FHA), environmental permits. Based on the planner's input into the HPSC, control sets are generated as are subject matter expert reviews. This process places a very heavy burden on planners to properly identify the right set of hazards. If a planner fails to identify a hazard, there is no additional review of the package by a SME to correct the package or to involve the SME in the walk down process.

For expedited maintenance work orders and minor maintenance work orders, no HPSC is required by STD-101 or GDE-6210, though other hazard analysis approaches are used, including job safety analyses (JSA). Minor maintenance work is restricted to a less hazardous set of activities by using a specified list of circumstances for which the work may not be performed as minor maintenance.

In contrast, MCP-3562 requires that line managers perform screening activities to identify hazards for operational activities and that they review and approve JSAs, determine whether further analysis is needed and designate appropriate individuals to participate in the team that will further analyze the hazards, the Hazard Evaluation Group (HEG). One issue involving improper flow down of CWI requirements for periodic reviews of Job Safety Analysis (JSAs) was identified as part of a recent Project Evaluation Board (PEB) assessment. This PEB assessment noted that several JSAs were overdue for periodic review. Actions were initiated to correct the problem of having JSAs overdue for review. MCP-3562 provides line managers with a detailed process for performing hazard screening for operational activities that includes hazards related to the task, the facility(ies) in which the task will be performed, potential human errors, lessons learned information and error precursor management. Similar detail is provided for the HEG in analyzing hazards, performing walk downs, using standards to mitigate hazards and other related activities. MCP-3562 also requires that line managers select hazard mitigation according to the hierarchy of engineering controls, administrative controls or PPE.

This assessment team concludes from this difference in approaches that STD-101 and GDE-6210:

- Potentially omit subject matter experts in reviewing or approving maintenance work packages after the hazards and controls are established by the planner,
- do not ensure that line managers designate the members of the team assigned to evaluate the hazards (as does MCP-3562),
- may not ensure that the team so designated acts as a team when evaluating the hazards (individuals may contribute separately to the analysis without meeting together in a table top review or during a walk down),
- permit practices at ICP facilities that rely too heavily on table top reviews instead of walk downs,
- do not explicitly establish a preferred hierarchy of controls (neither MCP-3562, STD-101 nor GDE-6210 mention hazard removal as a part of the preferred hierarchy of controls)
- are written to make maintenance planning for hazard identification, analysis and control an expert-based approach relying on maintenance planners as the primary source of expertise, even though planners are not experts in Documented Safety Analysis (DSA), Fire Hazard Assessments (FHA), environmental permits, and are not required to be Unreviewed Safety Question (USQ) qualified (although they decide whether a USQ review of maintenance work orders are required).

This assessment identified examples of improperly performed hazard analyses as follows:

- Hazards for the planned work were not properly identified and controlled in INTEC WO 60004096, emergency/exit light replacement,
- INTEC JSA-1128, Fuel Oil System, used in conjunction with TPR-7194, Fuel Oil System for transferring fuel oil from a tanker truck to CPP-701 did not identify hazards associated with lifting heavy objects and lifting restrictions were not identified in the TPR for worker protection

Hazard control sets at D&D activities are not customized to the exact work being performed.

Hazard control set for Work Order 602907 at RWMC did not identify a LO/TO requirement for the facility air compressor for incorporation into the work package. Although, the work package did require said compressor to be secured and Locked/Tagged. The compressor was secured and locked before any work commenced. The work package development team failed to include said LO/TO in the required hazard set.

Opportunity for Improvement #1

STD-101, *Integrated Work Control Process*, and GDE-6210. *Maintenance Guide* need to be reviewed for possible improvements to correct the issues identified with work document preparation. This review will provide a basis for procedure revisions to improve the quality of these controlling documents. Completion of these actions will result in improved instruction for the development of work control documents.

CWI Action	Deliverable	Due Date	Owner/Org
The Technical Support Services (TSS) will complete a review of STD-101 and GDE-6210 to determine necessary changes and/or training that is necessary to address the issues identified in this assessment	Completed review of procedures.	4/1/06	Michael D. Johnson, Director TSS
	Revised procedures, as applicable, and/or revised training initiated.	5/1/06	Michael D. Johnson, Director TSS

Responsible Manager: Michael D. Johnson, Director – Technical Support Services

Performance Objective WPC-5: Work Planning and Control Oversight Process

Work control documents for maintenance are prepared in accordance with STD-101, *Integrated Work Control Processes*, GDE-6210, *Maintenance Guide*, and GDE-6212, *Hazard Mitigation Guide for Integrated Work Control Process*. Operational activity control documents are prepared in accordance with MCP-3562, *Hazard Identification Analysis and Control of Operational Activities*. The team reviewed over fifty maintenance and operations work control documents to determine whether work control documents were written in a manner that lead to safe and efficient completion of work.

Improperly defined scope of work was an issue in only one work order (WO). At INTEC, the scope of work for minor maintenance WO 60004096 was not clearly defined. This WO was intended to replace twenty emergency and exit lights in CPP-666. The assessment team's observations during the pre-evolutionary briefing revealed that the planner and crafts had discussed and agreed to an undocumented change of scope that would have allowed electricians to initially attempt to repair the lights by working on the portion of the lighting that had a voltage of less than 50 volts. If this was not successful, electricians would then replace the light fixtures, which involved work on AC electrical circuitry up to 277 volts. After discussion among electricians, their foreman and the assessment team member observing the pre-evolutionary briefing, the foreman elected to obtain a WO change prior to beginning the work.

Several problems were noted pertaining to maintenance WOs being written in a clear, concise and worker friendly manner. Assessment team members evaluating construction activities generally found that the ALARA and Waste Stream section of construction WOs were difficult to follow. Additionally, three work documents at INTEC did not meet the requirements of STD-101 and GDE-6210. In one case (WO 602485), a warning statement relating to potential mercury contamination was improperly written (it contained action steps contrary to GDE-6210) and was not located immediately prior to the step in which the hazard was encountered. The requirement for fall protection in WO 60095401 was also not located in the procedure immediately before the steps where the hazard was encountered. Finally, WO 60004096 failed to be clear and concise, because the repair/replacement sequencing discussed above was not mentioned in the WO at all.

Work step sequencing appeared to be satisfactory in all but one of the work control documents reviewed. In D&D WO 603430, Note 1 states: "Steps 3 thru 6 may be worked in any order as directed by the job supervisor," however Step 3 is a "Hold Point" and must be performed prior to Step 4. There were several examples of work control documents not adequately incorporating technical and administrative requirements at INTEC and at D&D activities these were:

- Failure to document the quality level of a replacement part and to include the replacement part in the WO materials list (INTEC WO 602185),
- Conducting work on CPP-603 sludge removal during the week of 12/19/05 with a procedure that had expired on 12/04/05,
- Using a JSA for work on CPP-603 sludge removal that was revised in October 2005 without being reviewed by Fire Protection and Industrial Hygiene (which had reviewed the original JSA).

Using hazard control sets that were not customized to the exact work being performed for five WOs at D&D facilities. In these cases, WOs identified the use of boilerplate hazard identification and mitigation text, forcing end users (e.g. craft personnel) to determine applicability of hazards.

Work hazards identified in hazard analysis processes were generally found to be properly incorporated into work control documents at INTEC and RWMC and for construction activities, but not for D&D activities, where work hazards, controls, and or "Hold Points" were not identified within four WOs. For example, Review of the RTC WO 602329 identified that the hazard control set required the IH to: (1) conduct an exposure assessments during initial cutting activities, (2) evaluate work activities for repetitive motion concerns, and (3) evaluate noisy work activities and post high noise work areas as appropriate. None of these controls were incorporated into the work steps as required by GDE 6210, Section 6.8.4. It was also noted that the IH review of the work package prior to approval was not performed.

Since GDE-6210 is classified as a guide rather than as a requirements document. Planners are using it to merely for guidance in preparing work control documents, consistent with the definition of a guide in MCP-135, *Creating, Modifying, and Canceling Procedures and Other DMCS-Controlled Document*. GDE-6210 states, in part, "This guide provides detailed *direction* for the implementation of the requirements from STD-101." Classifying GDE-6210 as a guide allows work document preparation inconsistencies and degrades its impact on effecting worker safety.

Opportunity for Improvement #1

Troubleshoot and repair activities were included in a single work document. This resulted in personnel initiating repair efforts without evaluating the fact that a review of the hazards was necessary because the work they would perform was not analyzed as part of the original work document hazard set. This action has initiated an immediate corrective action to require a separation between troubleshooting and repair activities. Long term correction will be provided by incorporating this requirement into the controlling documents STD-101, *Integrated Work Control Process*, and GDE-6210. *Maintenance Guide.*

CWI Action	Deliverable	Due Date	Owner/Org
An Executive Management Directive has been issued for work documents that are prepared for Trouble Shoot and Repair activities requiring the troubleshooting work activities to be separate from the repair activities. This requirement will be incorporated into the work planning procedures at the next revision, but no later than May 2006.	Issuance of Executive Management Directive.	Completed	Michael D. Johnson, Director TSS
	Revision to STD-101 and GDE-6210 to incorporate the requirements of the EMD.	5/1/06	Michael D. Johnson, Director TSS

Responsible Manager: Michael D. Johnson, Director – Technical Support Services

Opportunity for Improvement #2

STD-101, *Integrated Work Control Process*, and GDE-6210. *Maintenance Guide* need to be reviewed for possible improvements to correct the issues identified with work document preparation. This review will provide a basis for procedure revisions to improve the quality of these controlling documents. Completion of these actions will result in improved instruction for the development of work control documents.

CWI Action	Deliverable	Due Date	Owner/Org
The Technical Support Services (TSS) will complete a review of STD-101 and GDE-6210 to determine necessary changes and/or training that is necessary to address the issues identified in this assessment	Completed review of procedures.	4/1/06	Michael D. Johnson, Director TSS
	Revised procedures, as applicable, and/or revised training initiated.	5/1/06	Michael D. Johnson, Director TSS

Responsible Manager: Michael D. Johnson, Director – Technical Support Services

Performance Objective WPC-6: Work Planning and Control Oversight

The assessment team interviewed over sixty CWI and subcontractor personnel associated with over 50 jobs and found that first line supervisors and workers are knowledgeable of their work control documents. Training of ICP personnel is recorded in a computerized system, TRAIN. Supervisors and foremen have access to TRAIN to allow them to determine whether personnel assigned to the jobs they supervise meet all relevant training requirements, and interviews revealed that supervisors were knowledgeable about how to access TRAIN to check personnel training records. Based on a sample of the persons associated with the work reviewed, most personnel met all applicable training and qualification requirements. Some examples of individuals who did not meet training and qualification requirements were identified at RWMC and at D&D activities. An electrician at RWMC had not received RWMC Electrician MTELRW0000 (8 of 13 qualifications and courses needed). At TAN, one D&D Forman directing work in the field and conducting pre-job briefings did not have the required qualifications (QLPREJOB, Performing Pre-Job Briefings and QLMNTJSF, INEEL Job Supervisor/Forman). In addition, TRAIN system records showed that one of the D&D supervisors at RTC did not have the pre-job briefing qualification (QLPREJOB). Interviews revealed that he had completed this training, but that the record of his training had been misplaced. Based on a sampling of the persons associated with the work reviewed, all personnel met medical requirements.

Work at ICP is authorized by operations authority, which reviews and authorizes all work control documents prior to commencement of work. Work is scheduled using plan of the week (POW) and plan of the day (POD) formats. At POW/POD meetings, work is evaluated at each facility and/or site to ensure that work activities of one scope do not adversely affect the safe work of another.

At one facility, foremen reported a considerable degree of frustration associated with a general lack of adherence to original/early versions of the POW and POD. Emergent work (e.g. due to equipment failures) is properly added to the POD to be authorized before working as described above, but foreman frequently must change priorities to meet deletions and additions to the schedule. Foremen report that they routinely attempt to prepare well in advance for jobs when they appear on POW/POD. Such preparations include work package review, identification and acquisition of replacement parts and materials and interfaces with operations to ensure systems and equipment are in a condition ready to work. When schedule changes occur, early preparations for deleted jobs are put on hold and hurried preparations for added jobs begins in order to ensure crafts are fully utilized. While foremen report they are not beginning work in unsafe conditions, the impact of frequent schedule changes is increased risk from more error-likely situations. That facility's maintenance management is aware of this problem, tracks adherence to POW schedules and continues to attempt to work this issue. Lack of rigorous adherence to POW/POD schedules increases frustration, impacts craft and labor effort and increases error-likely situations.

Even though the assessment team observed effective pre-evolutionary briefings took place in nearly all cases, the RWMC Site Area Director indicated that he is not fully satisfied with the present execution of this process, noting that management is presently working with their staff to upgrade the presentation mode of associated briefings. At INTEC, a worker performing work on 12/20/05 under INTEC WO 602425 did not receive the required pre-job briefing, and the pre-job briefing form for INTEC WO 602425 was not properly filled out by the foreman who performed the briefing on 12/14/05. In addition, at a TAN D&D activity, completed pre job briefing forms for WO 600413 had some missing pages and missing information.

Adherence to WO and operating procedures needs improvement. This condition was particularly disappointing, since ICP had been in a work stand down due to a series of recent events and occurrences. During the stand down, ICP management emphasized (among other things) the requirement for all workers to follow written instructions or to stop work if unexpected conditions arose and obtain a change to work documents. Several examples of procedural noncompliance observed across ICP as follows:

- An INTEC Utility Operator and Fuel Oil Subcontractor ı not follow TPR-7194, Fuel Oil System, as written to address the additional alignments needed by the Truck Driver to pport continued pumping from tanker sections. This procedure is performed up to several times each week during the co weather, but the need to stop and revise the procedure to allow the actions taken had not been identified.
- At RWMC, Steps 3, 4, 5 on the data sheet for procedure TRE-30 were not initialed or dated as required on the form. Although the data had been taken, the performer did not complete the form. This work package was signed off as complete by management.
- The TAN primary authorized employee (PAE) documented a correctly completed LOTO for TAN Area Firewater Pump FP-P-4 in the wrong place in the work package, leaving the step for the LOTO Hold Point in W.O. 603004 blank. Subsequently, crafts started work even though the PAE had not signed this Hold Point.

- Two RWMC employees keyed up their radio (e.g. transmitted) within an exclusion zone, contrary to the precaution in TPR-7417 that prohibited radio transmission in the marked exclusion area.
- During the conduct of RWMC procedure TPR-7417, maintenance personnel failed to wear safety glasses as required. The operator stopped work until safety glasses were worn as prescribed.
- During the conduct of RWMC procedure TPR-7417 an operator reactivated a drain valve before making notification to management as required by step 4.2.6 of MCP 2978, *Control of Equipment and System Status* which states in part "Reposition components found out of position only upon approval from the cognizant manager/supervisor". The valve had been de-energized (unplugged) but was not re-energized and placed back into service following installation of heat tracing.

The assessment team did not observe any conditions that warranted stop work for safety reasons. During interviews, first line supervisors and workers demonstrated a good understanding of their stop work authority.

STD-101, *Integrated Work Control Process*, discusses the use of status logs with no prescribed direction as to what is desired or required, and GDE-6210, *Maintenance Guide*, describes "Work Status" place holders. In practice, there was a wide variety of methods used to document work status, including work status logs, procedure step annotations and personal logbooks. In most cases, work control documents contained adequate documentation (i.e., work status log) regarding work status. However, no construction documents included provisions for documenting work status. Two work packages for work done by CWI at RTC, WOs 603048 and 602715, had completed steps that were not properly signed off.

Lessons learned are being implemented through incorporation directly into work orders or included in the hazard controls associated with the work order, discussed during pre-job briefings, or presented during all hand briefings/safety phases. The feedback process uses more than one approach to track feedback to closure, depending on the different work order types (PM or CM), but both systems meet the requirements for incorporation of lessons learned into work orders. Planners interviewed know how to access the INL lessons learned database, and search the database for applicable lessons learned based on the scope of their work order.

One example of an incomplete work order record was identified. INTEC WO 602185 involved the repair of PCV-118, which was leaking nitric acid. (See CRAD 23.3.4) While performing the work, INTEC personnel discovered that PI-218-2 was not functioning properly. PI-218-2 was replaced under this WO using a work order change (WOC). The WOC for the PI-218-2 replacement was processed, the work completed and the package closed. The package was sent to be scanned for record retention in EDMS. Due to an oversight during the scanning process, the WOC was not scanned into EDMS.

Some crafts reported that they did not find the Lessons Learned (LL) data base to be a usable tool, due to the scarcity of LLs that appear in the LL database for their facility (RWMC). The database spans five years and has only 27 LL entries. During interviews, some ICP personnel reported that they did not find the ICARE data base to be a usable tool because they do no know how to find issue of interest. Craft personnel need training to search the ICARE system by topic.

Opportunity for Improvement #1

CWI considers the issue of procedure non compliance to be a serious item. A comprehensive cause analysis will be developed to address this issue and to identify needed actions/improvements.

CWI Action	Deliverable	Due Date	Owner/Org
The issue of procedure non compliance is a serious concern of ICP management. A comprehensive cause analysis is being developed that will identify specific actions that are necessary to correct this adverse trend.	Issuance of completed comprehensive causal analysis	Complete	William J. Johnson, COO

Responsible Manager: William J. Johnson, Chief Operating Officer

Opportunity for Improvement #2

CWI will issue a detailed corrective action plan to address the issues identified in the casual analysis described above. The completion of the actions will receive management priority.

CWI Action	Deliverable	Due Date	Owner/Org
Issue a corrective action plan to address the casual analysis for procedure non compliance which is a serious concern of ICP management	A corrective action plan will be issued to address the issues identified in the comprehensive causal analysis	2/1/06	William J. Johnson, COO
The completion of all actions in the corrective action plan to correct the adverse trend. of procedure non-compliance will receive CWI management priority.	Actions identified in the corrective action plan will be completed	5/1/06	William J. Johnson, COO

Responsible Manager: William J. Johnson, Chief Operating Officer

Performance Objective WPC-7: Work Planning and Control Contractor Oversight

The ICP has established procedures for the conduct of independent and self assessment activities. The Integrated Assessment Program, which is described in PDD-1064, "Integrated Assessment Program," is a comprehensive, integrated, risk-based approach for managing assessments. Integrated assessment includes activities managed under the following company requirement documents:

- MCP-9172, *Developing, Integrating, and Implementing Assessment Plans and Schedules*
- LST-202, *Company Level Required Assessments*
- GDE-203, *Planning, Scheduling, and Performing Assessments*
- PDD-124, *Assessor and Lead Assessor Training and Qualification Program*
- MCP-552, *Performing Independent Assessments*
- MCP-8, *Performing Management Assessments and Management Reviews*
- MCP-1221, *Performing Inspections and Surveillances*
- CTR-69, *Charter for the Project Evaluation Board (Revised 2/3/06, PDD-148, Project Evaluation Board)*

Other assessment programs exist, such as CTR-154, *INTEC Senior Supervisory Watch Program*, (as well as similar SSW programs at other ICP facilities) and CTR-175, *INTEC Management Observation Program* (MOP), which is unique to INTEC.

Taken together, a system is therefore in place to provide a means of monitoring and evaluating all work performed, including work performed by subcontractors. Implementation of this system, however, is not consistent across the ICP. Although assessments are being performed, including of subcontractors, the evidence suggests a need to pursue a more effective implementation of the existing program. This is demonstrated by:

- The lack of or limited scope of management assessments performed at the project level.
- Limited management observations and senior supervisory watches at RWMC.
- The lack of comprehensive functional area assessments for many areas.
- The lack of comprehensive assessments at the project level.
- The focus of many assessments on administrative reviews instead of operational reviews.
- Identified problems (not ICARE issues) not having corrective actions documented.

A schedule exists for ICP assessments as the ICP Integrated Assessment Schedule database. Management assessments and independent assessments of the ISMS program are required to be performed in LST-202, as are surveillances of work in progress. Conformance to this schedule on an ICP-wide basis was not examined.

Line managers periodically perform surveillances, and these surveillances include the observations of, pre-evolution briefings and work performed, but there did not appear to be strong evidence that observations of job walk downs and JHA walk downs/meetings was included in the scope of these surveillances. For example, the assessment team found that at D&D activities, line management assessments did not assess the full spectrum of the work control process. In addition, while the scope of MOP observations at INTEC and SSW observations are particularly focused on work in progress as well as operational preparations for work, they are not directed toward the work package planning process.

The team reviewed completed LST-202 surveillances and the INTEC Management Observation Program Observed Evolution forms / Work Activities and other documents. While the above mentioned oversight programs and activities were valuable and included many criteria important to work control, none of these programs included reviews of completed work orders within the scope of their review criteria. Furthermore, at INTEC and D&D activities, the scope of the completed surveillances and observations that the team reviewed did not include approved work orders.

The primary means of line management oversight of in-development work control documents was line manager review and approval through the implementation of STD-101, *Integrated Work Control Process*. These reviews and approvals are performed by maintenance managers, general foreman (e.g. construction), and maintenance supervisors for in-development work orders. Line managers reviewed approved work orders during Senior Supervisory Watch work activities. There are no scheduled or planned assessments or surveillances of active or in-development work control documents by line managers in existing INTEC oversight programs.

Trending is tracked and reported monthly in accordance with the Safety Performance Objectives, Measures, and Commitments (SPOMC). Also regarding trending, the results of work control oversight activities, the 2005 ICP ISMS Annual Evaluation Report found that:

- Assessments are being scheduled and managed in at least three databases, making it difficult to coordinate planned assessments and to analyze issues for trends
- Not all required areas are performing assessments to support MCP-1175, *Analyzing ESH&QA Performance*. These assessments provide quarterly analysis of ISMS integrity and ESH&QA performance. Area analysis is needed to identify possible trend and recurring issues.

Opportunity for Improvement #1

To improve the quality and quantity of self-assessments and to increase management involvement in the self-assessment program the program will be critically evaluated and needed changes that provide improved participation while manitaing program quality will be implemented.

CWI Action	Deliverable	Due Date	Owner/Org
A revised self assessment program structure will be developed by a selected team of ICP managers who have an extensive background in self assessment program performance. This program will be presented to and approved by the ESRB. Upon approval by the ESRB ICP procedures will be revised, where necessary to implement the revised program.	Presentation to ESRB of revised self assessment program.	2/25/06	Michael D. Johnson, Director, TSS
	Implementation of revised procedures following ESRB approval.	3/10/06	Michael D. Johnson, Director, TSS

Responsible Manager: Michael D. Johnson, Director – Technical Support Services

Opportunity for Improvement #2

To ensure prompt implementation of self-assessment program improvements the Project Evaluation Board will conduct a comprehensive evaluation of self-assessment performance.

CWI Action	Deliverable	Due Date	Owner/Org
The Project Evaluation Board will conduct a comprehensive evaluation of self assessment performance at all ICP areas to verify proper implementation and execution of the revised assessment program structure.	Issuance of assessment report on effectiveness of revised assessment program structure..	7/1/06	Brent Rankin, ESH&Q

Responsible Manager: Jim Gregory, Manager, Project Evaluation Board.

Performance Objective F&I-1: Contractor Program Documentation

The ICP contract does not include the requirement to implement a formal "Contractor Assurance System" in accordance with DOE O 226.1, *Implementation of Department of Energy Oversight Policy*. However, the information contained in PDD-1004, *Integrated Safety Management System (ISMS)*, Revision 9 Draft, addresses the activities that are included in the INL's formal Contractor Assurance System and meets the review and approval requirements outlined in this objective. This integrated operational assurance process, with other program description documents, management control procedures, and standards, also includes assessment activities, other structured operational awareness activities, and the event reporting processes.

The program monitors and evaluates all work performed under the contract, including that of subcontractors. These activities occur through a variety of mechanisms. On a daily basis, the Safety Assessment Center (SAC) provides for senior management discussion on the previous day's work activities and safety issues throughout ICP. A monthly SAC report is issued providing a 12-month rolling trend analysis to each of eleven high focus project areas pertaining to event severity indexes (including good work practices) and ISMS core function breakdowns, in addition to a listing of the issues reported regarding the project area for the previous month. In addition, a monthly Safety Performance Objectives, Measures and Commitments (SPOMC) dashboard report is issued to report on current fiscal year status of operational issues compared against ICP goals.

On a quarterly basis, the Safety Performance Objectives, Measures, and Commitments (SPOMC) documents progress pertaining to the DOE approved performance tracking data points. On an annual basis, the ISMS Annual Evaluation and SPOMC review provide even further insight to current status and performance trending by both the Contractor and subcontractors. The company PDD-1061, *Integrated Assessment Program* is in place, and is supplemented by PDD-1005, *Line Management and Operations Manual*. Schedules are in place for FY 2006 to support required assessments and surveillances.

While the processes for the various assessments and other structured operational awareness activities are outlined in their respective program documents, the quantity of documents potentially governing a single assessment activity is excessive. Each step from scheduling the assessment to planning, investigating, and reporting, with capillary documents for each type of assessment and resultant outcomes, has its own governing document. The quantity of requirements and in some cases unnecessary rigor spread amongst the number of requirement documents causes inconsistent performance and/or unintentional, non-compliant performance.

Implementation of the self-assessment program is not consistent or adequately effective across the ICP. The program is in place to provide a means of monitoring and evaluating work and assessments being performed, including oversight of subcontractors. However, evidence shows a need to pursue a more effective/efficient implementation of the self-assessment program. This is demonstrated by:

- The lack of or limited scope of management assessments performed at the project level.
- Limited management observations and senior supervisory watches at RWMC.

- The lack of comprehensive functional area assessments for many areas.
- The lack of comprehensive assessments at the project level.
- The focus of many assessments is on administrative reviews instead of operational reviews.
- Identified problems not having corrective actions documented that are not sufficiently serious to warrant tracking in the ICARE system

All products of the program are documented and available to DOE line management. Some of these documents, such as the PDD-1004, ISMS Annual Evaluation, and SPOMC Reports are included in the contract performance evaluation.

The Contractor has established sufficient processes for measuring the effectiveness of the program however, the implementation of the program across ICP is inconsistent and cumbersome.

The requirements and process for establishing and implementing the appropriate training and experience requirements for assurance personnel are outlined in company program documents and reinforced in implementation of PDD-1004.

Opportunity for Improvement #1

To improve the quality and quantity of self-assessments and to increase management involvement in the self-assessment program the program will be critically evaluated and needed changes that provide improved participation while manitaing program quality will be implemented.

CWI Action	Deliverable	Due Date	Owner/Org
A revised self assessment program structure will be developed by a selected team of ICP managers who have an extensive background in self assessment program performance. This program will be presented to and approved by the ESRB. Upon approval by the ESRB ICP procedures will be revised, where necessary to implement the revised program.	Presentation to ESRB of revised self assessment program.	2/25/06	Michael D. Johnson, Director, TSS
	Implementation of revised procedures following ESRB approval.	3/10/06	Michael D. Johnson, Director, TSS

Responsible Manager: Michael D. Johnson, Director – Technical Support Services

Opportunity for Improvement #2

To ensure prompt implementation of self-assessment program improvements the Project Evaluation Board will conduct a comprehensive evaluation of self-assessment performance.

CWI Action	Deliverable	Due Date	Owner/Org
The Project Evaluation Board will conduct a comprehensive evaluation of self assessment performance at all ICP areas to verify proper implementation and execution of the revised assessment program structure.	Issuance of assessment report on effectiveness of revised assessment program structure.	7/1/06	Brent Rankin, ESH&Q

Responsible Manager: Jim Gregory, Manager - Project Evaluation Board.

Performance Objective F&I-2.1: Assessments and Performance Indicators

The Integrated Assessment Program, based on PDD-1064, *Integrated Assessment Program*, LST-202, *Company-Level Required Assessments*, and inputs from Functional Area Managers and Subject Matter Experts, establishes the assessment program for functional areas, programs, facilities, and organizational elements. The scope and frequency of these assessments is determined based upon regulatory requirements documents in conjunction with an analysis of risk when applicable. The level of rigor is outlined in the implementing documents governing the performance of the different types of assessments, i.e. Management vs. Independent. As discussed previously in Objective F&I-1, this implementation is cumbersome and inconsistently implemented in the field. As a result, this objective is evaluated as only partially met.

The Project Evaluation Board (PEB) is established at ICP to provide the function of independent internal assessments. Assessments are identified, planned and performed by this group which has the authority and independence from line management to support unbiased evaluations. To date the PEB assessments have been focused on specific problems or issues instead of comprehensive project assessments. The 2006 PEB schedule has included these project assessments.

The SPOMC (discussed previously) is approved by line management and DOE. It provides a measure to indicate how work is being performed. This includes the performance objectives and the expectations set by senior management. Other performance monitoring programs include the SAC and Executive Safety Review Board (ESRB) at the senior management level with other process designed to capture and gather issues at the project and supervisor's level such as the Hazard Review Board (HRB). ICP management policy continuously reinforces the ISMS process of Feedback and Improvement to all personnel on Site. This provides multiple avenues of input by which issues, good or bad, are reported to the necessary programs for analysis and trending.

The SAC provides the method of sharing good practices and lessons learned on a daily basis to and from all line managers. The information discussed in these daily meetings is tracked and trended independently and provided to each project area on a monthly basis. In addition, this information is used in the occurrence reporting process and program quarterly evaluation in the review of positive or negative trends. The ESRB also causes issue tracking and trending to be evaluated for issues that are of concern and that may affect safety, performance objectives, or goals. The SPOMC, Monthly ICP Injury/Illness Report, and the Monthly Dashboard data provide the information necessary to identify current status relative to goals and objectives agreed to by CWI and DOE.

Opportunity for Improvement #1

To ensure the Project Evaluation Board has appropriate resources to accomplish scheduled assessments for CY 2006 the existing schedule will be upgraded to provide resource loading.

CWI Action	Deliverable	Due Date	Owner/Org
The Project Evaluation Board (PEB) has established a schedule for CY 2006 that includes project assessments as well as program assessments. To improve the PEB capabilities to perform project assessments on an ongoing basis a review will be performed regarding PEB resources, scope and frequency of assessments.	Development of resource loaded annual schedule	3/30/06	Brent Rankin, ESH&Q

Responsible Manager: Jim Gregory, Manager - Project Evaluation Board.

Opportunity for Improvement #2

To ensure proper development of self-assessment schedules actions will be taken to update the current assessment requirements document. In addition, to provide for improved self-assessment schedule development in the future, annual updates to the assessment requirements document will be issued well in advance of the FY schedule development needs.

CWI Action	Deliverable	Due Date	Owner/Org
As required by MCP-9172, *Developing, Integrating, and Implementing Assessment Plans and Schedules*, a revision to LST-202 will be issued. In addition future revisions to LST-202 will be issued in July of each year to support the development of FY assessment schedules.	Revision of LST-202	2/25/06	Brent Rankin, ESH&Q
	Issue LST-202 Update for FY 07	7/30/06	Brent Rankin, ESH&Q

Responsible Manager: Craig Kvamme, Manager – Performance Assurance

Performance Objective F&I-2.2: Operating Experience

Formal processes are in place to identify applicable lessons learned from external and internal sources. The processes utilize communication and distribution methods such as the site intranet and e-mail systems, discussion in the SAC, the Lessons Learned Web Site and presentation at job briefings.

Lessons learned are obtained from and provided to external sources such as the DOE Lessons Learned Web and a corporate web for use and sharing at other sites.

ICP has instituted the Voluntary Protection Program (VPP), and its Employee Safety Teams (EST) and Changing Our Behavior Reduces Accidents (COBRA) program that provide the mechanisms necessary to solicit feedback and suggestions from the workforce on any topic for which a need is felt.

No opportunities for improvement noted.

Performance Objective F&I-2.3: Event Reporting

Formal processes are in place to investigate, report, and respond to operational events, incidents and occupational injuries and illnesses. MCP-190, *Event Investigation and Occurrence Reporting*, contains the instructions for documenting and reporting occurrences. In conjunction with reporting these events corrective actions are documented and tracked as specified in MCP-598, *Corrective Action System*. Cause analysis is performed in accordance with a formal process as specified in STD-1113, *Cause Analysis and Corrective Action Development*, by qualified personnel as specified in PDD-1114, *Cause Analyst Training and Qualification Program*.

The SAC as described above provides a centralized process for timely management involvement in routine reporting, reviewing, and assigning follow-up on safety events; supports safety performance monitoring; and provides a resource for periodic safety performance summary reporting. Data is collected about events and conditions that have the potential for adversely affecting safe operations now and in the future, as well as good practices.

The ESRB as described above is established to oversee the identification, analysis, reporting, and corrective actions of safety significant events, issues with programmatic implications, and other issues as determined necessary. The ESRB also causes issue tracking and trending to be evaluated for issues that are of concern and that may affect safety, performance objectives, or goals. The SPOMC, Monthly ICP Injury/Illness Report, and the Monthly Dashboard data provide the information necessary to identify current status relative to goals and objectives agreed to by CWI and DOE.

Lessons learned are obtained from and provided to external sources such as the DOE Lessons Learned Web and a corporate web for use and sharing at other sites consistent with the requirements of MCP-192, *Processing Lessons Learned and External Operating Experience.*

No opportunities for improvement noted.

Performance Objective F&I-2.4: Issues Management

The ICP utilizes several programs that comprise satisfaction of this objective. ICARE system is the formal process that captures not only deficiencies, but other noncompliance issues, program commitments and their respective data for tracking. The ORPS reporting system is annotated to use this program for corrective action tracking as well. Event cause analysis and corrective actions are also governed by their respective program documents.

With regard to corrective action plans, they are typically limited in scope and without regard to existing action items in place for other process improvements. Some are developed without regards to similar or cross-cutting effects of other corrective action plans. This method tends to overload the system with duplicative or similar action items being resolved by different groups not knowing of the others' efforts, delaying final achievement of completion.

MCP-598, *The Issues Management Program and Corrective Action System*, MCP-190, *Event Investigation and Occurrence Reporting*, and MCP-553, *Stop Work Authority*, together provide the basic process mechanisms to identify, take action, and resolve issues.

MCP-1269, *Establishing, Monitoring, and Reporting ESH&QA Performance Objectives, Goals, And Measures*, MCP-1175, *Analyzing ESH&QA Performance*, and MCP-598 program documents require review and analysis of deficiencies. Line management is provided the tools and resources to perform this task. Continued management attention is needed to ensure these processes are effective and rigorous.

Communication of issues up the management chain does occur. While the lines of communication have gone through transition pains, management is attentive to the needs of the program.

Feedback programs are integrated and analyzed to identify trends, issues, and potential repeat occurrences. This analysis is performed through several methods. These processes need continued attention to ensure identification of potential significant problems before they become events.

ICP program document PDD-1114, *Cause Analyst Training and Qualification Program*, requires the training of employees on corrective action development and causal analysis techniques. Formal cause analysis and corrective action development process are implemented in STD-1113, *Cause Analysis and Corrective Action Development.*

No opportunities for improvement noted.

SECTION V – CWI WP&C and F&I Good Practices

Good Practice(s)	Site Point of Contact
The process outlined within MCP-3562, *Hazard Identification Analysis and Control of Operational Activities*, is a user friendly concisely developed procedure. The design of this MCP enhances the ability of any individual given the responsibility to generate a new, or modify an existing Operational document. The Hazard Screening Checklist (Appendix B) informs the user of the minimum set of subject matter experts required to participate with the development or modification of an Operational work control document. This approach demonstrates Line Management's direct involvement with identification of specific individuals that shall assist with the work control process.	James E. Kaylor Department Manager- INTEC, 526-3483
ICP allows use of a "step back" for any person to stop a job without declaring a "stop work". Step backs permit a "no fault" means for personnel to pause to consider and discuss situations to improve safety without completely stopping a job. The practice appears to have wide acceptance and a beneficial impact on safety thus far.	Bill Grace, Director Industrial Safety, 208-526-1163
The implementation of the Management Observation Program for INTEC has provided improved management involvement in the self assessment program. The program, as intended, meets much of the intent of this review as well as other worthwhile management goals.	William J. Johnson COO, 208-526-7148

Good Practice(s)	Site Point of Contact
The Safety Assessment Center (SAC) provides a centralized process for timely management involvement in routine reporting, reviewing, and assigning follow-up on safety events; supports safety performance monitoring; and provides a resource for periodic safety performance summary reporting. Data is collected about events and conditions that have the potential for adversely affecting safe operations now and in the future, as well as good practices.	Matthew Steffa Manager – Safety Assessment Center, 208-526-7452
The Executive Safety Review Board (ESRB) is established to oversee the identification, analysis, reporting, and corrective actions of safety significant events, issues with programmatic implications, and other issues as determined necessary.	Bruce Schultz Director – ESH&Q Support Programs, 208-526-7439

Idaho National Laboratory

Action Plan

Commitment 23, Work Planning and Control

DNSFB Recommendation 2004-1

Executive Summary

Evaluation Process

On December 2, 2005, DOE Idaho Operations Office (DOE-ID) directed Battelle Energy Alliance, LLC (BEA) to perform a self-assessment of work planning and control to meet Commitment 23 of the DOE Implementation Plan for Defense Nuclear Facilities Safety Board Recommendation 2004-1. The assessment was performed by a team of BEA managers and subject matter experts, using a Criteria Review and Approach Document (CRAD) supplied by DOE-ID, to determine the adequacy and effectiveness of work planning and control at the Idaho National Laboratory (INL).

The assessment was performed by completing three activities:

- Comparing INL program and process documentation to the criteria listed in the CRADs,
- Evaluating program and process implementation by reviewing the results of internal and external assessments performed since February 1, 2005 (the date of formation of the INL and initiation of the BEA contract), and
- Evaluating performance by reviewing previous assessment reports and performance measurement and analysis reports.

To the extent possible, the assessment included a comparison of the criteria used in the previous assessments to the criteria listed in the DOE CRADs. In some cases, the discussion and results of the assessments were used as evidence that criteria were addressed even if the criteria were not formally specified. Some additional review was performed in cases where specific DOE criteria did not appear to have been addressed.

Overall Evaluation Summary

The assessment concluded that the criteria of the performance objectives identified in the DOE Work Planning and Control CRAD were adequately addressed by the INL program and process documentation. The internal and external assessments reviewed during this evaluation concluded that the program and processes were effectively implemented with the exception of work planning and control oversight which needed improvement. The evaluation ratings were the following:

Work Planning and Control		
Performance Objective		Evaluation
WPC-3	Work Planning and Control Program Documentation	Fully Met
WPC-4	Work Activity Definition and Hazard Identification	Fully Met
WPC-5	Work Control Documents	Fully Met
WPC-6	Work Performance	Fully Met
WPC-7	Work Planning and Control Oversight	Partially Met

The assessment identified nine opportunities for improvement (OFIs). Four of the OFIs involved corrective actions for findings identified by the DOE Office of Independent Oversight and Performance Assurance (DOE-OA) assessment performed during FY 2005. Three of the OFIs involved corrective actions for reported noncompliances of Price-Anderson Amendment Act (PAAA) requirements.

The assessment format provided by DOE-ID included an identification of noteworthy practices for each objective. These noteworthy practices were described as those processes and procedures which are worthy of sharing with other sites looking to improve existing processes. Such practices were not identified in the assessment results for two reasons:

- Many of the current INL processes are being consolidated and transformed to more effectively address the needs of the new laboratory, and
- Identifying noteworthy practices requires knowledge of the activities and practices of other sites which INL does not fully possess.

However, INL is willing to share any current or future processes and procedures which may benefit other sites in improving performance.

Performance Objective WPC-3: Work Planning and Control Program Documentation

Opportunity for Improvement #1

The activity-level work planning and control processes need to be consolidated/transformed to improve risk management and process efficiency and to better meet the needs of the new laboratory focus on research and development.

Action	Deliverable(s)	Due Date	Owner / Organization
Revise work planning and control program and process documentation.	Approved documents	8/1/2006	V. M. Bowen / Facilities and Site Services
Implement revised work planning and control program and processes.	Implementation statements from affected organizations	9/30/2006	

Opportunity for Improvement #2

Human behaviors and performance need improvement to reduce work related injuries and illnesses and to enhance safe work accomplishment.

Action	Deliverable(s)	Due Date	Owner / Organization
Provide integrated behavior based safety/human performance training.	Training rosters showing completion of training	9/30/2006	C. A. Johnson / Infrastructure, Optimization, Integration, and Planning
Implement integrated behavior based safety/human performance processes.	Implementation documents	12/15/2006	

Performance Objective WPC-4: Work Activity Definition and Hazard Identification

Opportunity for Improvement #1

Analysis of potential radiological hazards associated with non-uniform radiation fields and glovebox failures has not been sufficiently rigorous to ensure that these hazards are adequately controlled. (DOE-OA Assessment, June 2005)

Action	Deliverable	Due Date	Owner / Organization
Complete 15 actions in CATS INEEL-08/19/2005-0001-1	Closure documentation identified in CATS	5/31/2006	C. D. Morgan/ RTC Radiological Controls

Opportunity for Improvement #2

ATR does not have a process for identifying controls for non-radiological hazards for RCTs entering spaces to perform surveys. (DOE-OA Assessment, June 2005)

Action	Deliverable	Due Date	Owner / Organization
Complete 4 actions in CATS INEEL-08/19/2005-0002-1	Closure documentation identified in CATS	10/31/2006	M. B. McDonough/ ATR Operations

Opportunity for Improvement #3

ATR has not established appropriate controls to ensure that all workers are promptly notified of fire alarms in areas where the alarms cannot be heard. (DOE-OA Assessment, June 2005)

Action	Deliverable	Due Date	Owner / Organization
Complete 3 actions in CATS INEEL-08/19/2005-0003-1	Closure documentation identified in CATS	7/07/2006	M. B. McDonough/ ATR Operations

Opportunity for Improvement #4

INL has not ensured that clear and unambiguous requirements for confined spaces are consistently applied at ATR to minimize the risk to workers, consistent with the intent of OSHA regulations. (DOE-OA Assessment, June 2005)

Action	Deliverable	Due Date	Owner / Organization
Complete 9 actions in CATS INEEL-08/19/2005-0004-1	Closure documentation identified in CATS	8/30/2006	P. L. Hapke / Nuclear Operations ES&H

Opportunity for Improvement #5

Programmatic failure of work planning and hazard control for a radiological evolution at MFC caused unplanned personnel exposures. (INL Internal Assessment).

Action	Deliverable	Due Date	Owner / Organization
Complete 26 actions in NTS-ID-BEA-FMF-2005-0002	Closure documentation identified in NTS	1/30/2006	R. R. Chase / Nuclear Operations Labs and Hot Cells

Performance Objective WPC-5: Work Control Documents

Opportunity for Improvement

Administrative errors identified during the close-out process for maintenance work orders at ATR indicate that the previous corrective actions developed to resolve the errors were not fully effective. (INL Internal Assessment)

Action	Deliverable	Due Date	Owner / Organization
Complete actions in NTS-ID-BEA-ATR-2005-0002	Closure documentation identified in NTS	8/31/2006	J. E. Dwight/ ATR Operations

Performance Objective WPC-6: Work Performance

Opportunity for Improvement
The MFC Nuclear Facility Training and Qualification Program had not adequately implemented. (INL Internal Assessment)

Action	Deliverable	Due Date	Owner / Organization
Complete actions in NTS-ID-BEA-MFC-2005-0001	Closure documentation identified in NTS	6/28/2007	R. R. Chase / Nuclear Operations Labs and Hot Cells

Performance Objective WPC-7: Work Planning and Control Oversight

Two opportunities for improvement relating to WPC-7 are documented in the INL Action Plan for Commitment 25: Feedback and Improvement, F&I-2.

SEPARATION

PAGE

Commitments 23 & 25
Assessments

DOE F 1325.8

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United States Government **Department of Energy**

memorandum

Carlsbad Field Office
Carlsbad, New Mexico 88221

DATE: MAR 0 8 2006

REPLY TO ATTN OF: CBFO:OOD:RF:KJB:06-0315:UFC5486

SUBJECT: Assessment commitments 23 and 25

TO: Dae Y. Chung, Acting Deputy Assistant Secretary for Integrated Safety Management and Operations Oversight Office of Environmental Management

Attached are the assessment report, for the Defense Nuclear Safety board Recommendation 2004-1, Commitments 23 and 25 as performed by the Carlsbad Field Office (CBFO) and the Management and Operating (M & O) contractor of the Waste Isolation Pilot Plant.

Draft site action plans were prepared for each commitment with individual sections for the CBFO and the M & O contractor. The draft action plans were provided to you by David Moody, CBFO Manager, with a memorandum dated February 8, 2006.

Electronic copies of the attached documents were also forwarded to Tom Evans (EM-3.2) and Terry Kreitz (EM-22).

If you have any questions, please contact me at (505) 234-8318.

Richard Farrell
Safety Officer

Attachment

cc: w/attachment
D. Moody, CBFO * ED
V. Daub, CBFO ED
G. Basabilvazo, CBFO ED
C. Herndon, WTS ED
CBFO M & RC
*ED denotes electronic distribution

WIPP WORK PLANNING AND WORK CONTROL ASSESSMENT
DNFSB RECOMMENDATION 2004-1; COMMITMENT 23

Performance Objective WPC-1: Work Planning and Control Oversight	
Performance Objective Description: The DOE field element has an established process that ensures effective oversight of the contractor's work planning and control process.	
Criteria:	**CBFO Objective Evidence**
1. There is documentation that delineates the roles and responsibilities for DOE field element personnel performing oversight of the contractor's work planning and control process.	CBFO *Contractor Oversight Plan*, DOE CBFO 04-3299 CBFO *Functions, Responsibilities and Authorities Manual* (FRAM) DOE/CBFO 98-2287
2. DOE field element management has established the requirement for oversight of all stages (e.g., planning walkdowns, Job Hazard Analysis (JHA) meetings, field execution, etc.) of the work planning and control process.	CBFO – Integrated Evaluation Plan CBFO – QA Assessment Schedule Example: S-05-08, Surveillance of WTS JHA Program
3. (a) The DOE field element management has designated appropriate personnel (e.g., safety and health, facility representatives, project, etc.) to perform oversight of the contractor's work planning and control process. (b) Designated personnel have received adequate training or were selected based on their experience and knowledge of the work planning/control process.	(a) CBFO FRAM DOE/CBFO 98-2287 (Assignment of DOE Safety Oversight Staff); Letter No. CBFO-00D-GTB 05-0675 UFC 4700 08-26-05 (b) *Technical Qualification Program*, CBFO-DOE 02-3219. Formal Qualification Card Program, Office of Disposal Staff are Fully Qualified
4. The field element has a formal system that documents the efforts of their personnel performing oversight of the contractor's work planning and control process.	CBFO Procedures: MP 10.2, *Surveillances* MP 10.3, *Audits* TP 10.7, *Operational Assessments* MP 3.1, *Corrective Action Reports*

Performance Objective WPC-1: Work Planning and Control Oversight

Discussion Results WPC-1

The CBFO Contractor Oversight Plan defines the process used by CBFO to oversee contractor activities to verify that work is performed in a safe, secure, and effective manner. The plan defines how the CBFO, by assessing risk and using the graded approach, identifies and schedules oversight activities. The CBFO FRAM (DOE/CBFO 98-2287) defines responsibilities of field element personnel assigned safety oversight of the contractor's work planning and control process.

Federal technical positions assigned duties involving safety oversight of contractor work are identified in the CBFO *Technical Qualifications Program Guide* (DOE-CBFO 02-3219), which defines a technical qualification program. The incumbents of those CBFO staff positions have completed qualification cards that include generic DOE Standards such as DOE Std 1146-2000, *General Technical Qualifications*, as well as site- and job-specific requirements. In addition, Office of Disposal staff assigned specific safety system oversight responsibility of WIPP vital safety systems are required to have an additional qualification card to be fully qualified to perform the attendant assigned oversight duties.

The CBFO assessment process uses a graded approach ranging from daily observations (unscheduled/informal) to formal audits conducted by and planned by quality assurance professionals. All CBFO formal assessments are governed by approved procedures that in turn are fully compliant with the CBFO *Quality Assurance Program Document* (DOE-CBFO 94-1012). Many formalized assessments are performed throughout the year involving work planning and control. Examples of these include Surveillance S-05-08, WTS Job Hazard Analysis, and S-05-21, Underground Ground Control and Mine Safety (reports attached).

Conditions adverse to quality identified in any assessment, formal or otherwise, are documented with a corrective action report (see MP 3.1) that requires the contractor to provide corrective action within a timely manner. All CARS are tracked in a formalized system that includes an electronic database with weekly status reports issued to all concerned parties.

WIPP WORK PLANNING AND WORK CONTROL ASSESSMENT
DNFSB RECOMMENDATION 2004-1; COMMITMENT 23

Performance Objective WPC-2: Work Planning and Control Oversight	
Performance Objective Description: The DOE field element performs effective oversight of the contractor's work planning and control process.	
Criteria	**CBFO Objective Evidence**
1. The field element has scheduled periodic oversight activities (e.g., assessments, surveillances, observations, etc.) of the contractor's work planning and control process. These activities are of sufficient scope, detail, and quantity that the field element can ascertain the status of the contractor's work planning and control process.	CBFO Contractor Oversight Plan, CBFO/DOE 04-3299 CBFO Integrated Evaluation Plan CBFO Annual QA Assessment Plan Schedule
2. The scheduled oversight activities are conducted during all stages of work planning and control process (e.g., planning walkdowns, JHA meetings, field execution), and are chosen based upon the degree of risks, hazards, and complexity of the work activity.	CBFO Procedures: MP 3.2, 10.2, 10.3, and TP 10.7 Examples are : Audits Surveillances Operational Assessments
3. The field element tracks and trends the results of oversight activities performed on the contractor's work planning and control process and takes appropriate actions.	The CBFO ISMS Description, DOE/CBFO 98-2276 Rev. 5 ISMS Annual Assessment FY05 Report CBFO Procedures: MP 10.2, *Surveillances* MP 10.3, *Audits* TP 10.7, *Operational Assessments* MP 3.1, *Corrective Action Reports*

Performance Objective WPC-2: Work Planning and Control Oversight

Summary WPC-2

CBFO uses the Contractor Oversight Program Plan as a guide to evaluate the contractor's previous year's internal assessment results and to identify areas of concern requiring DOE oversight in the upcoming year. CBFO uses a graded approach to then schedule levels of oversight:

- *Operational Assessment*, TP 10.7, a more thorough observation formally noted and documented.
- *Surveillance*, MP 10.2, a higher level assessment requiring formal Quality Assurance participation, checklists, interviews, field observations, and a formal report.
- *Audits*, MP 10.3, the highest level of assessment that requires Quality Assurance professionals to lead and organize the assessment.

This oversight is of sufficient scope and detail to ascertain the status and contractor performance relative to work planning and work control.

The Operational Assessments, Surveillances, and Audits team will generally perform a comprehensive review of procedures and records, and will involve detailed field observations of the process being reviewed. Formal documentation, contractor response, and corrective action tracking are all included in these assessment levels. All CBFO formal assessments are governed by approved procedures that define processes for tracking and trending the results of oversight activities of the contractor's work planning and control process. See examples above in Summary WPC-1. CBFO Office of Disposal (OD) staff periodically review work packages in various stages of development (i.e., as they are being compiled, being worked, and after completion). They also conduct area inspections, have discussions with WTS staff, and attend pre-job briefings. Walk-throughs by CBFO/OD provide opportunities to informally provide oversight of work planning, work control, and work activities. If issues or concerns are identified they are provided to the cognizant WTS manager for resolution.

The annual CBFO-ISMS review looks at all facets of the CBFO and contractor programs to ensure safety management is fully integrated into all phases of the WIPP work process. Issues noted in the annual ISMS assessment are tracked until completed. Documentation of required corrective actions is detailed and bound to defined timelines for completion. CBFO has been declared to be fully compliant with ISMS for FY05. Examples of the CBFO and contractor oversight of the work planning and work control process can be found throughout the ISMS annual review. Attachment 1 is a CRAD and the criterion from the FY 2005 CBFO-ISMS assessment that specifically address work planning and work control.

WIPP WORK PLANNING AND WORK CONTROL ASSESSMENT
DNFSB RECOMMENDATION 2004-1; COMMITMENT 23

EXECUTIVE SUMMARY:

The overall work planning and work control processes provide an effective foundation for operations. The program was determined to be adequate and overall in compliance with the criteria. Washington TRU Solutions (WTS) was found to meet the objectives of CRAD-3 through CRAD-7 with one opportunity for improvement based on the fact that some new TSRs are still in the process of being implemented and several specific strengths or best practices noted.

PURPOSE AND SCOPE:

This assessment was conducted as the WTS (as the Management and Operating Contractor) portion of the Carlsbad Field Office (CBFO) response to Commitment #23 of the Department of Energy's Implementation Plan for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, "Oversight of Complex, High-Hazard Nuclear Operations." This assessment was conducted in accordance with instructions provided in the November 18, 2005 DOE Headquarters memorandum from the Chief Operating Officer for Environmental Management, and direction received from DOE Carlsbad Field Office. An actual audit based on the objectives provided was conducted including review of recent related assessments, document reviews, interviews, and field observations of work packages in process.

AUDIT TEAM:

Bertha Cassingham served as the lead auditor. Ms. Cassingham is a qualified NQA-1and ISO 9001 Lead Auditor with auditing experience within the environmental, safety and health fields as well as the quality assurance industry. She is a certified Quality Assurance Auditor by the American Society for Quality, by the Department of Energy for the conduct of Radiological Audits, and has been certified by the Occupational Safety & Health Administration for the conduct of Safety and Health audits. She serves as the WIPP site's VPP Program Coordinator with over 20 years experience in safety and quality assurance.

CONCLUSIONS:

At the WIPP site, all the work planning and work control processes fall under the same WTS programs allowing a consistency in implementation that provides a strong foundation for overall effectiveness and compliance with these performance objectives. The procedures adequately delineate responsibilities of the personnel involved in the work control program including initiating, analyzing, and developing work control packages. The process establishes in-depth reviews from field personnel to first line management and the approvals necessary for the various types of work packages to ensure risks are identified and mitigated. Preliminary walk-downs, work area inspections, pre-job briefings, prerequisites includes required training, and limitations and incorporated fully into the work planning processes. The overall work planning process is effective in generating work control documents that lead to safe and efficient completion of work activities. Work in progress is overseen by direct line management supervision, senior management walk-arounds, inspections, surveillances, and formal audits. These oversight activities and other avenues such as performance indicators and post job reviews are trended and lessons learned implemented. Subsequently continuous improvement in work planning and work control is part of the routine process at WIPP. One opportunity for improvement was identified based on the fact that some new TSRs are still in the process of being implemented and several specific strengths or best practices noted in the detailed checklist and related attachments.

WIPP WORK PLANNING AND WORK CONTROL ASSESSMENT
DNFSB RECOMMENDATION 2004-1; COMMITMENT 23

SIGNATURES:
Prepared by Lead Auditor: Bertha Cassingham **Date:** 12-13-2005

Approved by S&H Manager: Craig Hendon **Date:** 12/-13-2005

Performance Objective WPC-3: Work Control Program Documentation	
Performance Objective Description: Work Control Program Documentation: The contractor has developed an effective work planning and control process.	
Criteria:	**Objective Evidence**
1. Contractor work control manual/procedures for initiating, analyzing, and developing work control documents, including job hazard analysis is approved and implemented.	WP 10-2, Rev. 11, Maintenance Operations Instruction Manual, (MOIM) approved 11/11/05. WP 10-WC3011, Rev. 16, Maintenance Process approved 01/31/05.
2. The contractor's work control process establishes the level or review and approval for different types of work control documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work activity.	WP 10-WC3011, Attachment 5, Work Order Determination Check Sheet WP 10-2, MOIM, Risk definitions/categories for maintenance activities.
3. The contractor has established work planning/control requirements for all personnel performing work at their site, including subcontractors. Affected personnel are trained on these requirements.	Training Implementation Matrix, WTS Procedures: WP 09-DC.01, *Construction Management Program,* 15-PC3041, *AR/VR Request Processing,* WP 15-PC3609, *Preparation of Purchase Requisitions,* WP 13-1, *Quality Assurance Program Description,* 12-IS.01-6 *Industrial Safety Program, Subcontractor Safety*
4. The contractor's work control manual/procedure includes turnover requirements when line management and/or first line supervisor responsibilities are transferred.	WP 04-CO,*Conduct of Operations*
5. The contractor's work control manual/procedure includes a process for lessons learned/feedback during the execution of work control activities including incorporation of lessons learned into active and in-development work control documents.	WP 10-WC3011, *Maintenance Process*
6. The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or work control manual/procedure.	WP 10-WC3011, *Maintenance Process*
7. The qualification requirements for Work Control Managers and Planners are established.	WTS Training Implementation Matrix, MAS-120, *Maintenance and Work Control Training*
8. Records that document the successful completion and qualification of Work Control Managers and Planners are retained and auditable.	Individual Training Files, consisting of qualification cards such as ME-1, Maintenance Engineer Authorization Card, MAST Completion Exams, Oral Board Records, etc.

Performance Objective WPC-3: Work Control Program Documentation (continued-2)

Discussion of Results: WPC-3 WP 10-2, Rev. 11, Maintenance Operations Instruction Manual, (MOIM) and WP 10-WC3011, Rev. 16, Maintenance Process, were reviewed to verify that the procedures contain the necessary attributes of an effective work control program. WP 10-2 was formally approved and the latest revision was issued on 11/11/05. WP10-WC3011 was formally approved and the latest revision was issued on 01/31/05. The procedures adequately delineate the roles and responsibilities of the personnel involved in the work control program including initiating, analyzing, and developing work control document. The process establishes the level of review and approval necessary for the various types of work packages from skill of the craft, to preventive maintenance, corrective maintenance, up to major modifications. The type of work package developed is chosen based upon the degree of risks, hazards, and complexity of the work activity. For example, WP 10-WC3011, Attachment 5, *Skill of the Craft/"C" Work Order Determination Check Sheet* for determining whether the package is a Skill of the Craft, the determination checklist demonstrates that if certain hazards such as confined space, radiological worker permit requirement, quality assurance witness points requirements, etc., then the package has to move to a "higher" level "C" package. Other portions of the MOIM, actually include risk definitions in the categories with skill of the craft maintenance activities specifically defined as low risk and incorporate specific processes for determining those risk aspects. Work planning/control requirements have been established for all personnel performing work including subcontractors. Affected personnel are trained on these requirements. For example, at least annually, planners are reinforced on pre-job briefing requirements, management presence, determining adequate detail for work scope and hazard identification per the MOIM, as well as the specific training for personnel performing the work ranging from qualification cards per position, to specific task training (such as lock-out/tag-out), and others depending on the work. Those training requirements per the work scope are well defined in the Training Implementation Matrix, the Hazardous Waste Facility Permit, and in the specific work package as prerequisites. For subcontractors, there are criteria for appropriate incorporation of requirements into training per WP 09-DC.01, the procurement requirements in 15-PC3041, WP15-PC3609, WP13-1, 12-IS.01-6, and other specific procurement and safety criteria in the contract documents such as the special conditions, general provisions, OSHA/MSHA regulations, CFR expectations, and other directives as driven through the contracts. Turnover requirements when line management and/or first line supervisor responsibilities are transferred are specifically addressed in WP 04-CO, *Conduct of Operations*. These include turnover checklist requirements, including managerial checklists documenting the review of certain status documents, with specific focus on status of major components, abnormal lineups, alarms, evolutions planned or in progress and other appropriate information. Lessons learned and feedback mechanisms are effectively incorporated into the execution of work control activities. Review trends on equipment and systems are conducted by the cognizant engineer as part of the development process. Post job reviews conducted in accordance with WP 10-WC3011, Rev. 16, *Maintenance Process* identifying changes needed in the work package are incorporated. The WTS Training Implementation Matrix, which specifies terms and qualification card requirements including the requirement for requalification, incorporates DOE Order 5480.20A. WTS has implemented a qualification card system for most operations in addition to having managerial job descriptions. Managers are being trained through a required series of Management and Supervisor Training (MAST) courses required by their job descriptions and provided by the on-site training department. The MAST series specifically includes MAS-120,*Maintenance and Work Control* training which focuses on ownership, using the work control system, maintenance policies, planning, maintenance capabilities, preventive maintenance, tool and instrument control, and other work planning areas. The combination of the qualification card system and training requirements ensures timely understanding of roles and responsibilities and integrates competence with responsibilities. Technical and safety system knowledge for workers is established through a formal training and qualification program tailored through a formal systematic approach to training program to each job classification. Changes to technical and safety system operations information are immediately reflected in training material updates and in immediate re-training requirements for affected personnel. Examples specific to work planners include the qualification card, ME-1, Rev. 0 for WIPP Maintenance Engineer Authorization Card which addresses various environment, safety, and health requirements, (including Job Hazard Analysis), codes and standards, facility document system including procurement/subcontractor processes, safety analysis, unreviewed safety question process, material, maintenance, and modification controls, processes, and requirements, conduct of operations, drawings, engineering changes, calculations, change control, design verification, radiological work permits, postings, and access control, quality assurance program requirements and controls, and other related work planning expectations. Records that document the successful completion of training and qualifications of all personnel at WIPP are retained and auditable. A random review of training records such as qualification cards, MAST completion exams, and oral board records for managers, maintenance engineers, cognizant system engineers was readily available in the records section of the WTS Technical Training department. **Conclusion** WTS has developed and implemented an effective work planning and control processes. There were no findings, or observations noted at this time. Though the overall program in accordance with this criteria appears strong, there were not any individual strengths that were specifically identified in this area.

Performance Objective WPC-4: Work Planning and Control Activity	
Performance Objective Description: Work Planning and Control: Definition and Hazard Identification: Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.	
Criteria	**Objective Evidence**
1. Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries are understood.	• Work Order 0502449, "A" package dated 03/28/05 • Work Order 0502925, "PM" package dated 04/20/05 • Work Order 0503260, "Mod" package dated 07/05/05 **Interviews Conducted** • Maintenance Representative • Associate Operations Engineer • Mechanical Engineer • Craft • Cognizant Engineer • Work Control Manager • Safety Specialist
2. A team comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health Subject Matter Experts, etc.) is selected by line management to participate in the development of the work control document.	• SIMON Templates and documents • Work Order 0502449, "A" package dated 03/28/05 • Work Order 0502925, "PM" package dated 04/20/05 • Work Order 0503260, "Mod" package dated 07/05/05 • Work Order 0510764, in review • Work Order 0511131, in review • Work Order 0509784, in review **Observations of Work** • Facility Shift Engineer walkdown of proposed package • Cognizant Engineer package review • Safety specialist review • Facility Shift Manager review

Performance Objective WPC-4: Work Planning and Control Activity (continued-2)	
Criteria:	**Objective Evidence**
3. The team performs effective walk downs and Job Hazard Analyses in order to develop work steps/techniques and identify possible hazards and their associated controls.	• SIMON Templates and documents • WP 10-2, Rev. 22, *Maintenance Operations Instruction Manual* • WP 10-WC3011, Rev. 16, *Maintenance Process* • 14 Job Hazard Analysis • Work Order 0502449, "A" package dated 03/28/05 • Work Order 0502925, "PM" package dated 04/20/05 • Work Order 0503260, "Mod" package dated 07/05/05 • Work Order 0510764, in review • Work Order 0511131, in review • Work Order 0509784, in review **Interviews Conducted** • Maintenance Representative • Associate Operations Engineer • Mechanical Engineer • Craft • Cognizant Engineer • Work Control Manager • Safety Specialist **Observations of Work** • Facility Shift Engineer walkdown of proposed package • Cognizant Engineer package review • Safety specialist review • Facility Shift Manager review
4. The team considers potential upset conditions, accidents, and "what if" scenarios and their consequences during the walkdowns and JHAs.	• Work Order 0502449, "A" package dated 03/28/05 • Work Order 0502925, "PM" package dated 04/20/05 • Work Order 0503260, "Mod" package dated 07/05/05 **Interviews Conducted** • Maintenance Representative • Associate Operations Engineer • Mechanical Engineer • Craft • Cognizant Engineer • Work Control Manager • Safety Specialist
5. The team selects controls based upon the following hierarchy: (1) hazard elimination/reduction (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.	• Work Order 0502449, "A" package dated 03/28/05 • Work Order 0502925, "PM" package dated 04/20/05 • Work Order 0503260, "Mod" package dated 07/05/05 •

Performance Objective WPC-4: Work Planning and Control Activity (continued-3)	
Criteria	**Objective Evidence**
6. The team ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction). The Criteria addresses potential loss of safety function during D&D and may not be applicable to all work activities.	N/A
7. The team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heating exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.	• SIMON Templates and documents • WP 10-2, Rev. 22, *Maintenance Operations Instruction Manual* • WP 10-WC3011, Rev. 16, *Maintenance Process* • 14 Job Hazard Analysis • Work Order 0510764, in review • Work Order 0511131, in review **Interviews Conducted** • Maintenance Representative • Mechanical Engineer • Craft • Safety Specialist **Observations of Work** • Safety specialist review • Facility Shift Manager review

Performance Objective WPC-4: Work Planning and Control Activity (continued-4)

Discussion of Results-WPC-4:

Discussion and walk down of the proposed work activity is performed by the appropriate personnel to ensure that the work is properly scoped and that boundaries are understood. Review of the work packages and interviews verified that preliminary walk-down and work area inspections are completed and signed, and that the pre-job briefing are performed. This includes boundaries such as prerequisites, limitations, component positions required, etc.

Signatures required on the planning documents thus reflecting appropriate involvement as applicable may include craft review, safety specialist, appropriate engineering reviews, additional subject matter experts (such as the cognizant engineer, or ALARA or NEPA reviewers) and work control manager or zone managers signatures are required.

The team performs effective walkdowns and Job Hazard Analyses in order to develop work steps/techniques and identify possible hazards and associated controls. Interviews and work packages reviewed appropriately reflected that potential accidents, "what if" scenarios and their consequences are not only considered but are actively addressed in the development of the packages. In addition prerequisites per the SIMON PM documentation system require discussion and signature regarding understanding of hazards, precautions, mitigation actions, limitations, etc. A particular strength noted, included the fact that is mitigation actions were identified to be taken in case of specific hazards identified in the work package, each worker involved in that package had to additionally sign at each mitigation step to ensure they understood the importance of that aspect in the package.

As recently verified by DOE EH during the VPP Recertification review conducted in the fall of 2005, the site as a foundational key to their VPP STAR program selects controls based upon the hierarchy of (1) hazard elimination/reduction (2) engineered controls, (3) administrative controls, and (4) personal protective equipment. This continued to be appropriately reflected in the work packages reviewed during this assessment.

Since the criteria on the levels of controls for a hazard was specifically referenced as addressing the potential loss of safety function during D&D activities, it was determined to be not applicable to this assessment and thus is not addressed in this discussion.

Interviews reflected that the team does evaluate the possibility of creating additional hazards due to selected controls. In fact due to heat concerns here in SE New Mexico, special protections have been added such as building a canopy to cover shipments awaiting unloading so that units are not putting off as much heat thus affecting the PPE for waste handlers, etc. Review for synergistic effects of selected controls are also part of the reviews conducted by the Worker Protection Team per DOE O 440.1.

Conclusion

The review verified that proposed work activities are adequately defined and analyzed to identify hazards and their associated controls in accordance with the expectations of this criteria. There were not any findings or observations identified. One noteable strength is referenced below.

Strengths

A particular strength noted specifically related to this section of criteria included the fact that as mitigation actions were identified to be taken in case of specific hazards identified in the work package, each worker to be conducting the work involved in that package had to additionally sign at each mitigation step to ensure they understood the importance of that aspect in the package.

Performance Objective WPC-5: Work Planning and Control Process	
Performance Objective Description: The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.	
Criteria:	**Objective Evidence**
1. 1. The work scope and associated boundaries are clearly defined.	• "A" Package W/O 0502449, 03/28/05, 41-N-100 Safety Edge Switch Work Package • "SOC" Package W/O 0506463, 07/08/05, Tighten Door Rollers Work Package • "SOC" Package W/O 0505808, 06/21/05, Repair/Replace West Guide Rail • "SOC" Package W/O 0410288, 01/04/05, Repair Rusted Area on Siding, Backup Diesel Generator #2 • "PM" Package W/O 0502925, 04/20/05, Supply Air Handling Unit • "PM" Package W/O 0502079, 03/14/05, Domestic Water Pressure Control • "Mod" W/O 0503260, 07/05/05, Install 120 VAC Power from P3/RM1 to UPS • "Mod" W/O 0504243, 08/29/05, Move Bulkhead and Close Room • "Corrective Maintenance" W/O 0502611, 03/22/05, Low Oil Pressure Alarm • " Corrective Maintenance" W/O 0501173, Replace Spring Shaft Bearings **Interviews Conducted** • Craft

Performance Objective WPC-5: Work Planning and Control Process (continued-2)	
Criteria	**Objective Evidence**
2. The work control document is written in a clear, concise, and worker friendly manner.	• "A" Package W/O 0502449, 03/28/05, 41-N-100 Safety Edge Switch Work Package • "SOC" Package W/O 0506463, 07/08/05, Tighten Door Rollers Work Package • "SOC" Package W/O 0505808, 06/21/05, Repair/Replace West Guide Rail • "SOC" Package W/O 0410288, 01/04/05, Repair Rusted Area on Siding, Backup Diesel Generator #2 • "PM" Package W/O 0502925, 04/20/05, Supply Air Handling Unit • "PM" Package W/O 0502079, 03/14/05, Domestic Water Pressure Control • "Mod" W/O 0503260, 07/05/05, Install 120 VAC Power from P3/RM1 to UPS • "Mod" W/O 0504243, 08/29/05, Move Bulkhead and Close Room • "Corrective Maintenance" W/O 0502611, 03/22/05, Low Oil Pressure Alarm • " Corrective Maintenance" W/O 0501173, Replace Spring Shaft Bearings **Interviews Conducted** • Maintenance Representative • Associate Operations Engineer • Mechanical Engineer • Craft • Cognizant Engineer • Work Control Manager • Safety Specialist Facility Shift Manager
3. The work steps for activities are properly sequenced.	• "A" Package W/O 0502449, 03/28/05, 41-N-100 Safety Edge Switch Work Package • "SOC" Package W/O 0506463, 07/08/05, Tighten Door Rollers Work Package • "SOC" Package W/O 0505808, 06/21/05, Repair/Replace West Guide Rail • "SOC" Package W/O 0410288, 01/04/05, Repair Rusted Area on Siding, Backup Diesel Generator #2 • "PM" Package W/O 0502925, 04/20/05, Supply Air Handling Unit • "PM" Package W/O 0502079, 03/14/05, Domestic Water Pressure Control • "Mod" W/O 0503260, 07/05/05, Install 120 VAC Power from P3/RM1 to UPS • "Mod" W/O 0504243, 08/29/05, Move Bulkhead and Close Room • "Corrective Maintenance" W/O 0502611, 03/22/05, Low Oil Pressure Alarm • " Corrective Maintenance" W/O 0501173, Replace Spring Shaft Bearings

Performance Objective WPC-5: Work Planning and Control Process (continued-3)	
Criteria	**Objective Evidence**
4. Work control documents adequately incorporate technical and administrative requirements (e.g., contract, safety basis, regulatory, consensus codes, etc.)	• "A" Package W/O 0502449, 03/28/05, 41-N-100 Safety Edge Switch Work Package • "SOC" Package W/O 0506463, 07/08/05, Tighten Door Rollers Work Package • "SOC" Package W/O 0505808, 06/21/05, Repair/Replace West Guide Rail • "SOC" Package W/O 0410288, 01/04/05, Repair Rusted Area on Siding, Backup Diesel Generator #2 • "PM" Package W/O 0502925, 04/20/05, Supply Air Handling Unit • "PM" Package W/O 0502079, 03/14/05, Domestic Water Pressure Control • "Mod" W/O 0503260, 07/05/05, Install 120 VAC Power from P3/RM1 to UPS • "Mod" W/O 0504243, 08/29/05, Move Bulkhead and Close Room • "Corrective Maintenance" W/O 0502611, 03/22/05, Low Oil Pressure Alarm • " Corrective Maintenance" W/O 0501173, Replace Spring Shaft Bearings
5. Work hazard controls identified in the JHA have been incorporated into the work control document.	• "A" Package W/O 0502449, 03/28/05, 41-N-100 Safety Edge Switch Work Package • "SOC" Package W/O 0506463, 07/08/05, Tighten Door Rollers Work Package • "SOC" Package W/O 0505808, 06/21/05, Repair/Replace West Guide Rail • "SOC" Package W/O 0410288, 01/04/05, Repair Rusted Area on Siding, Backup Diesel Generator #2 • "PM" Package W/O 0502925, 04/20/05, Supply Air Handling Unit • "PM" Package W/O 0502079, 03/14/05, Domestic Water Pressure Control • "Mod" W/O 0503260, 07/05/05, Install 120 VAC Power from P3/RM1 to UPS • "Mod" W/O 0504243, 08/29/05, Move Bulkhead and Close Room • "Corrective Maintenance" W/O 0502611, 03/22/05, Low Oil Pressure Alarm • " Corrective Maintenance" W/O 0501173, Replace Spring Shaft Bearings

Performance Objective WPC-5: Work Planning and Control Process (continued-4)	
Criteria	**Objective Evidence**
6. The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.	• "A" Package W/O 0502449, 03/28/05, 41-N-100 Safety Edge Switch Work Package • "SOC" Package W/O 0506463, 07/08/05, Tighten Door Rollers Work Package • "SOC" Package W/O 0505808, 06/21/05, Repair/Replace West Guide Rail • "SOC" Package W/O 0410288, 01/04/05, Repair Rusted Area on Siding, Backup Diesel Generator #2 • "PM" Package W/O 0502925, 04/20/05, Supply Air Handling Unit • "PM" Package W/O 0502079, 03/14/05, Domestic Water Pressure Control • "Mod" W/O 0503260, 07/05/05, Install 120 VAC Power from P3/RM1 to UPS • "Mod" W/O 0504243, 08/29/05, Move Bulkhead and Close Room • "Corrective Maintenance" W/O 0502611, 03/22/05, Low Oil Pressure Alarm • " Corrective Maintenance" W/O 0501173, Replace Spring Shaft Bearings

Performance Objective WPC-5: Work Planning and Control Process (continued-5)

Discussion of Results WPC-5:

Work packages reviewed and interviews with personnel that conducted the work in those packages provided objective evidence that the work scope and associated boundaries are clearly defined.

Personnel stated that the work control documents are written in a worker friendly manner, that terminologies are consistent, expectations are clear, and review of the documents reflected that the document is written in clear, concise manner. The CHAMPS cover sheet forms with signatures provide good direction, and the packages are thorough including all precautions, limitations, a copy of the JHA, a material list, an equipment list, actual performance steps, hold/witness points, configurations, lock-outs, and even includes checklist for documentation of M&TE including listing the instrument, the #, and the calibration date, as well as checks to verify equipment alarms. The M&TE documentation requirements as part of the work package is also considered a strength.

Work packages demonstrated that the steps for activities are properly sequenced.

Work control documents do adequately incorporate technical and administrative requirements as was portrayed by planning attachments such as NEPA reviews, ALARA reviews, safety reviews, and others. The WIPP site is in the process of incorporating new TSRs related to new revision of the DSA into processes during the conduct of this review. After complete implementation, that portion of this criteria needs to be additionally reviewed.

Work hazard controls identified in the JHA were incorporated into the work control document. As stated related to a previous criteria, the controls were identified for specific hazards, are delineated immediately before the work control document step where the hazard is encountered and are not only highlighted but additional signatures at each mitigation point as an additional administrative control for awareness is required and was considered a strength in the previous criteria.

Conclusion

The WTS work planning process is effective in generating work control documents that lead to safe and efficient completion of work activities. There were no findings identified. One observation was made related to the criteria on incorporated safety basis requirements in the work control documents. Since a new revision to the DSA has additional TSRs which are in the process of being implemented during the time of this review, it is recommended that this section of criteria be reviewed again at a later date to verify implementation to this level of expectation. There was one additional strength noted in this section of criteria. (Others will not be listed again as they have been previously identified under other criteria.) That strength is related to the required documentation on M&TE used during the fulfillment of the work package. Instead of just a checkpoint verifying that currently calibrated M&TE is used as has been seen at other sites, WTS requires completion of a table identifying M&TE specifics such as instrument number, calibration date, and signature.

Observations

The WIPP site is in the process of incorporating new TSRs related to new revision of the DSA into processes during the conduct of this review. After complete implementation, the portion of this criteria referencing incorporation of safety basis requirements into work control documents needs to be additionally reviewed.

Strengths

The requirement for completion of a table identifying M&TE specifics such as instrument number, calibration date, and signature for each M&TE used to conduct the activities identified in the work package is considered a strength.

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Performance Objective WPC-6: Work Planning and Control Oversight	
Performance Objective Description: Contractor personnel perform work in accordance with approved work control documents.	
Criteria	**Objective Evidence**
1. First line supervisors and workers are knowledgeable of their work control documents and meet all applicable training and medical requirements.	• Work Order 0511219A, Electric Fire Pump-work in progress • Lockout/Tagout Control Sheet for 456,45-G-601, 12/12/05 • Danger Tag 25P-SWG 04/4 CB6 12/12/05 • Tag Audit/Verification Sheet, 12/12/05 • Individual Training Files **Interviews Conducted** Facility Shift Manager Maintenance Technician Electrical Technician Zone Team Leader **Observations of Work** Electric Fire Pump Lock-Out/Tag-Out High Electric Hazard, Area Sub #4 Porta Potty Cleaning
2. Operations work control authority reviews and authorizes all work control documents prior to commencement of work. He/she is required to evaluate all work at a facility and/or site to ensure work activities of one scope do not adversely affect the safe work of another.	• Work Order 0510764, in review • Work Order 0511131, in review • Work Order 0509784, in review **Interviews Conducted** Facility Shift Manager
3. Effective pre-evolutionary briefings are performed.	• Plan of the Day 12/12/05 • Plan of the Week 12/12/05-12/18/05 **Interviews Conducted** Facility Shift Manager Environmental Technician Maintenance Technician Electrical Technician Zone Team Leader **Observations of Work** Electric Fire Pump Lock-Out/Tag-Out High Electric Hazard, Area Sub #4 Porta Potty Cleaning

Performance Objective WPC-6: Work Planning and Control Oversight (continued-2)	
Criteria	**Objective Evidence**
4. First line supervisors and workers follow work control document instructions as written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their change control process.	• Work Order 0511219A, Electric Fire Pump-work in progress • Lockout/Tagout Control Sheet for 456,45-G-601, 12/12/05 • Danger Tag 25P-SWG 04/4 CB6 12/12/05 • Tag Audit/Verification Sheet, 12/12/05 • Plan of the Day 12/12/05 **Observations of Work** Electric Fire Pump Lock-Out/Tag-Out High Electric Hazard, Area Sub #4 Porta Potty Cleaning
5. First line supervisors and workers understand their stop work authority.	MP 1.2, Work Suspension and Stop Work Direction **Interviews Conducted** Facility Shift Manager Environmental Technician Maintenance Technician Electrical Technician Zone Team Leader Lessons Learned Coordinator QA Trending Coordinator **Observations of Work** Electric Fire Pump Lock-Out/Tag-Out High Electric Hazard, Area Sub #4 Porta Potty Cleaning
6. Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.	• Work Order 0511219A, Electric Fire Pump-work in progress • Lockout/Tagout Control Sheet for 456,45-G-601, 12/12/05 • Danger Tag 25P-SWG 04/4 CB6 12/12/05 • Tag Audit/Verification Sheet, 12/12/05
7. Lessons Learned/feedback is incorporated into active and in-development work control documents in a timely manner.	• Work Order 0510764, in review • Work Order 0511131, in review • Work Order 0509784, in review • 2005 Trending Charts for: Work Orders, Scheduled Maintenance Performance, Corrective Maintenance, Modifications, Schedule Loading • 2005 Lessons Learned Files **Interviews Conducted** Maintenance Representative Surface Electrical Manager Maintenance Engineer Cognizant Engineer Lessons Learned Coordinator QA Trending Coordinator

Performance Objective WPC-6: Work Planning and Control Oversight (continued-3)

Discussion of Results-WPC-6:

Several work packages were selected to observe the work in progress. Workers and their first line managers were interviewed and were knowledgeable of their work control documents, and had all the appropriate PPE, documentation, and equipment to conduct their work. A review of training records revealed that those same personnel did meet all the applicable training and related medical requirements to conduct the work they were doing.

The operations work control authority reviews and authorizes all work control documents prior to commencement of the work. At the WIPP, that is the Facility Shift Manager. Not only is the written work order package reviewed by the Facility Shift Manager, but when the work is due to begin, personnel radio the CMR, who verifies with the FSM for start of work. During one of the work sessions being observed, work was scheduled to begin on the Electric Fire Pump. The FSM did a last minute check to ensure everything was ready, and stopped work, to allow time for verification that the underground tanks had been filled to ensure safety precautions in case of fire while the Electric Fire Pump was done. When that had been verified, work resumed to shut down the pump. The FSM obviously went above and beyond in ensuring that the work activities of one scope do not adversely affect the safe work of another, even though these aspects are thoroughly reviewed, covered, and planned for in the initial work development, plan of the day discussions, and plan of the week discussions. This centralized authority for actual commencement of work is very effective.
Pre-evolutionary briefings were performed. In the case of the Lock-Out/Tag-Out in a high electric hazard area, there was in-depth discussion of PPE, with others watching out for each other in reviewing PPE after donning to ensure all in place, verifying distances, etc.

The work control instructions were followed exactly as written with the one instance referenced above of halting to verify underground tanks were at full capacity as back-up. During 2004, an underground accident resulted in a Type B accident investigation focused on changing conditions resulting in unexpected conditions. This major event for our facility has significantly increased overall awareness and actions taken related to stopping work if unexpected conditions arise. All employees interviewed reflected that they were aware of the authority to stop work per WTS Management Policy 1.2, *Work Suspension and Stop Work Direction*. Interviews of approximately 25 % of craft personnel conducted during a VPP Recertification review this past fall, reflected impressive awareness of the authority and willingness to Stop Work.

Work control documents reviewed contained adequate documentation regarding the work status including the nature of and response to unexpected conditions. For instance, the calls related to the fire pump, and filling of underground tanks were all logged into the CMR log including times. The operating log maintained in the CMR serves as a key to work status at any specific point in time. Depending on the work being conducted, other logs such as the Waste Handling Log maintained in the Waste Handling bay serve to supplement. However, all key activities (including Waste Handling mode changes, etc.) are tracked in the CMR.

Review of trending charts, lessons learned files, and work package post-job review comments reflected that lessons learned are appropriately incorporated into active and in-development work control documents in a timely manner. One example stated in interviews included a formal lessons learned on welding inspections from another facility that resulted in a recent change to work package hold and witness points on welding inspections, allowing inspections earlier in the process. Another example from post job review comments stated a tool change (longer handle specified) for the equipment list to accommodate the job needs, which was demonstrated as being included in the very next package for that preventive maintenance task. Equipment tracking and trending resulted in 2004 resulted in the discovery of S/CI fan blades that were noted to be requiring more frequent replacement than should be. Contact with the foreign manufacturer determined that the fan blades actually delivered were not of their manufacture. Formal S/CI and lessons learned including GIDEP were distributed accordingly. The WIPP Lessons Learned program was noted as a Best Practice by the DOE EH VPP review team in the fall of 2005.

Conclusion

Contractor personnel perform work in accordance with approved work control documents. This was verified through document review, interviews, and observing work in progress. In addition, quality assurance trending has demonstrated continued improvement in procedural compliance. There were no findings, or observations associated with this specific criteria.

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Performance Objective WPC-7: Work Planning and Control Oversight	
Performance Objective Description: The contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents.	
Criteria:	**Objective Evidence**
1. The contractor has scheduled and performed independent and self-assessment of the work planning and control process. These activities are of sufficient scope, detail, and quantity that the contractor can ascertain the status of their work planning and control process.	**Documents Reviewed** • Audit Report I05-11, *Work Processes* • 2005 Audit/Surveillance Schedule • Database, 2005 Work Control Manager Walkdowns • Management Assessment, Lock-Out/Tag-Out, Sept. 2005
2. Line managers periodically perform surveillances, which include the observations of job walkdowns and JHA walkdowns/meetings, pre-evolution briefings, and work performed to work control documents.	**Documents Reviewed** • WP 15 GM1000, *Management Assessments* • Database, 2005 Work Control Manager Walkdowns **Interviews Conducted** Work Control Manager
3. Line managers periodically review in-development and approved work control documents.	**Documents Reviewed** • Database, 2005 Work Control Manager Walkdowns • 2005 Trending Charts for: Work Orders, Scheduled Maintenance Performance, Corrective Maintenance, Modifications, Schedule Loading • Work Order 0510764, in review • Work Order 0511131, in review • Work Order 0509784, in review **Interviews Conducted** Work Control Manager Surface Electrical Manager Facility Shift Manager
4.The contractor tracks and trends the results of oversight activities performed on their work planning and control process and takes appropriate actions.	• Audit Report I05-11, *Work Processes* • QA Semi Annual Trending Report • Management Assessment, Lock-Out/Tag-Out, Sept. 2005 • 2005 Trending Charts for: Work Orders, Scheduled Maintenance Performance, Corrective Maintenance, Modifications, Schedule Loading **Interviews Conducted** Work Control Manager QA Lead Auditor QA Administrative Assistant

Performance Objective WPC-7: Work Planning and Control Oversight (continued-2)

Discussion of Results-WPC-7:

Independent and management assessment reviews are part of the established processes for assessment of work planning and control processes. These programs are formal processes of sufficient scope, detail, and quantity that WTS can effectively ascertain the status of their work planning and control process. The frequency for independent assessment is determined per QAPD risk and hazard analysis. During calendar year 2005 not only was an independent audit specifically of Work Processes conducted with no findings, but other independent QA surveillances reviewed various vital safety systems which also includes significant review of related work planning and control processes. In fact, on a rotational basis over a 2 year period, every WIPP Vital Safety Systems is reviewed. In addition, each manager is responsible for conducting walkarounds, walkdowns reviewing work in progress, and cognizant engineers conduct a complete walkdown of their system on an annual basis.

Self-Assessments and management assessment include observations of job walk downs and JHA walk downs/meetings, pre-job briefings, and work being performed. In the database reviewed, specific actions were taken such as one occasion of halting work when one employee had been called to respond to an emergency (as one of WIPP's emergency response team volunteers) at another location, employees had planned to continue working. The manager shut the work down as all the listed personnel for the work package were not available. Another one reviewed reflected that a JHA for a subcontractor did not appear to reflect the current work conditions. Therefore, work was shut down until an appropriate JHA with the changed conditions was developed and approved. Interviews and documents reviewed, reflected that management is aware of the tasks and hazards of those tasks being performed, status of work in progress, and are active participants in ensuring that work is performed safely.

Line management reviews are not just periodic reviews of in-development and approved work control documents. They are an active participant including signature requirements as part of the routine process for developing work control documents.

WTS tracks and rends the results of oversight activities performed on their work planning and control process and takes appropriate actions. Monitoring of work orders completed, scheduled performance, work-orders scheduled and not worked, schedule loading, corrective maintenance backlog, and modifications per zone/surface/site as well as equipment and systems trending, and overall QA trending are closely tracked and appropriate actions taken including in the development of work control documents.

Conclusion

WTS has an established process that requires line management and assessment personnel to perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents. These are conducted under the auspices of the WTS QAPD, as Management Assessments, and as informal walkdowns and reviews.

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Attachment 1
Review Form-WPC-3

Objective

WPC-3: Work Control Program Documentation: The contractor has developed an effective work planning and control process.

Criteria

9. Contractor work control manual/procedures for initiating, analyzing, and developing work control documents, including job hazard analysis is approved and implemented.

10. The contractor's work control process establishes the level or review and approval for different types of work control documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work activity.

11. The contractor has established work planning/control requirements for all personnel performing work at their site, including subcontractors. Affected personnel are trained on these requirements.

12. The contractor's work control manual/procedure includes turnover requirements when line management and/or first line supervisor responsibilities are transferred.

13. The contractor's work control manual/procedure includes a process for lessons learned/feedback during the execution of work control activities including incorporation of lessons learned into active and in-development work control documents.

14. The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or work control manual/procedure.

15. The qualification requirements for Work Control Managers and Planners are established.

16. Records that document the successful completion and qualification of Work Control Managers and Planners are retained and auditable.

Documents Reviewed

- WP 04-CO, Rev. 5, *Conduct of Operations*
- WP 10-2, Rev. 22, *Maintenance Operations Instruction Manual*
- WP 10-WC3011, Rev. 16, *Maintenance Process*
- WP 12-IS.01-6, Rev. 0, *Industrial Safety Program, Subcontractor Safety*
- WP 09-DC.01, Rev. 7, *Construction Management Program*
- WP 15-PC3041, Rev.6, *AR/VR Request Processing*
- WP 13-1, Rev. 25, *Quality Assurance Program Description,*

- WP 10-AD3005, Rev. 3, *Control & Use of Maintenance Locks*
- WP 15-PC3609, Rev. 14, *Preparation of Purchase Requisitions.*
- WP 09, Rev. 18, *Engineering Conduct of Operations*
- 2005 Technical Training Course Catalog
- MAS-120, Maintenance and Work Control
- MAS-118, Plant Modifications
- MAS-129, Training and Qualification of Personnel
- ME-01, Rev. 0 WIPP Maintenance, Maintenance Engineer Authorization Card
- Individual Training Files

Interviews Conducted

- Mechanical Engineer
- Waste Handling Systems Cognizant Engineer
- Maintenance Representative
- Work Control Manager
- Training Records Team Leader
- Construction Manager
- Operations Training Coordinator
- Training Specialist

Observations of Work (if applicable)

- **N/A**

Discussion of Results

WP 10-2, Rev. 11, Maintenance Operations Instruction Manual, (MOIM) and WP 10-WC3011, Rev. 16, Maintenance Process, were reviewed to verify that the procedures contain the necessary attributes of an effective work control program. WP 10-2 was formally approved and the latest revision was issued on 11/11/05. WP10-WC3011 was formally approved and the latest revision was issued on 01/31/05. The procedures adequately delineate the roles and responsibilities of the personnel involved in the work control program including initiating, analyzing, and developing work control document.

The process establishes the level of review and approval necessary for the various types of work packages from skill of the craft, to preventive maintenance, corrective maintenance, up to major modifications. The type of work package developed is chosen based upon the degree of risks, hazards, and complexity of the work activity. For example, WP 10-WC3011, Attachment 5, *Skill of the Craft/"C" Work Order Determination Check Sheet* for determining whether the package is a Skill of the Craft, the determination checklist demonstrates that if certain hazards such as confined space, radiological worker permit requirement, quality assurance witness points requirements, etc., then the package has to move to a "higher" level "C" package. Other portions of the MOIM, actually include risk definitions in the categories with skill of the craft maintenance activities specifically defined as low risk and incorporate specific processes for determining those risk aspects.

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Work planning/control requirements have been established for all personnel performing work including subcontractors. Affected personnel are trained on these requirements. For example, at least annually, planners are reinforced on pre-job briefing requirements, management presence, determining adequate detail for work scope and hazard identification per the MOIM, as well as the specific training for personnel performing the work ranging from qualification cards per position, to specific task training (such as lock-out/tag-out), and others depending on the work. Those training requirements per the work scope are well defined in the Training Implementation Matrix, the Hazardous Waste Facility Permit, and in the specific work package as prerequisites. For subcontractors, there are criteria for appropriate incorporation of requirements into training per WP 09-DC.01, the procurement requirements in 15-PC3041, WP15-PC3609, WP13-1, 12-1S.01-6, and other specific procurement and safety criteria in the contract documents such as the special conditions, general provisions, OSHA/MSHA regulations, CFR expectations, and other directives as driven through the contracts.

Turnover requirements when line management and/or first line supervisor responsibilities are transferred are specifically addressed in WP 04-CO, *Conduct of Operations.* These include turnover checklist requirements, including managerial checklists documenting the review of certain status documents, with specific focus on status of major components, abnormal lineups, alarms, evolutions planned or in progress and other appropriate information.

Lessons learned and feedback mechanisms are effectively incorporated into the execution of work control activities. Review trends on equipment and systems are conducted by the cognizant engineer as part of the development process. Post job reviews conducted in accordance with WP 10-WC3011, Rev. 16, *Maintenance Process* identifying changes needed in the work package are incorporated.
The WTS Training Implementation Matrix, which specifies terms and qualification card requirements including the requirement for requalification, incorporates DOE Order 5480.20A. WTS has implemented a qualification card system for most operations in addition to having managerial job descriptions. Managers are being trained through a required series of Management and Supervisor Training (MAST) courses required by their job descriptions and provided by the on-site training department. The MAST series specifically includes MAS-120,*Maintenance and Work Control* training which focuses on ownership, using the work control system, maintenance policies, planning, maintenance capabilities, preventive maintenance, tool and instrument control, and other work planning areas. The combination of the qualification card system and training requirements ensures timely understanding of roles and responsibilities and integrates competence with responsibilities. Technical and safety system knowledge for workers is established through a formal training and qualification program tailored through a formal systematic approach to training program to each job classification. Changes to technical and safety system operations information are immediately reflected in training material updates and in immediate re-training requirements for affected personnel. Examples specific to work planners include the qualification card, ME-1, Rev. 0 for WIPP Maintenance Engineer Authorization Card which addresses various environment, safety, and health requirements, (including Job Hazard Analysis), codes and standards, facility document system including procurement/subcontractor processes, safety analysis, unreviewed safety question process, material, maintenance, and modification controls, processes, and requirements, conduct of operations, drawings, engineering changes, calculations, change control, design verification, radiological work permits, postings, and access control, quality assurance program requirements and controls, and other related work planning expectations.

Records that document the successful completion of training and qualifications of all personnel at WIPP are retained and auditable. A random review of training records such as qualification cards, MAST completion exams, and oral board records for managers, maintenance engineers, cognizant system engineers was readily available in the records section of the WTS Technical Training department.

Conclusion
WTS has developed and implemented an effective work planning and control processes. There were no findings, or observations noted at this time. Though the overall program in accordance with this criteria appears strong, there were not any individual strengths that were specifically identified in this area.

Findings
N/A

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Observations
N/A

Strengths
N/A

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Review Form - WPC-4

Objective

WPC-4: Work Planning and Control: Definition and Hazard Identification: Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

Criteria

8. Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries are understood.

9. A team comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health Subject Matter Experts, etc.) is selected by line management to participate in the development of the work control document.

10. The team performs effective walk downs and Job Hazard Analyses in order to develop work steps/techniques and identify possible hazards and their associated controls.

11. The team considers potential upset conditions, accidents, and "what if" scenarios and their consequences during the walkdowns and JHAs.

12. The team selects controls based upon the following hierarchy: (1) hazard elimination/reduction (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.

13. The team ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction). The Criteria addresses potential loss of safety function during D&D and may not be applicable to all work activities.

14. The team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heating exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.

Documents Reviewed

- SIMON Templates and documents
- WP 10-2, Rev. 22, *Maintenance Operations Instruction Manual*
- WP 10-WC3011, Rev. 16, *Maintenance Process*
- 14 Job Hazard Analysis
- Work Order 0502449, "A" package dated 03/28/05
- Work Order 0502925, "PM" package dated 04/20/05
- Work Order 0503260, "Mod" package dated 07/05/05
- Work Order 0510764, in review
- Work Order 0511131, in review
- Work Order 0509784, in review

Interviews Conducted

- Maintenance Representative

- Associate Operations Engineer
- Mechanical Engineer
- Craft
- Cognizant Engineer
- Work Control Manager
- Safety Specialist

Observations of Work

- Facility Shift Engineer walkdown of proposed package
- Cognizant Engineer package review
- Safety specialist review
- Facility Shift Manager review

Discussion of Results

Discussion and walk down of the proposed work activity is performed by the appropriate personnel to ensure that the work is properly scoped and that boundaries are understood. Review of the work packages and interviews verified that preliminary walk-down and work area inspections are completed and signed, and that the pre-job briefing are performed. This includes boundaries such as prerequisites, limitations, component positions required, etc.

Signatures required on the planning documents thus reflecting appropriate involvement as applicable may include craft review, safety specialist, appropriate engineering reviews, additional subject matter experts (such as the cognizant engineer, or ALARA or NEPA reviewers) and work control manager or zone managers signatures are required.

The team performs effective walkdowns and Job Hazard Analyses in order to develop work steps/techniques and identify possible hazards and associated controls. Interviews and work packages reviewed appropriately reflected that potential accidents, "what if" scenarios and their consequences are not only considered but are actively addressed in the development of the packages. In addition prerequisites per the SIMON PM documentation system require discussion and signature regarding understanding of hazards, precautions, mitigation actions, limitations, etc. A particular strength noted, included the fact that is mitigation actions were identified to be taken in case of specific hazards identified in the work package, each worker involved in that package had to additionally sign at each mitigation step to ensure they understood the importance of that aspect in the package.

As recently verified by DOE EH during the VPP Recertification review conducted in the fall of 2005, the site as a foundational key to their VPP STAR program selects controls based upon the hierarchy of (1) hazard elimination/reduction (2) engineered controls, (3) administrative controls, and (4) personal protective equipment. This continued to be appropriately reflected in the work packages reviewed during this assessment.

Since the criteria on the levels of controls for a hazard was specifically referenced as addressing the potential loss of safety function during D&D activities, it was determined to be not applicable to this assessment and thus is not addressed in this discussion.

Interviews reflected that the team does evaluate the possibility of creating additional hazards due to selected controls. In fact due to heat concerns here in SE New Mexico, special protections have been added such as building a canopy to cover shipments awaiting unloading so that units are not putting off as much heat thus affecting the PPE for waste handlers, etc. Review for synergistic effects of selected controls are also part of the reviews conducted by the Worker Protection Team per DOE O 440.1.

Conclusion

The review verified that proposed work activities are adequately defined and analyzed to identify hazards and their associated controls in accordance with the expectations of this criteria. There were not any findings or observations identified. One noteable strength is referenced below.

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Findings
N/A

Observations
N/A

Strengths
A particular strength noted specifically related to this section of criteria included the fact that as mitigation actions were identified to be taken in case of specific hazards identified in the work package, each worker to be conducting the work involved in that package had to additionally sign at each mitigation step to ensure they understood the importance of that aspect in the package.

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Objective

WPC-5: Work Planning and Control Process: The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

Criteria

7. The work scope and associated boundaries are clearly defined.

8. The work control document is written in a clear, concise, and worker friendly manner.

9. The work steps for activities are properly sequenced.

10. Work control documents adequately incorporate technical and administrative requirements (e.g., contract, safety basis, regulatory, consensus codes, etc.)

11. Work hazard controls identified in the JHA have been incorporated into the work control document.

12. The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.

Documents Reviewed

- "A" Package W/O 0502449, 03/28/05, 41-N-100 Safety Edge Switch Work Package
- "SOC" Package W/O 0506463, 07/08/05, Tighten Door Rollers Work Package
- "SOC" Package W/O 0505808, 06/21/05, Repair/Replace West Guide Rail
- "SOC" Package W/O 0410288, 01/04/05, Repair Rusted Area on Siding, Backup Diesel Generator #2
- "PM" Package W/O 0502925, 04/20/05, Supply Air Handling Unit
- "PM" Package W/O 0502079, 03/14/05, Domestic Water Pressure Control
- "Mod" W/O 0503260, 07/05/05, Install 120 VAC Power from P3/RM1 to UPS
- "Mod" W/O 0504243, 08/29/05, Move Bulkhead and Close Room
- "Corrective Maintenance" W/O 0502611, 03/22/05, Low Oil Pressure Alarm
- " Corrective Maintenance" W/O 0501173, Replace Spring Shaft Bearings

Interviews Conducted

- Maintenance Representative
- Associate Operations Engineer
- Mechanical Engineer
- Craft
- Cognizant Engineer
- Work Control Manager
- Safety Specialist

- Facility Shift Manager

Observations of Work

- Plan of the Day meeting
- Pre-job briefing

Discussion of Results

Work packages reviewed and interviews with personnel that conducted the work in those packages provided objective evidence that the work scope and associated boundaries are clearly defined.

Personnel stated that the work control documents are written in a worker friendly manner, that terminologies are consistent, expectations are clear, and review of the documents reflected that the document is written in clear, concise manner. The CHAMPS cover sheet forms with signatures provide good direction, and the packages are thorough including all precautions, limitations, a copy of the JHA, a material list, an equipment list, actual performance steps, hold/witness points, configurations, lock-outs, and even includes checklist for documentation of M&TE including listing the instrument, the #, and the calibration date, as well as checks to verify equipment alarms. The M&TE documentation requirements as part of the work package is also considered a strength.

Work packages demonstrated that the steps for activities are properly sequenced.

Work control documents do adequately incorporate technical and administrative requirements as was portrayed by planning attachments such as NEPA reviews, ALARA reviews, safety reviews, and others. The WIPP site is in the process of incorporating new TSRs related to new revision of the DSA into processes during the conduct of this review. After complete implementation, that portion of this criteria needs to be additionally reviewed.

Work hazard controls identified in the JHA were incorporated into the work control document. As stated related to a previous criteria, the controls were identified for specific hazards, are delineated immediately before the work control document step where the hazard is encountered and are not only highlighted but additional signatures at each mitigation point as an additional administrative control for awareness is required and was considered a strength in the previous criteria.

Conclusion

The WTS work planning process is effective in generating work control documents that lead to safe and efficient completion of work activities. There were no findings identified. One observation was made related to the criteria on incorporated safety basis requirements in the work control documents. Since a new revision to the DSA has additional TSRs which are in the process of being implemented during the time of this review, it is recommended that this section of criteria be reviewed again at a later date to verify implementation to this level of expectation. There was one additional strength noted in this section of criteria. (Others will not be listed again as they have been previously identified under other criteria.) That strength is related to the required documentation on M&TE used during the fulfillment of the work package. Instead of just a checkpoint verifying that currently calibrated M&TE is used as has been seen at other sites, WTS requires completion of a table identifying M&TE specifics such as instrument number, calibration date, and signature.

Findings

N/A

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Observations

The WIPP site is in the process of incorporating new TSRs related to new revision of the DSA into processes during the conduct of this review. After complete implementation, the portion of this criteria referencing incorporation of safety basis requirements into work control documents needs to be additionally reviewed.

Strengths

The requirement for completion of a table identifying M&TE specifics such as instrument number, calibration date, and signature for each M&TE used to conduct the activities identified in the work package is considered a strength.

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Attachment 4
Review Form - WPC - 6

Objective

WPC-6: Work Planning and Control Oversight: Contractor personnel perform work in accordance with approved work control documents.

Criteria

8. First line supervisors and workers are knowledgeable of their work control documents and meet all applicable training and medical requirements.

9. Operations work control authority reviews and authorizes all work control documents prior to commencement of work. He/she is required to evaluate all work at a facility and/or site to ensure work activities of one scope do not adversely affect the safe work of another.

10. Effective pre-evolutionary briefings are performed.

11. First line supervisors and workers follow work control document instructions as written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their change control process.

12. First line supervisors and workers understand their stop work authority.

13. Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.

14. Lessons Learned/feedback is incorporated into active and in-development work control documents in a timely manner.

Documents Reviewed

- Work Order 0510764, in review
- Work Order 0511131, in review
- Work Order 0509784, in review
- Work Order 0511219A, Electric Fire Pump-work in progress
- Lockout/Tagout Control Sheet for 456,45-G-601, 12/12/05
- Danger Tag 25P-SWG 04/4 CB6 12/12/05
- Tag Audit/Verification Sheet, 12/12/05
- Individual Training Files
- Plan of the Day 12/12/05
- Plan of the Week 12/12/05-12/18/05
- 2005 Trending Charts for: Work Orders, Scheduled Maintenance Performance, Corrective Maintenance, Modifications, Schedule Loading
- 2005 Lessons Learned Files
- MP 1.2, Work Suspension and Stop Work Direction

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Interviews Conducted
Facility Shift Manager
Environmental Technician
Maintenance Technician
Maintenance Representative
Surface Electrical Manager
Cognizant Engineer
Electrical Technician
Zone Team Leader
Lessons Learned Coordinator
QA Trending Coordinator

Observations of Work
Electric Fire Pump
Lock-Out/Tag-Out High Electric Hazard, Area Sub #4
Porta Potty Cleaning

Discussion of Results
Several work packages were selected to observe the work in progress. Workers and their first line managers were interviewed and were knowledgeable of their work control documents, and had all the appropriate PPE, documentation, and equipment to conduct their work. A review of training records revealed that those same personnel did meet all the applicable training and related medical requirements to conduct the work they were doing.

The operations work control authority reviews and authorizes all work control documents prior to commencement of the work. At the WIPP, that is the Facility Shift Manager. Not only is the written work order package reviewed by the Facility Shift Manager, but when the work is due to begin, personnel radio the CMR, who verifies with the FSM for start of work. During one of the work sessions being observed, work was scheduled to begin on the Electric Fire Pump. The FSM did a last minute check to ensure everything was ready, and stopped work, to allow time for verification that the underground tanks had been filled to ensure safety precautions in case of fire while the Electric Fire Pump was done. When that had been verified, work resumed to shut down the pump. The FSM obviously went above and beyond in ensuring that the work activities of one scope do not adversely affect the safe work of another, even though these aspects are thoroughly reviewed, covered, and planned for in the initial work development, plan of the day discussions, and plan of the week discussions. This centralized authority for actual commencement of work is very effective.

Pre-evolutionary briefings were performed. In the case of the Lock-Out/Tag-Out in a high electric hazard area, there was in-depth discussion of PPE, with others watching out for each other in reviewing PPE after donning to ensure all in place, verifying distances, etc.

The work control instructions were followed exactly as written with the one instance referenced above of halting to verify underground tanks were at full capacity as back-up. During 2004, an underground accident resulted in a Type B accident investigation focused on changing conditions resulting in unexpected conditions. This major event for our facility has significantly increased overall awareness and actions taken related to stopping work if unexpected conditions arise. All employees interviewed reflected that they were aware of the authority to stop work per WTS Management Policy 1.2, *Work Suspension and Stop Work Direction*. Interviews of approximately 25 % of craft personnel conducted during a VPP Recertification review this past fall, reflected impressive awareness of the authority and willingness to Stop Work.

Work control documents reviewed contained adequate documentation regarding the work status including the nature of and response to unexpected conditions. For instance, the calls related to the fire pump, and filling of underground tanks were all logged into the CMR log including times. The operating log maintained in the CMR

serves as a key to work status at any specific point in time. Depending on the work being conducted, other logs such as the Waste Handling Log maintained in the Waste Handling bay serve to supplement. However, all key activities (including Waste Handling mode changes, etc.) are tracked in the CMR.

Review of trending charts, lessons learned files, and work package post-job review comments reflected that lessons learned are appropriately incorporated into active and in-development work control documents in a timely manner. One example stated in interviews included a formal lessons learned on welding inspections from another facility that resulted in a recent change to work package hold and witness points on welding inspections, allowing inspections earlier in the process. Another example from post job review comments stated a tool change (longer handle specified) for the equipment list to accommodate the job needs, which was demonstrated as being included in the very next package for that preventive maintenance task. Equipment tracking and trending resulted in 2004 resulted in the discovery of S/CI fan blades that were noted to be requiring more frequent replacement than should be. Contact with the foreign manufacturer determined that the fan blades actually delivered were not of their manufacture. Formal S/CI and lessons learned including GIDEP were distributed accordingly. The WIPP Lessons Learned program was noted as a Best Practice by the DOE EH VPP review team in the fall of 2005.

Conclusion
Contractor personnel perform work in accordance with approved work control documents. This was verified through document review, interviews, and observing work in progress. In addition, quality assurance trending has demonstrated continued improvement in procedural compliance. There were no findings, or observations associated with this specific criteria.

Findings
N/A

Observations
N/A

Strengths
N/A

WIPP WORK PLANNING AND WORK CONTROL ASSESSMENT
DNFSB RECOMMENDATION 2004-1; COMMITMENT 23

Attachment 5
Review Form - WPC-7

Objective

WPC-7: Work Planning and Control Oversight. The contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents.

Criteria

1. The contractor has scheduled and performed independent and self-assessment of the work planning and control process. These activities are of sufficient scope, detail, and quantity that the contractor can ascertain the status of their work planning and control process.

2. Line managers periodically perform surveillances, which include the observations of job walkdowns and JHA walkdowns/meetings, pre-evolution briefings, and work performed to work control documents.

3. Line managers periodically review in-development and approved work control documents.

4. The contractor tracks and trends the results of oversight activities performed on their work planning and control process and takes appropriate actions.

Documents Reviewed

- Work Order 0510764, in review
- Work Order 0511131, in review
- Work Order 0509784, in review
- Audit Report 105-11, *Work Processes*
- 2005 Audit/Surveillance Schedule
- WP 15 GM1000, *Management Assessments*
- Database, 2005 Work Control Manager Walkdowns
- Management Assessment, Lock-Out/Tag-Out, Sept. 2005
- QA Semi Annual Trending Report
- 2005 Trending Charts for: Work Orders, Scheduled Maintenance Performance, Corrective Maintenance, Modifications, Schedule Loading

Interviews Conducted

Work Control Manager
Facility Shift Manager
Surface Electrical Manager
QA Lead Auditor
QA Administrative Assistant

Observations of Work

N/A

WIPP WORK PLANNING AND WORK CONTROL ASSESSMENT
DNFSB RECOMMENDATION 2004-1; COMMITMENT 23

Discussion of Results

Independent and management assessment reviews are part of the established processes for assessment of work planning and control processes. These programs are formal processes of sufficient scope, detail, and quantity that WTS can effectively ascertain the status of their work planning and control process. The frequency for independent assessment is determined per QAPD risk and hazard analysis. During calendar year 2005 not only was an independent audit specifically of Work Processes conducted with no findings, but other independent QA surveillances reviewed various vital safety systems which also includes significant review of related work planning and control processes. In fact, on a rotational basis over a 2 year period, every WIPP Vital Safety Systems is reviewed. In addition, each manager is responsible for conducting walkarounds, walkdowns reviewing work in progress, and cognizant engineers conduct a complete walkdown of their system on an annual basis.

Self-Assessments and management assessment include observations of job walk downs and JHA walk downs/meetings, pre-job briefings, and work being performed. In the database reviewed, specific actions were taken such as one occasion of halting work when one employee had been called to respond to an emergency (as one of WIPP's emergency response team volunteers) at another location, employees had planned to continue working. The manager shut the work down as all the listed personnel for the work package were not available. Another one reviewed reflected that a JHA for a subcontractor did not appear to reflect the current work conditions. Therefore, work was shut down until an appropriate JHA with the changed conditions was developed and approved. Interviews and documents reviewed, reflected that management is aware of the tasks and hazards of those tasks being performed, status of work in progress, and are active participants in ensuring that work is performed safely.

Line management reviews are not just periodic reviews of in-development and approved work control documents. They are an active participant including signature requirements as part of the routine process for developing work control documents.

WTS tracks and rends the results of oversight activities performed on their work planning and control process and takes appropriate actions. Monitoring of work orders completed, scheduled performance, work-orders scheduled and not worked, schedule loading, corrective maintenance backlog, and modifications per zone/surface/site as well as equipment and systems trending, and overall QA trending are closely tracked and appropriate actions taken including in the development of work control documents.

Conclusion
WTS has an established process that requires line management and assessment personnel to perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents. These are conducted under the auspices of the WTS QAPD, as Management Assessments, and as informal walkdowns and reviews.

Findings
N/A

Observations
N/A

Strengths
N/A

Attachment 1

CRAD 4 – CONTINUING ISMS IMPLEMENTATION

OBJECTIVE

The existing WTS ISMS continues to be effective. Assessment results and other indicators promote confidence in the adequacy of the ISMS.

Criterion 2 – Contractor implementing mechanisms continue to support the principles of ISMS.

Contractor Activities

WTS work packages are prepared using SIMON software, which requires specific safety mandates associated with the ISM principles. SIMON will also "flag" any areas of work that require specialized safety requirements. Surveillance S-05-08, WTS Job Hazard Analysis, showed the daily flow-down of work activities that support the guiding principles of ISM. There was a random selection of several work packages and numerous interviews with all levels of personnel involved with the maintenance work process.

CBFO Activities

The use of automated tools, such as the SIMON software, is an excellent aid when used as an enhancement for safety analysis and reviews. However, the FY04 ISM review pointed out that its use should not replace the reliance on safety-trained professionals in the review and analysis of site work. WTS safety professionals have done an excellent job of developing many site-specific JHAs using the checklist format EA 10-2-8-0. In a recent surveillance, S-05-21, of the mine ground control and safety, a review of job packages revealed that some elements of the workforce are still using the short JHA checklist generated by the SIMON as the primary JHA while using the more detailed JHA analysis generated by the safety professionals as an optional tool. While there is no firm requirement in the procedures that requires the more detailed JHA be used, it would be a more satisfactory safety process to do so.

Conclusion

The JHA process should be modified to require the more detailed JHA generated by using the EA 10-2-8-0 checklist be used as the primary JHA in all work packages. This also conforms to the findings generated in the August 2004 WTS accident report generated from the Type B accident investigation.

CBFO again recommends, as it did in last year's ISM review, that WTS establish a formal program wherein a person in charge assures that safe work practices are both addressed and accomplished in work package objectives on all non-routine work packages.

Criterion 4 – Work activities reflect effective implementation of the ISMS functions. Work is defined, hazards are identified, and controls are developed and implemented.

Contractor Activities

Work orders are controlled during preparation through a software-driven process (SIMON). This process requires a cognizant engineer to fill in safety steps that parallel ISM core functions and guiding principles. Before work can begin, technical, management, and safety reviews must be performed to ensure hazard identification has been completed. Hold points are also identified and arranged for sign-off to control workflow where obstacles to safety may be encountered.

CBFO Activities

See comments in Criterion 2.

Conclusion

See comments in Criterion 2.

Criterion 5 – Work is properly authorized and accomplished within controls. Appropriate worker involvement is a priority.

Contractor Activities

WTS work packages include check-off blocks that follow identified safety steps for workers to be fully aware of and address hazards associated with each job. Work packages include hold points for specific hazards where work must not continue past certain points until a safety review is completed and the work is properly authorized.

CBFO Activities

CBFO conducted a comprehensive surveillance, S-05-08, on Job Hazard Analysis and with the minor issues noted in Criterion 2 found the work process fully integrates safety awareness into every aspect of the work process at WIPP. Workers are cognizant of their responsibility for safety and have demonstrated this through the outstanding safety record at WIPP.

Conclusion

CBFO examined work package and procedural documents used by responsible WTS staff personnel and craft workers. These demonstrate that the elements of ISMS are appropriately planned for and are adequately addressed in the actual performance of work both onsite and at other locations.

Criterion 6 – Applicable DOE, OSHA, and MSHA programmatic safety requirements are met.

Contractor Activities

A review of the plans, procedures, and work packages shows that applicable standards are addressed for each operation. Work packages include job hazards analyses, which are prepared using SIMON. This process covers DOE, Mine Safety and Health Administration (MSHA) and OSHA programmatic safety requirements.

Work is reviewed by the WTS Industrial Safety Group to ensure consistency with OSHA, MSHA, and DOE requirements applicable to WIPP operations. Regular inspections conducted by WTS Industrial Safety, WTS Operations, and DOE are performed to OSHA, MSHA, and National Electric Code (NEC) standards. In addition, MSHA performs quarterly inspections of the WIPP site. Among other means, the appropriate application of Federal safety standards at WIPP has been re-confirmed through formal Voluntary Protection Program recertification reviews.

CBFO Activities

CBFO reviewed the WTS Management Policy MP 1.12, *Worker Protection*, and Procedures WP12-IH.02, *WIPP Industrial Hygiene Program Manual*, and WP 12-IS.01, *Industrial Safety Program*, which define programmatic safety requirements applicable to specific WIPP operations. CBFO verified that the applicable requirements of DOE, OSHA, and MSHA are contained in these program documents and are being met. Unannounced "spot" safety inspections by CBFO based on DOE, MSHA, and OSHA regulations and directives are performed at the WIPP Site to ensure effective implementation of safety objectives. In addition, the *CBFO Contractor Oversight Plan*, DOE 04-3299, establishes a formal schedule of assessment activities (Integrated Evaluation Plan [IEP]) that are to be performed throughout the year.

CBFO also has its own safety program for federal employees. The *Carlsbad Field Office Federal Employee Occupational Safety and Health Program*, DOE/CBFO 94-1051, Revision 3, March 2005, establishes the framework for the CBFO FEOSH Program in accordance with DOE O 440.1A and consistent with the requirements of 29 CFR Part 1960. The FEOSH Committee Charter was revised on December 28, 2004 (see CBFO:OOD:SC:VW:04-0164) to reflect the current CBFO organization structure resulting in a committee made up of eight federal employees representing the functional areas with the field office. The purpose of the CBFO FEOSH committees is to monitor and assist in the CBFO Safety and Health policies and programs for the federal workforce.

The FEOSH Program is fully implement by CBFO, and the FY 2005 record of associated federal workforce activities, FEOSH Committee activities, and initiatives exemplify a robust program. An example of a noteworthy achievement, which was facilitated by the FEOSH Committee, under the FEOSH Program is the implementation of the CBFO Federal Employee [location] Accountability Policy. The policy was implemented to

ensure accountability of federal employees in the event of an emergency at or evacuation of CBFO facilities.

A summary description of the CBFO FEOSH Program is provided below:

> The Carlsbad Field Office (CBFO) Federal Employee Occupational Safety and Health (FEOSH) Program establishes the requirements for the protection of CBFO personnel from hazards that could cause injury, illness, death, or loss of property. The FEOSH program applies to all Department of Energy (DOE) employees located at the WIPP facilities (including the WIPP site, the Skeen Whitlock Building, and contractor facilities) and to CBFO personnel on official travel. Ensuring the safety and health of employees during all work related activities is the shared responsibility of every CBFO staff member.
>
> At no time will safety be compromised because of time schedules, cost factors, or personal preferences. When a CBFO employee witnesses an unsafe or unhealthful act in the course of day-to-day activities, it is his or her responsibility to immediately notify the responsible manager, the CBFO Safety Officer, or a member of the CBFO FEOSH Committee. If a condition poses imminent danger, an employee must suspend the affected work and evacuate personnel from the hazard area until the issue is resolved. Safety requires commitment from each employee to be aware of the work environment, changes in behavior, and any potential hazards.
>
> CBFO employees are encouraged to practice safe and healthful practices during their off-duty hours. Employees should be aware of hazards in all environments.
>
> DOE Order 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees*, establishes the framework for the CBFO FEOSH Program.

The complete description of the CBFO FEOSH Program including, but not limited to, program objectives, references, organizational responsibilities, training, FEOSH Committee requirements, reporting/investigation/recordkeeping for injury/illness, etc. is provided in DOE/CBFO 94-1051, Revision 3, March 2005.

Conclusion

Applicable DOE, MSHA, and OSHA programmatic safety requirements are foundational elements of WTS safety procedures, programs, and management policies. Daily operational reviews and unannounced CBFO inspections are used to oversee implementation of DOE, MSHA, and OSHA programmatic safety requirements. CBFO also protects the health and safety of its own employee through its FEOSH program.

Criterion 7 – Promulgated roles and responsibilities are clear. Line management is responsible for safety. Required competence is commensurate with responsibilities and the technical and safety system knowledge of managers and staff continues to improve.

Contractor Activities

WIPP plans, procedures, and manuals were reviewed and verified to include roles and responsibilities. Those documents, and examples from the FRAM, CCP procedures, ISM management policy, and the WTS Substance Abuse Plan, demonstrated that responsibilities are defined at all levels. They also consistently define accountability for work performance and safety.

The FRAM, WTS *ISM Management Policy*, and the *Industrial Safety Management Policy* (MP-1.28) define management's responsibility for safety in WIPP operations. CBFO and WTS management also maintain direct involvement in all monthly safety meetings. Management responsibility is also clearly noted in Roles and Responsibilities sections in WTS documentation.

WTS maintains a formal qualification card program for their operations, crafts, cognizant engineers, and managers. Operators and crafts are required to re-qualify every two years, while managers and cognizant engineers are not formally re-qualified.

CBFO Activities

CBFO reviewed the WTS Procedure WP 10-WC3011, *Maintenance Process*, which establishes the template to which the work is being coordinated, reviewed, and checked. WTS MP 1.12, *Worker Protection*, and Procedures WP12-IH.02, *WIPP Industrial Hygiene Program Manual*, and WP 12-IS.01, *Industrial Safety Program*, and DOE/CBFO 98-2276, *Integrated Safety Management System Description,* define the programs that are applicable to each operation and provide the appropriate safety management principles. In addition, two surveillances, S-05-08 Job Hazard Analysis, and S-05-21 Underground Ground Control/Mine Safety, have been conducted along with several formal operational assessments. An operational assessment conducted on 8-16-05 by the CBFO Safety Officer on the Cognizant Engineering Program resulted in a corrective action report (CAR) and an Observation dealing with requalification of cognizant engineers and their assignments.

Conclusion

CBFO verified that managers are being trained through a required series of Management and Supervisor Training (MAST) courses required by their job descriptions and provided by the on-site training department. The WTS qualification card system effectively verifies that managerial job descriptions match basic capabilities. However, the WTS Training Procedure WP 14-TR.01, Rev. 9, requires operators and technicians to requalify every two years, while managers and engineers are exempt from the requalification guidelines.

It is recommended that the WTS training program be reviewed to consider the need for requalification of some or all engineers and managers, similar to the two-year requalification requirement as is currently done with operators and technicians.

Criterion 8 – Records include routine DOE and contractor self-assessment reports, independent and focused assessment reports, incident investigations, occurrence reports, and other relevant documentation that provide evidence as to the status of ISMS implementation, integration, and effectiveness.

Contractor Activities

WTS QA maintains internal audit and assessment logs in accordance with the Price-Anderson Amendments Act. Records of DOE and contractor self-assessment reports, independent assessment reports, investigations and occurrence reports are maintained and can be referenced for ISM. These practices ensure that records include required documentation and reports as evidence of the status of ISMS implementation, integration, and effectiveness.

CBFO Activities

The CBFO and WIPP oversight process have been significantly strengthened through the development of an IEP, implemented during FY05. Through this comprehensive evaluation, assessment, and oversight process, identification, assignment, documentation, and follow-through for the implementation of integrated safety management can be more readily assured.

The QA Manager, Safety Manager, and Facility Representative document key CBFO assessment activities. In addition, key assessment activities are documented by the IEP process.

Conclusion

WTS' extensive record keeping and tracking provides evidence of the integration and effectiveness of ISMS implementation for both DOE and contractors. As a noteworthy practice, a fundamental oversight program planning methodology has been developed by CBFO. The CBFO IEP is the FY05 centerpiece for CBFO's comprehensive evaluation, assessment, and oversight process. It provides for the identification, assignment, documentation, and follow-through for the implementation of integrated safety management.

Records Reviewed

DOE/CBFO 98-2276 Rev.6

WTS Monthly Injury and Illness Report Summary (September 05 Status)

WTS Annual Health and Safety Report

ISMS Description, Appendix – Guiding Principles Drivers

On-Line Safety Training Module

"Porcelain Press"

WTS ISM Management Policy

WTS Substance Abuse Plan

WTS Industrial Safety Management Policy (MP-1.28)

WP 10-WC3011, *Maintenance Process*

MP1.12, *Worker Protection*

WP12-IH.02, *WIPP Industrial Hygiene Program Manual*

WP 12-IS.01, *Industrial Safety Program*

Surveillance Report of the Washington TRU Solutions Job Hazard Analysis, Surveillance Number S-05-08

Operational Assessment Database

S-05-21 Underground Ground Control/Mine Safety Draft Report

Interviews

Individual	Organization and Position
Tom Ferguson	WTS, Industrial Safety and Hygiene Manager
Curtis Wynne	WTS, Safety and Health, Certified Safety Professional
Bertha Cassingham	WTS, Senior Safety Engineer/VPP Coordinator
Bob Kirby	WTS, Manager, Underground Operations
Tom Lichty	WTS, Human Resources, Training
Melody Smith	WTS, Safety and Health, Industrial Safety
John VandeKraats	WTS, Manager, Geotechnical Engineering
Rey Carrasco	WTS, Geotechnical Engineering

Performance Objective F&I-3: DOE Line Management Oversight	
Performance Objective Description: DOE line management has established and implemented effective oversight processes that evaluate the adequacy and effectiveness of contractor assurance systems and DOE oversight processes.	
Criteria:	**CBFO Objective Evidence**
1. DOE line management has established a baseline line management oversight program that ensures that DOE line management maintains sufficient knowledge of site and contractor activities to make informed decisions concerning hazards, risks and resource allocation, provide direction to contractors, and evaluate contractor performance.	CBFO line management uses the *Contractor Oversight Plan*, DOE/CBFO 04-3299, as an oversight model to develop an annual assessment plan for contractor oversight. Schedules for conducting oversight are included in an annual integrated evaluation plan. Oversight assessments are conducted to evaluate contractor performance. The Integrated Evaluation Plan lists the scheduled assessments (operational assessments, surveillances, and audits) by organizational responsibility. For CBFO these include Office of Disposal (WIPP Site Operations; predominately WTS), Office of Characterization and Transportation, and Quality Assurance (all areas of quality assurance and organizations). These scheduled assessments are updated at least quarterly to reflect actual oversight assessments. The CBFO Quality Assurance Program Document (QAPD) (DOE/CBFO 94-1012) establishes QA requirements for all quality-affecting programs, projects, and activities sponsored by CBFO. The CBFO QAPD also indicates that all aspects of work that affect quality and the management system are subject to continuous improvement through assessment and feedback processes. The results of these activities are used to evaluate contractor performance and provide direction/guidance to contractors on safety, hazards, risks, regulatory and quality assurance compliance, and resource allocation.

Performance Objective F&I-3: DOE Line Management Oversight	
Criteria:	**CBFO Objective Evidence**
2. The DOE line oversight program includes assessments, operational awareness activities, performance monitoring and improvement, and assessment of contractor assurance systems. Documented program plans have been established that define oversight program activities and annual schedules of planned assessments, and focus areas for operational awareness. Operational awareness activities must be documented either individually or in periodic (e.g., weekly or monthly) summaries. Deficiencies in programs or performance identified during operational awareness activities are communicated to the contractor for resolution through a structured issues management process.	CBFO uses a graded approach to perform contractor oversight, which ranges from daily routine observation to a three-level formalized assessment program. These levels are each governed by CBFO-approved procedures that are in compliance with the CBFO *Quality Assurance Program Document* (QAPD) (DOE/CBFO 94-1012). These procedures are: • CBFO TP 10.7, *Operational Assessments* • CBFO MP 10.2, *Surveillances* • CBFO MP 10.2, *Audits* The annual Integrated Evaluation Plan, which is provided to the contractor, lists the focus areas. If deficiencies (corrective actions) are identified, they are communicated to the contractor, and the contractor uses its formalized issues management system to evaluate and determine corrective action(s) (resolution). CBFO also can use formalized assessments if emerging issues arise from routine observation.
3. DOE line management monitors contractor performance and assesses whether performance expectations are met, including whether contractors are assessing site activities adequately, self-identifying deficiencies, and taking timely and effective corrective actions. Responsibilities for line oversight and self-assessment are assigned and managers, supervisors, and workers are held accountable for performance assurance activities. Deficiencies must be brought to the attention of contractor management and addressed in a timely manner.	See Criterion 2. WTS, the WIPP MOC, has an issues management system governed by Procedure WP 04-IM 1000, *Issues Management Program Processing of WIPP Forms*. This is a self-reporting system where employee issues, safety matters, or operational efficiency concerns can be reported to WTS management. Once reported, an issue is input to an electronic database where a joint employee/management committee reviews it and routes it to the proper location for further review and consideration by the appropriate authorized manager. At all times, the issue is tracked on a database. Established criteria require timely actions be taken to resolve issues. All records generated by the implementation of this procedure are handled, stored, and dispositioned in accordance with the QA Records Management procedure. DOE-CBFO staff monitor the WTS WIPP Forms on a regular basis and discuss issues with the MOC as appropriate.

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Performance Objective F&I-3: DOE Line Management Oversight	
Criteria:	**CBFO Objective Evidence**
4. DOE line management requires that findings be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans.	Any conditions adverse to quality, as defined in the CBFO QAPD, are documented with a corrective action report (CBFO MP 3.1 *Corrective Action Reports*). The contractor is required to respond in a timely manner and the issues are tracked in an electronic database.
5. DOE line management regularly assesses the effectiveness of contractor issues management and corrective action processes, lessons-learned processes, and other feedback mechanisms (e.g., worker feedback). DOE line management must also evaluate contractor processes for communicating information, including dissenting opinions, up the management chain.	Numerous assessments are performed throughout the year and are fully documented, with results communicated to the contractor. CBFO has an employee concerns program (see DOE/WIPP 02-3197*Employee Concerns Program*) that allows contractor employees to communicate directly with DOE .
6. DOE line management must verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE assessments or reviews are closed, and requires that deficiencies are analyzed both individually and collectively to identify causes and prevent recurrences.	See Criterion 4. A corrective action plan is required by CBFO MP 3.1 when a corrective action report (CAR) is issued. The plan must address actions that will mitigate or correct the issue identified to the satisfaction of the CBFO. CBFO management, as well as the CBFO Quality Assurance team, must approve and sign off on the corrective action plan and corrective actions taken. The issue is tracked until completed to the satisfaction of the CFBO QA manager and the manager of the department issuing the CAR.
7. DOE line management has established appropriate criteria for determining the effectiveness of site programs, management systems, and contractor assurance systems, and includes consideration of previous assessment results, effectiveness of corrective actions and self-assessments, and evidence of sustained management support for site programs and management and assurance systems. Review criteria are based on requirements and performance objectives (e.g., laws, regulations, and DOE directives), site-specific procedures/manuals, and other contractually mandated requirements and performance objectives.	CBFO performed a comprehensive annual Integrated Safety Management System (ISMS) assessment in September 2005 that covered this criterion. Attached is the Executive Summary and other introductory sections of the FY05 CBFO Annual Review of the WIPP ISMS.

Performance Objective F&I-3: DOE Line Management Oversight	
Criteria:	**CBFO Objective Evidence**
8. DOE line management has established and maintained appropriate qualification standards for personnel with oversight responsibilities, and a clear, unambiguous line of authority and responsibility for oversight.	The CBFO *Functions, Responsibilities, and Authorities Manual* (FRAM) (DOE/CBFO 98-2207) describes the positions and responsibilities of the CBFO staff. The CBFO Technical Qualification Program (DOE/CBFO 02-3219) provides guidelines for establishing and maintaining appropriate qualification standards for CBFO personnel with oversight responsibility.
9. Line management periodically reviews established performance measures to ensure performance objectives and criteria are challenging and focused on improving performance in known areas of weakness.	CBFO performed a comprehensive annual Integrated Safety Management System (ISMS) assessment in September 2005 that covered this criterion. Attached is the Executive Summary and other introductory sections of the FY05 CBFO Annual Review of the WIPP ISMS.
10. DOE line management has established effective processes for communicating line oversight results and other issues up the DOE line management chain, using a graded approach based on the hazards and risks. Established processes include provisions for communicating and documenting dissenting opinions. Formal structured processes for resolving disputes for oversight findings and other significant issues have been implemented, and include provisions for independent technical reviews for significant findings.	CBFO procedures and programs are in place to assure that effective communication of line management oversight results is made to the appropriate personnel within the DOE. CBFO Procedures: • MP 3.1, *Corrective Action Reports* • MP 4.1, *Document Review* • MP 3.2, *Deficiency Trending and Reporting*
11. An effective employee concerns program has been established and implemented in accordance with DOE Directives that encourages the reporting of employee concerns and provides thorough investigations and effective corrective actions and recurrence controls.	CBFO has an Employee Concerns Program in place (DOE/WIPP 02-3197).

Discussion Results F&I-3:

The CBFO Contractor Oversight Plan defines the approach used by CBFO to oversee contractor activities to verify that work is performed in a safe, secure, and effective manner. The plan defines how the CBFO, by assessing risk and using the graded approach, identifies and schedules oversight activities. The CBFO QAPD establishes QA program requirements for quality-affecting programs, projects, and activities sponsored by CBFO, provides approval for evaluating contractor performance, and provides for feedback and improvement. The CBFO FRAM (DOE/CBFO 98-2287) defines responsibilities of field element personnel assigned safety oversight of the contractor's work planning and control process.

Discussion Results F&I-3 (cont'd):

CBFO uses the Contractor Oversight Program Plan as a guide to evaluate the contractor's previous year's internal assessment results, to identify areas of concern requiring DOE oversight in the upcoming year, and to provide feedback and improvement. CBFO uses a graded approach to then schedule levels of oversight: *Operational Assessment*, TP 10.7; *Surveillance*, MP 10.2; or *Audits*, MP 10.3.

The Operational Assessments, Surveillances, and Audits team will generally perform a comprehensive review of procedures and records, and will make detailed field observations of the process being reviewed. Formal documentation, contractor response, and corrective action tracking are all included in these assessment levels. All CBFO formal assessments are governed by approved procedures that define processes for tracking and trending the results of oversight activities of the contractor's work planning and control process. Many formalized assessments are performed throughout the year and provide information on contractor performance. Examples of the assessments that specifically address feedback and improvement include Surveillance S-05-08, WTS Job Hazard Analysis, and S-05-21, Underground Ground Control and Mine Safety (reports attached). These assessments provide feedback and, where needed, identify areas of improvement.

Conditions adverse to quality identified in any assessment, formal or otherwise, are documented with a corrective action report (see MP 3.1) that requires the contractor to provide corrective action within a timely manner. All CARS are tracked in a formalized system that includes an electronic database, with weekly status reports issued to all concerned parties.

Federal technical positions assigned duties involving safety oversight of contractor work are identified in the CBFO *Technical Qualifications Program Guide* (DOE-CBFO 02-3219), which defines a technical qualification program. The incumbents of those CBFO staff positions have completed qualification cards that include generic DOE Standards such as DOE Std 1146-2000, *General Technical Qualifications*, as well as site- and job-specific requirements. In addition, Office of Disposal staff assigned specific Safety System Oversight responsibility of WIPP Vital Safety Systems are required to have an additional qualification card to perform the assigned oversight duties.

The annual CBFO-ISMS review looks at all facets of the CBFO and contractor programs to ensure safety management is fully integrated into all phases of the WIPP feedback and improvement. Issues noted in the annual ISMS assessment are tracked until completed. Documentation of required corrective actions are included and have defined timelines for completion. CBFO has been declared to be fully compliant with ISMS for FY05. Examples of the CBFO and contractor oversight of the WIPP feedback and improvement can be found throughout the ISMS annual review. Selected CRADs/criteria with attendant objective evidence from the FY05 CBFO Annual Review of the WIPP ISMS that address Performance Objective F&I-3 are provided in Attachment 1.

Attachment 1

CRAD 3 – ISMS FEEDBACK AND IMPROVEMENT OBJECTIVE

Appropriate WTS performance measures and indicators have been selected. Adequacy and effectiveness of the ISMS have improved on a continuing basis in response to DOE oversight and contractor self-assessment, including progress in meeting performance measures, objectives, and commitments. An effective ISMS feedback, improvement, corrective action/issues management, and change control process has been established. The ISMS Description annual update has been completed (DOE/CBFO 98-2276, Rev. 6, *Integrated Safety Management System Description,* August 2005).

Criterion 3 – The effectiveness of performance measures and commitments has been evaluated. Reasons for success or failure of those commitments have been determined.

Contractor Activities

The effectiveness of performance measures is evaluated chiefly through the use of trend analyses. Many different performance indicators are trended by different WTS departments; however, all trending results are rolled up and used to brief WTS senior staff weekly. Any problem areas are noted by senior staff, who advise the managers of affected departments and work together with them towards resolution. As discussed in more detail under Criterion 7, trend analysis shows, on the whole, a continually improving safety program, when the last several years of data are analyzed together. However, as discussed in the 2004 report, failure of certain commitments, chiefly those associated with pre-job planning, resulted in a potentially fatal accident on August 25, 2004, in which an employee was injured. A Type B accident investigation was performed by DOE, resulting in a number of Judgments of Need (JON). In response, WTS developed a Corrective Action Plan (CAP) that identified a total of 50 corrective actions and was approved by DOE-EM in December 2004. All corrective actions were completed on schedule, with the last being completed February 28, 2005. A summary of each corrective action and its closure statement may be found in the Closure Summary Report. Interviews with WTS safety professionals and operations personnel indicate that the implementation of these corrective actions have resulted in an overall improvement in safety, as discussed under Criterion 2 above. However, these interviews revealed that at least as big a factor has been the sobering effect that the accident had on the underground workers, resulting in an attitude shift with respect to safety practices. WTS is currently investigating the most effective methods to extend this culture change to other areas of WIPP operations.

CBFO Activities

CBFO continues to carefully monitor the effectiveness of all performance measures and commitments from WTS. CBFO has improved this process in response to concerns noted during the 2004 ISMS review, as explained below.

Disposition by CBFO of Issues from Previous ISMS Reviews

The previous CBFO ISMS Annual Review Report identified one area for improvement for CBFO under this criterion:

> *The safety oversight effectiveness of the CBFO Contractor Oversight Plan could be strengthened by expressly delineating the performance indicators to be monitored by CBFO and ensuring that they include leading indicators as well as lagging indicators. CBFO should list these performance indicators and discuss the way they will be used to assess contractor performance in the CBFO Contractor Oversight Plan or in a separate document referenced by the Oversight Plan.*

On December 15, 2004, CBFO submitted its safety performance goals and specific performance measures for FY 2005 to DOE-EM. These goals and measures, established in accordance with DOE P 450.7, *Department of Energy Environment, Safety and Health (ES&H) Goals*, will be used to drive performance improvement at the WIPP (Memorandum from Lloyd Piper to Patrice Bubar dated December 15, 2005, subject: Site Specific Safety Performance Measures). In this document, the CBFO Acting Manager formally delineated WIPP performance indicators to be monitored by CBFO and has ensured that they include leading as well as lagging indicators. Safety goals involving lagging indicators for WIPP disposal activities include the following:

- Reduce Total Recordable Case (TRC) rate by 5%
- Reduce Days Away, Restricted, or Transferred (DART) case rate by 5%
- Increase average days between recordable injuries by 5%
- Increase average days between DART cases by 5%

CBFO committed to monitoring these safety parameters on a monthly basis to ensure that the 2005 safety performance goals are met. In addition, CBFO committed to monitor leading indicators such as first aid case rates, significant close calls, and ORPS incidents (including near misses) on a monthly basis. Evaluation of these important safety performance precursors will allow CBFO to take appropriate proactive actions to prevent serious accidents from occurring.

Although these performance measures and commitments have not specifically been made a part of the CBFO Contractor Oversight Plan, as suggested in the area for improvement, the referenced memorandum provides a formal commitment to DOE-EM as well as a transmittal of expectations to WTS for both leading and lagging performance measures, and thus adequately implements this area for improvement.

CBFO tracks these performance goals and measures by requiring WTS to submit a monthly report that compares actual monthly performance to the stated goals. A review of a cumulative compilation of these monthly reports (*CBFO Safety Goals and Performance Measures, Fiscal Year 2005*), which contains data through August 2005,

indicates overall improvement for each of the four lagging indicators for the year as a whole, however, improvement targets were reached or exceeded only for the DART case rate. CBFO should work with WTS to determine additional actions to be taken to achieve the target rates for the other three performance measures, or alternatively, to assess whether the target rates are too aggressive.

Conclusion

The effectiveness of performance measures and commitments has been adequately evaluated by CBFO. In response to an area for improvement identified in the previous ISMS assessment, CBFO has formally documented performance goals and measures for FY05 that include both leading and lagging indicators. Although performance with respect to these indicators has improved this fiscal year, all goals have not been achieved. CBFO should work with WTS to determine what additional actions could be taken to achieve the target rates for the other three performance measures, or alternatively, if the target rates are too aggressive.

Documents Reviewed

Integrated Safety Management System Annual Review Report, September 2003

FY 2004 WIPP Integrated Safety Management System Improvement Plan, August 29, 2004 Status

DOE/CBFO 98-2276, Rev. 5, *Integrated Safety Management System Description,* August 2004

DOE G 450.4-1B, Volume 1, for use with *Safety Management System Policies (DOE P 450.4, DOE P 450.5, and DOE P 450.6); The Functions, Responsibilities, and Authorities Manual; and the DOE Acquisition Regulation*

Waste Isolation Pilot Plant Integrated Safety Management System Annual Review, June-July 2004

FY 2004 WIPP Integrated Safety Management System (ISMS) Improvement Plan, February 24, 2004

WP 10-02, *Maintenance Operations Instruction Manual*

Procedure WP 15-PC3609, *Preparation of Purchase Requisitions*

WIPP CTS Output – ISM System Annual Review – 2004

WIPP Communication Report examples

WP 15-PC3609, *Preparation of Purchase Requisitions*

WTS Requisitioners Toolbox

Time utilization tables and graphs for WTS Operations Manager and Deputy Operations Manager

WP 04-IM1000, *Issues Management Program Processing of WIPP Forms,* Rev. 1, August 25, 2004

WIPP Form

WIPP Form Log

WP 13-1, *Quality Assurance Program Description*

Occurrence Report # ALO-WTS-WIPP-2004-0011

Accident Scene Entry

WIPP Total Recordable Case Rate graphs and supporting data

DOE/CBFO 04-3299, *CBFO Contractor Oversight Plan,* Rev. 0, April 16, 2004

Carlsbad Field Office FY05 *Integrated Evaluation Plan, Office of Disposal, FY 05 Year End*

Closure Summary Report on Corrective Action Plan Addressing the WIPP Personnel Injury of August 2004, March 17, 2005

DOE P 450.7, *Department of Energy Environment, Safety and Health (ES&H) Goals*

CBFO MP 10.7, Rev. 0, *Operational Assessments*

WP10-WC3011, *Maintenance Process*

Interviews

Individual	Organization and Position
Curtis Wynne	WTS, Safety and Health, Certified Safety Professional
Janice Mashaw	WTS, Operations
Scott Anderson	WTS, Operations Manager
Steve Youngerman	WTS, Deputy Operations Manager
Bertha Cassingham	WTS, Senior Safety Engineer/VPP Coordinator, Lead Auditor, IS&H
Phil Porter	WTS, Facility Manager Designee
Jon Hoff	WTS, Quality Assurance, Assurance Programs Manager
Leo Estrada	WTS, Quality Assurance Specialist
Richard Farrell	CBFO, Safety Officer

Performance Objective F&I-1: Contractor Program Documentation	
Performance Objective Description: Contractor Line management has established a comprehensive and integrated operational assurance system which encompasses all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.	
Criteria:	**Objective Evidence**
1. A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by contractor management, and forwarded to DOE for review and approval. The program description is reviewed and updated annually and forwarded to DOE for review and approval.	WP 13-1, Rev. 25, *WTS Quality Assurance Program Description* was reviewed to verify that it has maintained direction regarding process improvement through assessment and feedback. The program description document has been formally approved by WTS management and CBFO, and the latest revision was effective on June 16, 2005. The program document has been reviewed and revised ten times (Revisions 16 through 25) in the last six and one half years, with revisions approved by DOE CBFO.
2. The contractor's assurance system includes assessment activities (self-assessments, management assessments, and internal independent assessments as defined by laws, regulations, and DOE directives such as quality assurance program requirements) and other structured operational awareness activities; incident/event reporting processes, including occupational injury and illness and operational accident investigations; worker feedback mechanisms; issues management; lessons-learn programs; and performance indicators/measures.	The program (WP 13-1) was reviewed and verified to contain active elements addressing management assessments and internal independent assessments. Implementing procedure WP 15-GM1000, Revision 0, *Management Assessments* was verified to direct management assessments. Each organization's management assessments are performed annually at a minimum. WP 13-QA.03, Revision 11, *Quality Assurance Independent Assessment Program* provides direction for the independent quality assurance assessments for both internal compliance purposes, and external supplier assessments. Independent assessments of quality program elements and specialty areas are scheduled biennially, unless a more frequent schedule is

Performance Objective F&I-1: Contractor Program Documentation	
	required. Event evaluations are controlled through WP 15-MD3102, *Event investigation.* Evaluation staffing, the method, the reporting, and post-event tracking are included. Occupational injury and illnesses are addressed in WP 12-SA3130, Occupational Injuries, Illnesses, and Close Calls. Controls were verified for notifications and reports.
3. The contractor's assurance system monitors and evaluates all work performed under their contract, including the work of subcontractors.	WP 13-1, Rev. 25, *WTS Quality Assurance Program Description* prescribes requirements to ensure that the organizational structure, interfaces, functional responsibilities, and levels of authority for performing, managing, and assessing the adequacy of work is adequately established.
4. Contractor assurance system data is formally documented and available to DOE line management. Results of assurance processes are periodically analyzed, complied, and reported to DOE line management as part of formal contract performance evaluation.	A review of WP 13-QA3006, Revision 6, *Data Analysis and Trending,* was conducted. It was determined that a process has been established and maintained to trend and analyze item characteristics and reliability, process implementation, as well as other quality-related information to identify items, services, activities, and processes needing improvement. Mechanisms have been implemented to gather and analyze data to determine the importance and impacts of reported findings and observations, and to initiate corrective action through the applicable corrective action process. Guidelines have been adequately established for performing data analysis and for monitoring and controlling processes using performance indicators. Data analysis tools are available for use by appropriately trained individuals. A process has been adequately established to ensure management distributes performance trend analysis reports to affected organizations, the DOE Carlsbad Field Office (CBFO), and other applicable oversight organizations.
5. Contractors have established and implemented sufficient processes (e.g., self-assessments, corporate audits, third-party certifications or external reviews, performance indicators) for measuring the effectiveness of the	The program (WP 13-1) contains active elements addressing management assessments and internal independent assessments. Implementing procedures WP 15-GM1000, Revision 0, *Management Assessments*, and WP 13-QA.03,

Performance Objective F&I-1: Contractor Program Documentation	
contractor assurance program.	Revision 11, *Quality Assurance Independent Assessment Program*, respectively provide adequate direction for self- and independent evaluations. Each organization's management assessments are performed annually at a minimum, and independent assessments are generally scheduled on a biennial schedule, unless a more frequent schedule is required.
6. Requirements and formal processes have been established and implemented that ensure personnel responsible for managing and performing assurance activities possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities.	A review of WP 13-QA.04, Revision 13, *Quality Assurance Department Administrative Program*, was conducted. It has been determined that processes and administrative controls are adequately established to ensure that personnel are trained and qualified in accordance with documented procedures. Quality Assurance (QA) personnel satisfactorily complete specified requirements, as identified by QA management. Each individual assigned to the department coordinates scheduling with the QA Training Coordinator for required classes for achieving and maintaining applicable qualifications. Employees submit copies or originals of documentation substantiating their training, experience, and certification/qualification to QA management for evaluation for meeting WTS QA requirements.

Discussion Results F&I-1:

WP 13-1, Rev. 25, *WTS Quality Assurance Program Description*, has been established, implemented and maintained to adequately provide an effective management system tailored to WIPP operations and activities through the deliberate and graded application of quality assurance (QA) elements. The *WTS Quality Assurance Program Description* prescribes requirements to ensure that the organizational structure, interfaces, functional responsibilities, and levels of authority for performing, managing, and assessing the adequacy of work is adequately established.

Documents Reviewed	Personnel Interviewed
• WP 13-1, Revision 25, *WTS Quality Assurance Program Description* • WP 13-QA3004, Revision 8, *Nonconformance Report* • WP 04-IM1000, Revision 2, *Issues Management Program Processing of WIPP Forms* • MP 1.20, Revision 8, *Management Assessments* • WP 15-GM1000, Revision 0, *Management Assessments*	• Quality Assurance Manager • QA Team Lead, Assurance Programs • QA Oversight Programs Manager • Lessons Learned Committee Chairperson • Lessons Learned Committee Member

Performance Objective F&I-1: Contractor Program Documentation	
(formerly WP 13-QA.08, Revision 4, *Management Assessment Program*) • WP 13-QA.03, Revision 11, *Quality Assurance Independent Assessment Program* • WP 15-MD3102, Revision 2, *Event Investigation* • WP 12-SA3130, Revision 3, *Occupational Injuries, Illnesses, and close Calls* • WP 15-MD3100, Revision 5, *Lessons Learned Program* • WP 13-QA.04, Revision 13, *Quality Assurance Department Administrative Program*	

Performance Objective F&I-2.1: Assessments and Performance Indicators	
Performance Objective Description: Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.	
Criteria:	**Objective Evidence**
1. Line management has established and implemented a rigorous assessment program for performing comprehensive evaluations of all functional areas, programs, facilities, and organizational elements, including subcontractors, with a frequency, scope and rigor based on appropriate analysis of risks. The scope and frequency of assessments are defined in site plans and program documents, include assessments of processes and performance-based observation of activities and evaluation of cross-cutting issues and programs, and meet or exceed requirements of applicable DOE directives.	A review was conducted of WP 13-1, Revision 25, *WTS Quality Assurance Program Description.* WTS management has adequately established, maintained, and effectively implemented a process for planning, scheduling and performing internal and external assessments. Methods and techniques are adequately defined and prescribed to identify, perform, report, and close independent assessments, and identify the resulting documents. Functional areas included in the assessment schedule include those consistent with DOE Order 414.1B, *Quality Assurance,* 10 CFR 830, Subpart A, *Nuclear Safety Management, "Quality Assurance Requirements*" and NQA-1-1989, *Quality Assurance Program Requirements for Nuclear Facilities.* Internal audits and surveillances are conducted for those organizations and activities determined to be important but not limited to: nuclear safety, health and safety of employees and the public, environmental protection, and mission success. The frequency of assessments is based on relative risk associated with the activities, the scope and coverage of previous oversight activities, and prior performance history. A Subject Master Table is one of the mechanisms used to identify and schedule assessments. The process used to develop the Subject Master Table includes combined methods for determining probability, consequence, importance, and integrity of the item, activity, or service to be assessed.

Performance Objective F&I-2.1: Assessments and Performance Indicators	
2. Rigorous self-assessments are identified, planned, and performed at all levels periodically to determine the effectiveness of policies, requirements, and standards and the implementation status.	A review was conducted of WP 13-QA.03, Revision 12, *Quality Assurance Independent Assessment Program, and* WP 12-IH.03, Revision 0, *Safety, Security and Technical Support Self-Assessments.* It was determined that a process for identifying, planning, scheduling, performing and reporting self-assessment results has been adequately established. Guidance is provided for planning, performing, and reporting the assessment of identified processes, systems, and programs. Mechanisms are established and available to personnel responsible for defining the scope of the assessment, setting the criteria for evaluation of performance, documenting the results of the assessment, defining any corrective actions or recommendations, and conducting follow-up, tracking and closure. Assessments are conducted to evaluate the effectiveness of programs in meeting program goals and objectives so that those responsible can determine and implement changes needed to improve worker safety and health protection.
3. Appropriate independent internal assessments are identified, planned and performed by contractor organizations or personnel having the authority and independence from line management, to support unbiased evaluations.	Reviews of WP 13-1, Revision 25, *WTS Quality Assurance Program Description,* and WP 13-QA.03, Revision 12, *Quality Assurance Independent Assessment Program* indicate that processes are defined and prescribed to adequately and effectively identify, plan, schedule, conduct, and report independent internal assessments. Processes are established to ensure that personnel having direct responsibility for performing the activities being assessed are not involved in the assessment. Administrative controls, training, and qualification requirements are established to ensure that personnel have the authority and capability to perform objective assessments.

Performance Objective F&I-2.1: Assessments and Performance Indicators	
4. Line managers have established programs and processes to routinely identify, gather, verify, analyze, trend, disseminate, and make use of performance measures that provide contractor and DOE management with indicators of overall performance, the effectiveness of assurance system elements, and identification of specific positive or negative trends. Approved performance measures provide information that indicates how work is being performed and are clearly linked to performance objectives and expectation established by management.	A review of WP 13-QA3006, Revision 6, *Data Analysis and Trending,* was conducted. It was determined that a process has been established and maintained to trend and analyze item characteristics and reliability, process implementation, and other quality-related information to identify items, services, activities, and processes needing improvement. Mechanisms have been implemented to gather and analyze data to determine the importance and impacts of reported findings and observations, and to initiate corrective action through the applicable corrective action process. Guidelines have been adequately established for performing data analysis and for monitoring and controlling processes using performance indicators. Data analysis tools are available for use by appropriately trained individuals. A process has been adequately established to ensure management distributes performance trend analysis reports to affected organizations, the DOE Carlsbad Field Office (CBFO), and other applicable oversight organizations.
5. Line managers effectively utilize performance measures to demonstrate performance improvement or deterioration relative to identified goals, in allocating resources and establishing performance goals, in development of timely compensatory measures and corrective actions for adverse trends, and in sharing good practices and lessons learned.	WP 13-QA3006, Revision 6, *Data Analysis and Trending*, establishes requirements directing management to ensure that adverse trends identified through trending and data analysis are documented and processed as deficiencies in accordance with the applicable corrective action process. Processes are in place to ensure managers evaluate conditions adverse to quality, including those identified during QA internal audits and surveillances and corrected during the audit/surveillance (CDA), and to identify adverse quality trends and root causes. Results of evaluations are reported to the organization responsible for the corrective action.

Discussion Results F&I-2.1:

WTS management has adequately established, maintained, and effectively implemented a process for planning, scheduling and performing internal and external assessments. Audits and surveillances are conducted for those organizations and activities determined to be important but not limited to: nuclear safety, health and safety of employees and the public, environmental protection, and mission success. A process has been established and maintained to trend and analyze item characteristics and

Performance Objective F&I-2.1: Assessments and Performance Indicators	
reliability, process implementation, and other quality-related information to identify items, services, activities, and processes needing improvement.	
Documents Reviewed	**Personnel Interviewed**
• WP 13-1, Revision 25, *WTS Quality Assurance Program Description* • WP 13-QA.03, Rev. 12, Quality Assurance Independent Assessment Program • WP 13-QA.04, Rev. 13, *Quality Assurance Department Administrative Program* • WP 12-IH.03, Rev. 0, *Safety, Security and Technical Support Self-Assessments* • WP 13-QA3006, Revision 6, *Data Analysis and Trending*	• Quality Assurance Manager • QA Team Lead Assurance Programs • PAAA Coordinator

WIPP FEEDBACK AND IMPROVEMENT ASSESSMENT
DNFSB RECOMMENDATION 2004-1; COMMITMENT 25

Performance Objective F&I-2.3: Event Reporting	
Performance Objective Description: Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents, and occupational injuries and illnesses.	
Criteria:	**Objective Evidence**
1. Formal programs and processes have been established to identify issues and report, analyze, and address operational events, accidents, and injuries. Events, accidents, and injuries are promptly and thoroughly reported and investigated, including the identification and resolution of root causes and management and programmatic weaknesses, and distribution of lessons learned.	A review of WP 12-ES3918, Revision 7, *Reporting Occurrences in Accordance with DOE Order 231.1A*, was conducted to determine that a system is in place to categorize and report events at the Waste Isolation Pilot Plant (WIPP) in accordance with U.S. Department of Energy (DOE) requirements. An event occurring at the WIPP site is procedurally defined as any incident or significant deviation from planned or expected behavior that could endanger or adversely affect operations, personnel safety, property, or the environment. A formal process has been adequately planned, established, and maintained to effectively identify, categorize, assess, and report operational incidents and accidents. Program elements utilized to implement the occurrence reporting process include: *Categorization of Reportable Occurrence by Group* Matrix, *Responsibilities Designations , Prompt Notification Form, Reporting Radiological Occurrences* Matrix, *Cause Codes,* and the *Occurrence Reporting Model.* The *Occurrence Reporting Model* includes the reporting time lines, verbal notifications, graded approach for investigation, problem analysis, corrective actions, lessons learned, and report approvals. A Final Report is prepared and submitted to the Facility Representative when the causal factors of the occurrence have been determined, corrective actions determined with actual or target completion dates identified, and lessons learned identified, as specified in the *Occurrence Reporting Model.*

Performance Objective F&I-2.3: Event Reporting	
2. Reporting of operational events, accidents, and injuries are conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE directives, and contract terms and conditions. Trending analysis of events, accidents, and injuries are performed in accordance with structured/formal processes and applicable DOE directives.	WP 12-ES3918, Revision 7, *Reporting Occurrences in Accordance with DOE Order 231.1A,* establishes a system for the Facility Manager (FM)/Facility Manager Designee (FMD) to categorize and report occurrences at the Waste Isolation Pilot Plant (WIPP) in accordance with U.S. Department of Energy (DOE) requirements. Occurrences that involve Environment, Safety, and Health are adequately categorized and further reported according to specified requirements. WP 15-RA.01, Revision 6, *Price-Anderson Program*, contains nuclear safety-related guidance and reporting requirements, consistent with DOE Operational Procedures, June 1998, *Identifying, Reporting, and Tracking Nuclear Safety Noncompliances Under Price-Anderson Amendments Act of 1988.* WP 02-EC3506, Revision 4, *Environmental Incident Reporting*, establishes thresholds and reporting requirements as prescribed by, but not limited to the following regulations: • 40 CFR Part 302, Table 302.4 • 40 CFR Part 302, Appendix B, "Radionuclides," • 40 CFR Part 117, Table 117.3, "Reportable Quantities of Hazardous Substances Designated Pursuant to Section 311 of the Clean Water Act" • 40 CFR Part 355 and Part 264 • 20.6.2.1203 NMAC Reporting requirements and criteria involving security-related incidents are outlined in WP 12-ER4905, Revision 5, *Security Emergency Response*, and site-specific security plans. WP 12-ES3918 implements the requirements of DOE Manual 231.1-2, *Occurrence Reporting and Processing of Operations Information.* A process for the submission, classification, and analysis of occurrence data has been adequately established and implemented. WTS performs quarterly analyses of events during 12-month periods to look for trends. Quarterly "roll-up" Trend Reports are submitted to the CBFO, as required.

Performance Objective F&I-2.3: Event Reporting	
Discussion Results F&I-2.3: WTS line management has adequately planned, established, and maintained a formal, documented system to effectively identify, categorize, assess, trend, and report operational incidents and accidents according to specified requirements.	
Documents Reviewed	**Personnel Interviewed**
• *DOE Order 231.1A, Environment, Safety, and Health Reporting* • DOE Manual 231.1-2, *Occurrence Reporting and Processing of Operations Information* • WP 13-1, Revision 25, *WTS Quality Assurance Program Description* • WP 12-ER3904, Revision 12, *Categorization Classification of Operational Emergencies* • WP 12-9, Revision 22, *WIPP Emergency Management Program* • WP 12-ES3918, Revision 7, *Reporting Occurrences in Accordance with DOE Order 231.1A* • WP 13-QA3006, Revision 6, *Data Analysis and Trending* • WP 13-QA3016, Revision 2, *Root Cause Analysis* • MP 1.24, Revision 3, *Commitment Tracking System* • WP 15-MD3102, Revision 2, *Event Investigation* • WP 02-EC3506, Revision 4, *Environmental Incident Reporting* • WP 15-RA.01, Revision 6, *Price-Anderson Program* • WP 12-ER4905, Revision 5, *Security Emergency Response*	• QA Team Lead Assurance Programs • Facility Manager Designee • PAAA Coordinator • WIPP FORM Screening Committee Member • WIPP FORM Coordinator

Performance Objective F&I-2.4: Issues Management	
Performance Objective Description: A formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions, have been developed and implemented.	
Criteria:	**Objective Evidence**
1. Program and performance deficiencies, regardless of their source, are captured in a system or systems that provides for effective analysis, resolution, and tracking. Issues management system elements include structured processes for determination of risk, significance, and priority of deficiencies; evaluation of scope and extent of condition; determination of reportability under applicable requirements; identification of root causes; identification and documentation of corrective actions and recurrence controls to prevent recurrence; identification of individuals/organizations responsible for corrective action implementation; establishment of milestones based on significance and risk for completion of corrective actions; tracking progress; verification of corrective action completion; and validation of corrective action implementation and effectiveness.	A review was conducted of WP 13-1, Revision 25, *Washington TRU Solutions Quality Assurance Program Description*, to verify that a quality improvement and feedback system has been developed and implemented to improve items, services, activities and processes. Program and performance issues are adequately identified in an established quality system, as verified by review of WP 04-IM1000, Revision 2, *Issues Management Program Processing of WIPP Forms.* The Issues Management Program provides for reporting, tracking, scheduling, and resolving issues identified at the Waste Isolation Pilot Plant. The scope includes issues of both high and low significance. A "no-fault" attitude is fostered by management to encourage their staff to report issues and allow management to prioritize and focus resources in a manner that addresses the issues having the greatest potential for: • Posing adverse risks to the environment and human health. • Adversely impacting the quality, safety, and reliability of operations. • Affecting the ability to meet quality requirements. The Issues Management Program adequately captures applicable structured processes. A WIPP Form Screening Committee has been established to address identified issues. The committee performs the following functions: determines the need for and

Performance Objective F&I-2.4: Issues Management	
	status of any immediate or compensatory actions required to protect personnel and equipment from imminent danger; determines if the issue requires reporting to any external agencies; determines the issue category (e.g., potentially reportable, potential Significant Condition Adverse to Quality (SCAQ), broke/fix, trend only, etc.); determines screening disposition (e.g., no action required, more information needed); notifies and assigns the appropriate organization(s), based on operability, potential reportability, and impact on plant systems or programs; determines if initiation of a corrective action plan (CAP) is required; and, if a CAP is required, assign a Responsible Manager who is knowledgeable and competent in the area of concern. Assigned managers are responsible for developing actions and documenting the following: the cause of the issue (including root cause for SCAQ and other issues as applicable), the potential extent and impact of the issue, prioritizing and assigning the activities necessary to resolve the issue, and evaluating the issue for ways to prevent recurrence, and including such steps in the CAP as appropriate.
2. Issues management processes include mechanisms to promptly identify the potential impact of a deficiency and take timely actions to address conditions of immediate concern, including stopping work, system shutdown, emergency response, reporting to management, and compensatory measures pending formal documentation and resolution of the issue.	MP 1.2, Revision 6, *Work Suspension and Stop-Work Direction* was reviewed to verify that mechanisms are adequately established and implemented to promptly identify, report and address conditions requiring immediate attention. Established management policy states that any WIPP employee having a concern for employee safety, the safety of the environment, or the quality of the activity has the responsibility and authority to suspend the performance of that activity. The responsible person in charge resolves the concerns of the employee or informs the cognizant manager, the Industrial Safety and Hygiene manager, and the Central Monitoring Room Operator of the work suspension and the reason the work suspended. Management resolves the concerns prior to resuming operation or initiates

Performance Objective F&I-2.4: Issues Management	
	actions to correct the condition using existing procedures.
3. Processes for analyzing deficiencies, individually and collectively, have been established that enable the identification of programmatic or systemic issues. Line management effectively monitors progress and optimizes the allocation of assessment resources in addressing known systemic issues.	A review of WP 13-QA3006, Revision 6, *Data Analysis and Trending*, was performed to determine that documented processes for analyzing and trending programmatic and systematic issues are established. Processes for trending and analyzing item characteristics and reliability, process implementation, and other quality-related information to identify items, services, activities, and processes needing improvement are adequately addressed. Performance assessment mechanisms have been established to ensure line management has the capabilities to monitor for changes in performance, maintain performance within specified limits, and monitor the effects of improvement efforts on performance. A Semiannual Trend Report is generated and submitted to appropriate management and oversight agencies.
4. Processes for communicating issues up the management chain to senior management have been established and based on a graded approach that considers hazards and risks. Line management receives periodic information on the status of identified deficiencies and corrective actions and holds organizations and individuals accountable for timely and effective completion of actions. Line management has executed graded mechanisms such as independent verification and performance-based evaluation to ensure that corrective action and recurrence controls are timely, complete, and effective. Closure of corrective actions and deficiencies are based on objective, technically sound, and verified evidence. The effectiveness of corrective actions is determined on a graded basis and additional actions are completed as necessary.	A review of WP 13-1, Revision 25, *Washington TRU Solutions Quality Assurance Program Description*, indicates that processes for communicating issues to key management personnel have been adequately established. Managers at all levels have established communication channels that provide timely and site-wide dissemination of information pertinent to quality performance, such as: the status of development and implementation of the QA program, the status and resolution of significant quality problems, the lessons learned from significant quality problems and adverse conditions, quality management practices and improvements, and trend analysis results. Line management adequately transmits and receives pertinent information on the status of identified issues. Processes and mechanisms have been established and implemented to address corrective actions, as prescribed in the Issues Management and Independent Assessment programs. Corrective Action Plan responses include: determination and documentation of the

Performance Objective F&I-2.4: Issues Management	
	nature of the condition along with any completed or ongoing actions, determination and documentation of the extent and impact of the issue/condition noted, documentation of any additional evaluations or activities taken, and determination of the cause. For issues where management requests the performance of a formal root cause evaluation, it is documented in accordance with WP 13-QA3016, *Root Cause Analysis*. Also included, is documentation of all actions necessary to resolve the issue/condition and prevent recurrence. The Commitment Tracking System (CTS) is the mechanism that WTS uses to track internal and external issues and commitments. Issues and commitments applicable for entry into the CTS include: External oversight, Conditions Adverse to Quality, Issues Management Program Corrective Action Plans, Occurrence Reporting and Processing System corrective actions, Internal Audit recommendations, internal commitments important to quality, safety, and mission success, and Price-Anderson Amendments Act Commitments.
5. Results of various feedback systems are integrated and collectively analyzed to identify repeat occurrences, generic issues, trends, and vulnerabilities at a lower level before significant problems result.	Reviews of WP 13-QA3006, Revision 6, *Data Analysis and Trending*, and MP 1.24, Revision 3, *Commitment Tracking System*, indicate that processes are established and mechanisms are in place to collect, integrate, and analyze data to identify patterns, trends, and recurrences. Administrative controls are in place to ensure that appropriate management personnel identify needs for data analysis and/or trending in order to identify items, services, and processes needing improvement, approve trending and analysis methodologies, ensure that adverse trends identified through trending and data analysis are documented and processed as deficiencies in accordance with the applicable corrective action process, and evaluate conditions adverse to quality, including those identified during QA internal audits and surveillances and corrected during the audit/surveillance (CDA), to identify adverse quality trends and root causes.

Performance Objective F&I-2.4: Issues Management	
6. Individuals or teams responsible for corrective action development are trained in analysis techniques to evaluate significant problems using a structured methodology to identify root and contributing causes and corrective actions to prevent recurrence.	WP 13-QA3016, Revision 2, *Root Cause Analysis* and WP 04-IM1000, Revision 2, *Issues Management Program Processing of WIPP Forms*, were reviewed to determine training requirements for personnel responsible for developing, analyzing, and evaluating root cause and corrective actions. Programs and procedures are adequately established to ensure that only designated, trained, and qualified personnel perform formal, documented root cause analysis. At a minimum, for an employee to qualify or act as a Root Cause Analysis (RCA) Team Leader, the WTS TapRooT® or industry-standard RCA course must be completed successfully and documented by the WTS Technical Training organization.

Discussion Results F&I-2.4:

WTS line management has adequately planned, established, and maintained a formal, documented system to effectively identify, categorize, assess, trend, and report operational incidents and accidents according to specified requirements.

Documents Reviewed	Personnel Interviewed
• *DOE Order 231.1A, Environment, Safety, and Health Reporting* • DOE Manual 231.1-2, *Occurrence Reporting and Processing of Operations Information* • WP 13-1, Revision 25, *WTS Quality Assurance Program Description* • WP 12-ER3904, Revision 12, *Categorization Classification of Operational Emergencies* • WP 12-9, Revision 22, *WIPP Emergency Management Program* • WP 12-ES3918, Revision 7, *Reporting Occurrences in Accordance with DOE Order 231.1A* • WP 13-QA3006, Revision 6, *Data Analysis and Trending* • WP 13-QA3016, Revision 2, *Root Cause Analysis* • MP 1.24, Revision 3, *Commitment Tracking System*	• QA Team Lead Assurance Programs • Facility Manager Designee • PAAA Coordinator • WIPP FORM Screening Committee Member • WIPP FORM Coordinator

Performance Objective F&I-2.4: Issues Management	
• WP 15-MD3102, Revision 2, *Event Investigation* • WP 02-EC3506, Revision 4, *Environmental Incident Reporting* • WP 15-RA.01, Revision 6, *Price-Anderson Program* • WP 12-ER4905, Revision 5, *Security Emergency Response*	

Performance Objective F&I-2.2: Operating Experience	
Performance Objective Description: The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.	
Criteria:	**Objective Evidence**
1. Formal processes are in place to identify applicable lessons learned from external and internal sources and any necessary corrective and preventive actions, disseminate lessons learned to targeted audiences, and ensure that lessons learned are understood and applied.	A review of WP 15-MD3100, Revision 5, *Lessons Learned Program,* was conducted. It was determine that processes are clearly established and maintained to adequately identify and collect applicable lessons learned and operational experience information. Procedures adequately prescribe management responsibilities for ensuring that site-specific events, and incidents which have occurred at other facilities, are submitted to the Lessons Learned Working Group for review. Sources of information submitted for review include: regulatory agencies, DOE Complex reports, NRC bulletins, assessments, WIPP Forms, non-compliance reports, corrective action plans, and safety industry circulations. Upon determination by the Lessons Learned Working Group, applicable lessons learned are distributed to affected organizations. The Lessons Learned Feedback Sheet is utilized to determine the comprehension and effective application of distributed lessons learned bulletins and reports.
2. Line managers effectively identify, apply, and exchange lessons learned with the rest of the DOE complex. Lessons learned identified by other DOE organizations and external sources are reviewed and applied by line management to prevent similar incidents/events.	WP 15-MD3100, Revision 5, *Lessons Learned Program* adequately prescribes management responsibilities for ensuring that events and incidents are identified and distributed to other on-site management personnel. Applicable information and lessons learned are also distributed to off-site agencies including other facilities within the DOE Complex. Information received from external sources are reviewed, distributed, and applied as it pertains to WIPP organizations.

Performance Objective F&I-2.2: Operating Experience	
	Procedures also prescribe responsibilities to ensure management disseminates pertinent quality information such as: the status of development and implementation of the QA program, the status and resolution of significant quality problems, the lessons learned from significant quality problems and adverse conditions, quality management practices and improvements, and trend analysis results.
3. Formal programs and processes have been established and implemented to solicit feedback or suggestions from workers and work activities on the effectiveness of work definition, hazard analyses and controls, and implementation for all types of work activities, and to apply lessons learned.	A formal, documented process has been established to effectively solicit feedback and improvement, and to provide employees the mechanisms to make suggestions and recommendations, as verified by review of MP 1-43, Revision 0, *Close Call Policy.* The Close Call Policy prescribes the goal of supporting the employee involvement criterion of the DOE Voluntary Protection Program (VPP) and the feedback and improvement function of the Integrated Safety Management Function. Feedback and improvement procedures are adequately developed and implemented to effectively provide employees the opportunity to eliminate or mitigate hazards before injuries or damages occur. WP 12-2, Revision 2, *WIPP ALARA Program Manual,* establishes a mechanism for employee feedback pertaining to ALARA observations and suggestions. WTS management also encourages employees to utilize the WIPP FORM process to make suggestions, recommendations, and process improvements. Lessons Learned Bulletins are distributed to applicable organizations based upon the severity, impact, and importance of the information. The designated manager reviews the Lessons Learned information, determines applicability and potential impacts, takes appropriate action, and submits a Lessons Learned Feedback Sheet to the Lessons Learned Chairperson.

Performance Objective F&I-2.2: Operating Experience	
4. Employee concerns related to management of DOE and NNSA programs and facilities are promptly and thoroughly reported and investigated in accordance with applicable DOE directives.	A review of MP 4.2, Revision 6, *Employee Concerns*, was conducted. A process has been established, consistent with the requirements of DOE Order 442.1A, *DOE Employee Concerns Program,* to provide employees of the DOE WIPP site, the opportunity to report concerns in a timely, anonymous, and non-retaliatory manner. Areas of concern that employees are encouraged to report include: safety, security, quality, environmental protection, compliance with laws and regulations, fraud, abuse or mismanagement, and other work-related issues. U. S. Department of Energy Office of Inspector General *Hotline* Bulletins are conspicuously posted throughout the WIPP site, informing employees to report suspicions of fraud, waste, or abuse.

Discussion Results F&I-2.2:

WTS management has adequately planned, established, and maintained a formal, documented process to effectively identify, review, disseminate, and apply Lessons Learned reports, and exchange information as it pertains to employee health and safety, environmental protection, and operational effectiveness.

Documents Reviewed	Personnel Interviewed
• DOE Order 442.1A, *DOE Employee Concerns Program* • WP 13-1, Revision 25, *WTS Quality Assurance Program Description* • WP 15-MD3100, Revision 5, *Lessons Learned Program* • WP 12-ES3918, Revision 7, *Reporting Occurrences in Accordance with DOE Order 231.1A* • WP 13-QA3006, Revision 6, *Data Analysis and Trending* • MP 1-43, Revision 0, *Close Call Policy* • WP 12-2, Revision 2, *WIPP ALARA Program Manual* • MP 4.2, Revision 6, *Employee Concerns*	• QA Team Lead Assurance Programs • PAAA Coordinator • WIPP FORM Screening Committee Member • WIPP FORM Coordinator • Lessons Learned Working Group Member

SEPARATION

PAGE

06.0429

United States Government **Department of Energy**

memorandum

Idaho Operations Office

Date: January 13, 2006

Subject: Department of Energy Idaho Operations Office Report of Assessments and Draft Action Plans in Response to Defense Nuclear Facilities Safety Board Recommendation 2004-1 Commitment 23 and Commitment 25 (OS-QSD-06-006)

To: James A. Rispoli, Assistant Secretary for Environmental Management
DOE-HQ, EM-1, FORS

R. Shane Johnson, Acting Director
Office of Nuclear Energy, Science and Technology
DOE-HQ, NE-1, FORS

References:
1) Memorandum, David K. Garman to James A Rispoli and R. Shane Johnson, Subject: Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 23, dated November 9,2005.
2) Memorandum, David K. Garman to James A Rispoli and R. Shane Johnson, Subject: Defense Nuclear Facilities Safety Board Recommendation 2004-1, Integrated Safety Management System Feedback and Improvement, dated November 9,2005.
3) Letter, E. D. Sellers to Mr. John J. Grossenbacher, President and Laboratory Director Battelle Energy Alliance; Mr. Alan Parker, President and CEO Idaho Cleanup Project CH2M♦WG Idaho, LLC; and Mr. Frank Russo, President and General Manager Advanced Mixed Waste Treatment Project Bechtel BWXT Idaho, LLC; Department of Energy's Implementation Plan Commitment 23 and Commitment 25 for Defense Nuclear Facilities Safety Board Recommendation 2004-1, *Oversight of Complex, High-Hazard Nuclear Operations;* Request for Action (OS-QSD-05-153), dated December 2, 2005.

References (1) and (2) directed thorough and disciplined assessment of Department of Energy (DOE) and contractor performance in the areas of "Work Planning and Work Control" and "Feedback and Improvement" processes.

In response I issued Reference (3) to Battelle Energy Alliance (BEA), CH2M♦WG Idaho, LLC (CWI), and Bechtel BWXT Idaho, LLC (BBWI), directing them to conduct a self-assessment of their work planning and work control, and feedback and improvement processes, using review criteria provided in References (1) and (2), and to provide the results of those self-assessments to DOE-ID by January 6, 2006. Reference (3) also directed the

three prime contractors to develop and submit a draft action plan designed to correct weaknesses and deficiencies identified during the self-assessments to DOE-ID by January 10, 2006.

A team comprised of fifteen DOE-ID employees was assigned to conduct a self-assessment of the three Performance Objectives that were specific to DOE activities using the review criteria provided in References (1) and (2). The DOE-ID team was also tasked with performing independent evaluation of selected criterion associated with the seven Performance Objectives (PO) specific to contractor activities, and to compare the results of the DOE-ID evaluation with the results of the contractor self-assessments.

Self-Assessments

A summary of each of the individual self-assessments is included in this memorandum, and each self-assessment report in its entirety is attached to this memorandum for reference. Also included is an evaluation of each contractor self-assessment based on an independent review by DOE-ID of selected review criteria associated with contractor specific Performance Objectives. The review criteria that were independently evaluated by DOE-ID include: Work Planning and Control (WPC) PO-3 Criterion 3, WPC PO-4 Criterion 5, WPC PO-5 Criterion 5, WPC PO-6 Criterion 7, WPC PO-7 Criterion 4, Feedback and Improvement (F&I) PO-1 Criterion 1, and F&I PO-2 Criterion 3.

DOE-ID Three POs, consisting of nineteen individual review criterion, pertain specifically to DOE-ID performance. The DOE-ID self-assessment team concluded that WPC PO-1 Criterion 3, WPC PO-1 Criterion 4, F&I PO-3 Criterion 1, F&I PO-3 Criterion 6, F&I PO-3 Criterion 8, F&I PO-3 Criterion 9, F&I PO-3 Criterion 10, and F&I PO-3 Criterion 11 were Fully Met; WPC PO-1 Criterion 1, WPC PO-1 Criterion 3.a, WPC PO-2 Criterion 1, WPC PO-2 Criterion 2, WPC PO-2 Criterion 3, F&I PO-3 Criterion 2, F&I PO-3 Criterion 3, F&I PO-3 Criterion 4, F&I PO-3 Criterion 5, and F&I PO-3 Criterion 7 were Partially Met, and WPC PO-1 Criterion 2 was Not Met.

For each instance when full compliance with a review criterion was not obtained, the DOE-ID self-assessment team provided a recommendation that could be used for developing a corrective action plan. The DOE-ID self-assessment team also concluded that, in most instances, a process for obtaining full compliance with the review criteria exists within DOE-ID and is available for implementation.

BEA The BEA self-assessment report of Idaho National Laboratory (INL) activities concluded that WPC PO-3, WPC PO-4, WPC PO-5, WPC PO-6, F&I PO-1, F&I PO-2 Criterion 1(b), F&I PO-2 Criterion 2, and F&I PO-2 Criterion 3 were Fully Met, and WPC PO-7, F&I PO-2 Criterion 1(a) and F&I PO-2 Criterion 4 were Partially Met.

The DOE-ID INL sub-team performed an independent assessment of the selected criteria and compared their results to the BEA self-assessment report. The comparison resulted in general agreement on all Performance Objective criteria with the exception of WPC-7 Criterion 4, which states, "The contractor tracks and trends the results of oversight activities performed on their work planning and control process and takes appropriate actions". The supporting information contained in the write-up for WPC-7 Criterion 4 does not address tracking and trending of work planning and control oversight information.

A review of the entire BEA self-assessment report resulted in the DOE-ID observation that the BEA threshold for determining whether Performance Objective criteria was classified as "Partially Met" or "Fully Met" appears to be considerably lower than the DOE threshold. Based on the issues identified in the BEA self-assessment report, many of the Performance Objective criteria determined by BEA to be "Fully Met" or "Partially Met" would have resulted in a lower classification by DOE-ID.

BBWI The BBWI self-assessment report for the Advanced Mixed Waste Treatment Project (AMWTP) concluded that all POs were "Fully Met".

The DOE-ID AMWTP sub-team performed an independent assessment of the selected criteria and compared their results to the BBWI self-assessment report. The comparison resulted in general agreement on most PO criteria, but not all. Exceptions were taken with the following:
1. WPC PO-4 Criterion 5 states, "The team selects controls based upon the following hierarchy: (1) hazard elimination/reduction, (2) engineered controls, (3) administrative controls, and (4) personal protective equipment. The DOE-ID review determined that hazard elimination/reduction is not explicitly established as part of the hazards control hierarchy for the AMWTP.
2. WPC PO-5 Criterion 5 states, "Work hazard controls identified in the JHA have been incorporated into the work control document". The DOE-ID review determined that many of the mitigations identified in the Hazards Assessment appendix to AMWTP-INST-COPS-9.18.4 are listed as "Work Control" instead of the actual mitigation required for the hazard. The appendixes are used by planners and procedure writers to ensure that there are adequate mitigations for the various hazards identified. The hazard mitigation of "work control" is not adequate to ensure effective mitigation of the identified hazards.
3. F&I PO-1 Criterion 1 states, "A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by contractor management, and forwarded to DOE for review and approval. The program description is reviewed and updated annually and forwarded to DOE for review and approval". BBWI does not have a contractual requirement for a Contractor Assurance System. The Environment, Safety, and Health Program Operating Plan (ESHPOP) establishes the fundamental commitments applicable to integrated safety management and implementation of the ES&H programs for the AMWTP. The AMWTP Quality Assurance Program Plan (QAPP) represents the top tier document of the quality system and demonstrates

the AMWTP management commitment to ensuring quality through all phases of the project by applying criteria of 10 CFR 830 for applicable activities. However, as required by the stated criterion, the AMWTP does not have one comprehensive program description document that would be equivalent to a contractor assurance system description document.

CWI The CWI self-assessment report of Idaho Completion Project (ICP) concluded that WPC PO-3, F&I PO-2 Criterion 2, and F&I PO-2 Criterion 3, and F&I PO-2 Criterion 4 were Fully Met; that WPC PO-4, WPC PO-5, WPC PO-6, F&I PO-1, and F&I PO-2 Criterion 1 were Partially Met; and that WPC PO-7 was Not Met.

The DOE-ID ICP sub-team performed an independent assessment of the selected criteria and compared their results to the CWI self-assessment report. The comparison resulted in the conclusion that the contractor's assessment was adequate, self-critical and identified weaknesses in the contractor work planning, work control and feedback and improvement processes (reference Appendix D of Attachment 4 for specific assessment findings).

Draft Action Plans
Attached to this memorandum are Draft Action Plans for DOE-ID, BEA, and CWI. The action plans will be further developed, and will be approved by me and submitted to you for approval by February 8, 2006.

BBWI concluded that because all POs for BBWI activities were determined to be fully met that no corrective actions would be required. However, DOE-ID's evaluation of the BBWI self-assessment report was not in total agreement with results listed in the report and additional review will be conducted by DOE-ID to determine if an Action Plan is appropriate.

If you have any questions concerning this memorandum, please contact G. L. Beausoleil (208) 526-5558 or R. A. Taft (208) 526-8838.

Sincerely,

for Elizabeth D. Sellers
Manager

Attachments
1) U.S. Department of Energy Idaho Operations Office Self-Assessment Report for Defense Nuclear Facilities Safety Board Recommendation 2004-1Commitment 23 and Commitment 25
2) Department of Energy's Implementation Plan Commitment 23 and Commitment 25 for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Oversight Complex,

High-Hazard Nuclear Operations; Request for Action - Contract No. DE-AC07-05ID14517 - CCN 203882

3) BBWI AMWTP Input for DOE-ID Assessments of FeedBack & Improvement and Work Planning and Control
4) Assessment Of Commitment 23 And Commitment 25 For Defense Nuclear Facilities Safety Board Recommendation 2004-1, Contract No. DE-AC07-05ID14516 – CCN 301808
5) U.S. Department of Energy Idaho Operations Office Draft Action Plan
6) Department of Energy's Implementation Plan Commitment 23 and Commitment 25 for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Oversight Complex, High-Hazard Nuclear Operations; Request for Action
7) Draft Corrective Action Plan For The ICP Assessment Of Commitment 23 And Commitment 25 For Defense Nuclear Facilities Safety Board Recommendation 2004-1, Contract No. DE-AC07-05IDI4516 - CCN 301844

Attachment 1

U.S. Department of Energy
Idaho Operations Office

Self-Assessment Report
for
Defense Nuclear Facilities Safety Board
Recommendation 2004-1
Commitment 23
and
Commitment 25

Oversight Information Management System Record
ESH-2006-1

January 2006

Executive Summary

Three of the Performance Objectives (PO), consisting of nineteen individual review criterion, associated with Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, *Oversight of Complex, High-Hazard Nuclear Operations,* Commitment 23 and Commitment 25, pertain specifically to Department of Energy Idaho Operations Office (DOE-ID) performance. A team consisting of fifteen DOE-ID employees performed a self-assessment of those Performance Objectives using review criteria provided in memorandums issued by Under Secretary Garman.

The DOE-ID self-assessment team concluded that Work Planning and Control (WPC) PO-1 Criterion 3, WPC PO-1 Criterion 4, Feedback and Improvement (F&I) PO-3 Criterion 1, F&I PO-3 Criterion 6, F&I PO-3 Criterion 8, F&I PO-3 Criterion 9, F&I PO-3 Criterion 10, and F&I PO-3 Criterion 11 were Fully Met; WPC PO-1 Criterion 1, WPC PO-1 Criterion 3.a, WPC PO-2 Criterion 1, WPC PO-2 Criterion 2, WPC PO-2 Criterion 3, F&I PO-3 Criterion 2, F&I PO-3 Criterion 3, F&I PO-3 Criterion 4, F&I PO-3 Criterion 5, and F&I PO-3 Criterion 7 were Partially Met, and WPC PO-1 Criterion 2 was Not Met.

For each instance when full compliance with a review criterion was not obtained, the DOE-ID self-assessment team provided a recommendation that could be used for developing a corrective action plan. The DOE-ID self-assessment team also concluded that, in most instances, a process for obtaining full compliance with the review criteria exists within DOE-ID and is available for implementation.

Introduction and Background

On November 9, 2005, David Garman, Under Secretary for Energy, Science, and Environment, issued two memorandums to James Rispoli, Assistant Secretary for Environmental Management, and R. Shane Johnson, Acting Director, Office of Nuclear Energy, Science and Technology, that provided his expectations for completion of Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1 *Oversight of Complex, High-Hazard Nuclear Operations*, Commitment 23 and Commitment 25.

Included in those expectations was performance of initial assessments by DOE field elements and contractors, and the subsequent development of action plans to improve performance. Commitment 23 focused on the effectiveness of work planning and work execution at the activity level, and Commitment 25 focused on the Integrated Safety Management System feedback and improvement core function.

On December 2, 2005, Elizabeth Sellers, Manager, Idaho Operations Office (DOE-ID) issued a letter to John Grossenbacher, President and Laboratory Director of Battelle Energy Alliance (BEA), Alan Parker, President and CEO of CH2M♦WG Idaho, LLC (CWI), and Frank Russo, President and General Manager of Bechtel BWXT Idaho, LLC (BBWI), directing each to perform a self-assessment of their organization using the criteria provided in Under Secretary Garman's memorandums.

Assessment Scope

The scope of this assessment was defined by the Performance Objective review criteria provided in Under Secretary Garman's memorandums, with the addition of lines of inquiry provided for evaluating the Feedback and Continuous Improvement review criteria.

Review criteria included three Performance Objectives specific to DOE-ID activities. DOE-ID also conducted a limited assessment of contractor specific Performance Objective review criteria to provide an independent evaluation for comparison purposes. The same Performance Objective review criteria were reviewed by DOE-ID for each of the three prime contractors.

Assessment Methodology

The methodology for conducting this assessment included combining the assessments associated with DNFSB Recommendation 2004-1 Commitment 23 and Commitment 25 into a single review. The DOE-ID Manager then directed each of the three prime contractors to conduct a self-assessment of the applicable Performance Objectives using the review criteria provided in Under Secretary Garman's memorandums.

A team comprised of fifteen DOE-ID employees was assigned to conduct a self-assessment of the three Performance Objectives that were specific to DOE activities using the review criteria provided in two Under Secretary Garman's memorandums. The DOE-ID team was also tasked with performing independent evaluation of selected criterion associated with the seven Performance Objectives specific to contractor activities and to compare the result of the DOE-ID evaluation with the result of the contractor self-assessments.

The DOE-ID self-assessment and independent assessment of selected contractor Performance Objective criteria were conducted as planned and the results documented in this report.

Team Member Assignments

Assessment Team Leader
Bob Seal – Materials and Fuels Complex Facility Representative

Advanced Mixed Waste Treatment Project Evaluation Sub-Team
Bob Knighten (Leader) – Radioactive Waste Management Complex Facility Representative
Julie Finup – Advanced Mixed Waste Treatment Project Facility Representative
Jim Wolski – Advanced Mixed Waste Treatment Project Facility Representative

Idaho Cleanup Project Evaluation Sub-Team
Brad Davis (Leader) – Facility and Materials Disposition Project Facility Representative
Karl Hugo – Facility and Materials Disposition Project Facility Representative
Vern Peterson – Waste Disposition Project Facility Representative

Idaho National Laboratory Evaluation Sub-Team
Andy Jones (Leader) - Reactor Technology Complex Facility Representative
Jim Geringer – National Security Programs Facility Representative
Mike Haben – Materials and Fuels Complex Facility Representative
John Martin – Reactor Technology Complex Facility Representative

Idaho Operations Office Line Management Evaluation Sub-Team
Randy Kay (Leader) – Quality Assurance Subject Matter Expert
Lee Beidleman – Quality Assurance Subject Matter Expert
Bob Blyth – Quality Assurance Subject Matter Expert
Steve Somers – Training Program Subject Matter Expert
Mark Worrell – Industrial Safety Subject Matter Expert

Acronyms

AMWTP	Advanced Mixed Waste Treatment Project
BBWI	Bechtel BWXT Idaho, LLC
BEA	Battelle Energy Alliance
BNFL	British Nuclear Fuels
CAS	Contractor Assurance System
CFA	Central Facilities Area
CMP	Contract Management Plan
CO	Contracting Officer
COP	Contract Oversight plan
CWI	CH2M♦WG Idaho, LLC
DOE-ID	Department of Energy Idaho Operations Office
DNFSB	Defense Nuclear Facilities Safety Board
EM	Environmental Management
ESH&QA	Environmental, Safety, Health and Quality Assurance
FE	Facility Engineer
FMDP	Facility and Materials Disposition Project
FR	Facility Representative
ICARE	Issue Communication and Resolution Environment
ICP	Idaho Cleanup Project
INL	Idaho National Laboratory
INTEC	Idaho Nuclear Technology and Engineering Complex
ISMS	Integrated Safety Management System
JHA	Job Hazard Analysis
LO	Laboratory Operations
MFC	Materials and Fuels Complex
NE	Nuclear Energy
NS	National Security Programs
NTS	Non-Compliance Tracking System
OA	Office of Independent Oversight and Performance Assurance
OIMS	Oversight Information Management System
OP	Office Procedure

ORPS	Occurrence Reporting and Processing of Operational Information System
OS	Operational Support
PBI	Performance Based Incentives
PD	Process Description
PEMP	Performance Evaluation Management Plan
QAPP	Quality Assurance Program Plan
R&D	Research and Development
RTC	Reactor Technology Complex
RWMC	Radioactive Waste Management Complex
SCI	Sensitive Compartmented Information
SMC	Special Manufacturing Capability
SME	Subject Matter Expert
SOSO	Senior Operations and Safety Officer
SSWC	Safe System Work Controller
STC	Science and Technology Complex
STD	Standard
TQP	Technical Qualification Program
WI	Work Instruction

DOE-ID Self-Assessment Review Criteria and Results

Performance Objective WPC-1: Work Planning and Control Oversight
The DOE field element has an established process that ensures effective oversight of the contractor's work planning and control process.

WPC-1 Criterion 1: There is documentation that delineates the roles and responsibilities for DOE field element personnel performing oversight of the contractor's work planning and control process.

Results:

Position Descriptions have been prepared for DOE-ID personnel that identify the roles and responsibilities associated with the performance of oversight of contractor work planning and control. The roles and responsibilities for any specific DOE-ID staff are related to the functional area (e.g. Quality Assurance, Radiation Protection, Fire Protection, Facility Representative, etc.) to which they are assigned.

In addition, roles and responsibilities for personnel performing oversight within the Environmental Management (EM) Program are contained within the Idaho Completion Project (ICP) Contract Oversight Plan, Section IV.

Radioactive Waste Management Complex (RWMC) maintains an Environmental, Safety, Health and Quality Assurance (ESH&QA) Oversight Plan, a portion of which further delineates Facility Representative (FR) responsibilities for oversight of contractor work control processes. This plan was a requirement of a previous DOE-ID document (*Assistant Manager Manual Chapter 4*) that no longer exists. Some of this previous document was converted to current DOE-ID directives but the use of the FR responsibilities portion of the ESH&QA Oversight Plan did not make the transition.

OD-101, *Functions, Responsibilities, and Authorities*, defines management functions, responsibilities, and authorities for DOE-ID personnel with responsibilities for line, support, oversight, and enforcement actions. OD-101 does not reflect the current reporting chain for Nuclear Energy (NE) FRs in that NE FRs now report to the Senior Operations and Safety Officer (SOSO).

Evaluation:

Performance Objective partially met

Recommendations:

1. DOE-ID should provide guidance on the continued maintenance and use of the previous ESH&QA Oversight Plan.
2. DOE-ID should revise OD-101, *Functions, Responsibilities, and Authorities,* to reflect the current reporting chain for DOE-ID NE FRs.

WPC-1 Criterion 2: DOE field element management has established the requirement for oversight of all stages (e.g., planning walk downs, Job Hazard Analysis (JHA) meetings, field execution, etc.) of the work planning and control process.

Results:

NOTE: There is no known requirement that specifies oversight of all stages of the work planning and control process as stated in the Criterion.

The DOE-ID process for operational oversight activities is defined in the PD-108, *Process Description for Contractor Oversight*. Within that process are established the requirements for assessments and operational awareness to be performed by DOE-ID staff. Planning and scheduling of oversight elements is conducted in accordance with Work Instructions WI-129, *Identification of Oversight Elements*, WI-130, *Risk Determination*, and WI-133 *Oversight Plan*. Although DOE-ID management expects oversight of all stages of the work planning and control processes, oversight tasks and schedules are generally not developed to the level of specific stages, such as planning walk-downs, Job Hazard Analysis (JSA), pre-job briefings, and field execution.

At the Material and Fuels Complex (MFC), Reactor Technology Complex (RTC) and Specific Manufacturing Capability (SMC) facilities, the requirement for DOE oversight of all aspects of the work control processes is contained in appendix B, "Oversight Elements Summary", of the DOE/NE-ID-11195, *DOE-ID Contract Oversight Guidance Document*. This requirement states that the reviews are of the "work control processes" but does not break it down into its constituent parts. There is documented evidence at SMC that the FR provided oversight of all aspects of the MCP-3562, *Hazard Identification Analysis and Control of Operational Activities*, process, documented in Oversight Information Management System (OIMS) report SMC-2005-15, during the past 12 months. A review of OIMS for RTC and MFC for the past year revealed monthly documentation of oversight of the work control process including pre-job briefs, field execution, post-job reviews, and work order closeout reviews.

The ICP Oversight Plans establish that DOE-ID will routinely monitor work performance through direct observation, walk-through, document reviews, meeting attendance and daily interaction in the field. The plan also establishes that DOE-ID will maintain operations awareness to ensure facilities are operated safely and within the safety basis, to provide early identification of vulnerabilities, and to verify that the contractor is effectively controlling operations and conducting credible self-assessments.

Oversight for DOE-ID EM activities is developed using the guidance provided in the *ICP Contract Oversight Plan*, DOE/NE-ID-11195, *Contract Oversight Guidance Document*, and WI-122, *Conduct of Operational Oversight Activities*, WI-123, *Monthly Review of EM-ICP Oversight Results*, WI-129, *Identification of Oversight Elements*, WI-130, Risk Determination, WI-131, *Integration of Program/Project and Functional Elements*, WI-132, *Oversight Techniques*, and WI-133, *Oversight Plan*.

This guidance includes methods to be used for risk determination, the identification of oversight elements and the selection of oversight techniques for designated oversight activities in the Plan.

A review of DOE-ID EM oversight reports in OIMS for the past year revealed monthly documentation of oversight of the work control process, as outlined under STD-101, *Integrated Work Control Process*, and MCP-3562, *Hazard Identification Analysis and Control Of Operational Activities.*

Oversight activities at DOE-ID EM facilities were predominately focused on "work in progress", with some documented evidence of occasional monitoring of pre-job briefings. There was no documented evidence of FRs having monitored post job briefings, planning walk-downs or JHA meetings, or having performed work order closeout reviews.

Evaluation:

Performance Objective not met

Recommendations:

1. DOE-ID should evaluate whether work planning and control oversight will continue to be selected and performed based upon risk determination or if all stages (as specified in the Criterion) will be performed regardless of risk.

WPC-1 Criterion 3: The DOE field element management has designated appropriate personnel (e.g., safety and health, facility representatives, project, etc.) to perform oversight of the contractor's work planning and control process.

Results:

DOE-ID personnel are assigned to oversight of the contractor's work planning and control processes in accordance with the position descriptions of each individual. The personnel assigned oversight responsibilities were hired by DOE based on their Office of Personnel Management job series classification, education, and experience.

INL FR Position Descriptions describe their responsibility for the conduct of oversight including work processes. As part of the development of the Oversight Plan (as specified in section 7 of DOE/NE-ID-11195 and WI-133), an accountable individual is designated in writing for the conduct of the specified review.

In addition to FR Position Descriptions, the ICP Contract Oversight Plan contains responsibilities and authorities for all levels of DOE-ID EM personnel involved in oversight activities. Personnel assignments for oversight activities are designated on the 90-Day Assessment Schedule, which is formulated from the Federal Baseline Schedule.

Evaluation:

Performance Objective fully met

WPC-1 Criterion 3.a: Designated personnel have received adequate training or were selected based on their experience and knowledge of the work planning/control process.

Results:

DOE-ID has fully implemented the DOE Technical Qualification Program (TQP) and all DOE-ID personnel assigned oversight of the contractor have completed or are performing the appropriate functional area qualifications for their disciplines.

Although personnel assigned in the capacity discussed in WPC-1 Criterion 3, above, have been fully qualified and capable of performing the reviews, there is no documented requirement at DOE-ID that assigned personnel have the required level of competence. A review of the FR functional area, core, and facility specific qualification cards revealed that there is no requirement for an FR to demonstrate a familiarity or working level knowledge of the contractor work control processes.

Evaluation:

Performance Objective partially met

Recommendations:

1. The DOE-ID Technical Qualification Program should be modified to ensure that candidates who are expected to provide oversight of the contractor work control processes are knowledgeable of those processes.

WPC-1 Criterion 4: The field element has a formal system that documents the efforts of their personnel performing oversight of the contractor's work planning and control process.

Results:

Oversight activity results at DOE-ID are documented, along with associated issues, in the OIMS. This system includes documented verification of corrective action adequacy and closure for DOE identified issues. In addition, completion/status of personnel assignments for oversight activities are also documented on the Federal Baseline Schedule. The Federal Baseline Schedule is updated monthly. PD-110, *Federal Baseline,* and WI-120, *Management of the ICP Federal Baseline,* discuss the use of the Federal Baseline Schedule.

Evaluation:

Performance Objective fully met

Performance Objective WPC-2: Work Planning and Control Oversight
The DOE field element performs effective oversight of the contractor's work planning and control process.

WPC-2 Criterion 1: The field element has scheduled periodic oversight activities (e.g., assessments, surveillances, observations, etc.) of the contractor's work planning and control process. These activities are of sufficient scope, detail, and quantity that the field element can ascertain the status of the contractor's work planning and control process.

Results:

The RTC and SMC Contract Oversight Plans for fiscal year 2006 state "Conduct Periodic Surveillances of Contractor Work Control Processes frequently". Work control is monitored on a monthly basis and documented in OIMS when there are issues associated with it. The requirement for frequent (monthly) oversight of RTC and SMC work control is documented at the activity level in the RTC and SMC ESH&QA Oversight Schedule. This schedule is attachment 2 of the approved SMC Contract Oversight Plan for fiscal year 2006.

The MFC Oversight Plan provides the schedule of oversight activities, including work control processes, performed during the fiscal year. This schedule includes formal reviews of elements of conduct of maintenance described in DOE O 433, *Maintenance Management Program for DOE Nuclear Facilities*, such that all elements are covered in a three-year period. As needed, reviews of significant facility equipment installation/startup (i.e., Fuel Manufacturing Facility Advanced Fuel Cycle Initiative Glove box start-up) are conducted to ensure that proper work control processes are followed. Such reviews are reflected on the MFC Oversight Plan schedule. In addition, FRs perform routine daily tours, which typically include observations of pre- and post-job briefings, JSA reviews and observation of ongoing work activities.

STC/CFA FR coverage for this oversight has been limited due to a shortage of qualified FRs for the STC, CFA and NS facilities. In addition, NS programs have limited access due to security concerns and the respective National Security program managers have provided much of the oversight without the assistance of a FR. Facility Engineers (FEs) and Subject Matter Experts (SMEs) have been performing limited oversight of the work planning and control processes at the STC/Central facilities.

Currently the Contract Oversight Plans for the STC, CFA and NS facilities are not implemented. When personnel from RTC and MFC were assigned to fill in and cover these areas due to a shortage of FRs, the coverage was only on a reactive basis due to the need to perform oversight at higher hazard nuclear facilities. In November 2005 a full time FR was assigned to cover these facilities, however, the plan to have two FRs covering these facilities (per the FR staffing analysis) has not yet been completed.

As of November 2005, a FR was assigned to cover the NS activities and the individual is in the process of gaining authorization to the Sensitive Compartmented Information (SCI) and becoming qualified to cover this program. OD-113, *Policy Regarding the Oversight Activities On National Security Program Activities*, states, "National Security Programs will have a single dedicated Facility Representative for the program area, cleared and fully briefed on all activities". At this time, the assigned FR is not dedicated to NS activities but has other FR coverage responsibilities for STC and CFA.

Interviews with the SOSO and the RTC/SMC Team Lead identified that the information gained from oversight activities is sufficient to provide an understanding of the status of the contractor's work control process.

The ICP Federal Baseline for the Advanced Mixed Waste Treatment Project (AMWTP) does not contain any specific oversight activities of the contractor's work planning and work control process. The three most recent 90-day assessment schedules did not contain any specific oversight activities of the contractor's work planning and work control process. The RWMC ESH&QA Oversight Plan (previously, but no longer required by a deleted DOE-ID manual) does contain scheduled periodic oversight activities of work planning and work control that were of sufficient scope, detail and quantity to ascertain status of the process.

The ICP Contract Oversight Plan states that DOE-ID intends that oversight activities range widely across the scope of the ICP and are not confined or limited by risk. FRs are expected to frequently observe low risk, industrial activities as part of normal operations awareness activities. Work control is monitored on a monthly basis and is documented in OIMS when there are issues associated with it. However, most of the documented oversight in regards to work control has historically been centered on "work in progress" with some documentation of monitoring pre-job briefings, and has not periodically monitored work planning, post job briefings/reviews and work order closeout.

Evaluation:

Performance Objective partially met

Recommendations:

1. DOE-ID NE should implement the Contract Oversight Plan for the Science and Technology Complex (STC), Central Facilities Area (CFA), and National Security Programs (NS) activities.
2. DOE-ID should complete implementation of the DOE-ID FR staffing analysis, currently in progress.

WPC-2 Criterion 2: The scheduled oversight activities are conducted during all stages of work planning and control process (e.g., planning walk downs, JHA meetings, field execution, etc.), and are chosen based upon the degree of risks, hazards, and complexity of the work activity.

Results:

Oversight of the contractor work control process at MFC, RTC and SMC is performed during all stages of the process whether it is a maintenance or operations activity. The Contract Oversight Plans assign a risk rating (high, medium, low) to scheduled oversight activities. Facility oversight activities are based on the hazard of the facility (hazard category 1 and 2 facilities receiving the greater coverage), risk and complexity of the activity as documented in the Contract Oversight Plans for fiscal year 2006. One activity at SMC this past year was considered to be a higher than normal risk. A FR monitored this activity during all stages of work planning and execution. This oversight activity was documented in OIMS report SMC-2005-15. A review of OIMS for RTC for the past year revealed monthly documentation of oversight of the work control process including pre-job briefs, field execution, post-job reviews, and work order closeout reviews. Additionally, a recent Office of Independent Oversight and Performance Assurance (OA) assessment of DOE-ID and Battelle Energy Alliance (BEA) implementation of Core Functions 1-5 of Integrated Safety Management determined that DOE-ID oversight was generally effective in these areas. There were no DOE-ID issues dealing with oversight cited in the OA report. At the MFC, formal reviews of conduct of maintenance, ad-hoc reviews of significant facility equipment installation/startup, and routine FR observations of maintenance activities, sufficiently cover all aspects of the contractor's work planning and control process.

For the STC, CFA and NS oversight activities that have occurred, although very limited, have been thorough and have covered all phases of the job planning, hazard analysis, and work execution. This includes participation by the FR and FE in the Independent Hazard Review (IHR) process specified in MCP-3571, *Independent Hazard Review.* This work control process describes the contractor review and evaluation of the planning process and hazard mitigation for new Research and Development (R&D) programs. FRs, FEs, and SMEs perform laboratory walkthroughs and observations of work on a regular basis. This oversight focused on higher hazard and more complex work taking place at the STC, CFA, and NS activities.

The RWMC ESH&QA Oversight Plan (as discussed in WPC-1 Criterion 1) has monthly operational awareness as one of the required scheduled surveillances with work control as one of the FR roles and responsibilities that includes attendance at the Plan of the Day (POD) and daily surveillance of maintenance activities. Appendix 1 of the RWMC ESH&QA Oversight Plan provides detailed instructions for performing oversight of maintenance activities. FRs routinely attends the morning POD meeting and reviews the published POD/Plan Of the Week. The FR visits the work control offices at the start of facility and non-facility walk downs. At the Work Control office, work control documents are reviewed for work in progress. The AMWTP

POD is discussed with the Safe System Work Controller (SSWC) and the Shift Manager to determine what work is planned with specific start times. Contractor work schedules/activities are discussed with the RWMC Operations Team Lead and decisions are made for allocation of limited oversight resources.

The ICP and AMWTP Contract Oversight Plans establish that DOE-ID will routinely monitor work performance through direct observation, walk-through, document reviews, meeting attendance and daily interaction in the field. The plan also establishes that DOE-ID will maintain operations awareness to ensure facilities are operated safely and within the safety basis, to provide early identification of vulnerabilities, and to verify that the contractor is effectively controlling operations and conducting credible self-assessments.

A review of DOE-ID EM oversight reports in OIMS for the past year revealed monthly documentation of oversight of the work control process but it was predominately focused on "work in progress" with some documentation of monitoring pre-job briefings. There was no documented evidence of FRs having monitored post job briefings/reviews, planning walk-downs, JHA meetings or reviewing work orders for closeout.

There were several higher risk ICP activities that occurred at the Test Area North and INTEC in the past twelve months that were monitored and documented in OIMS.

Evaluation:

Performance Objective partially met

Recommendations:

1. Same as WPC-1 Criterion 2 recommendation.

WPC-2 Criterion 3: The field element tracks and trends the results of oversight activities performed on the contractor's work planning and control process and takes appropriate actions.

Results:

The trending and analysis of the DOE-ID oversight of the contractor's work planning and control process is integrated into the DOE-ID Monthly Oversight Review Meeting. This meeting is the forum in which DOE-ID Oversight of the contractor's activities is reviewed and analyzed. When necessary, a report and/or transmittal letter is sent from the Contracting Officer (CO) to the contractor. This transmittal notifies the contractor of the results of the DOE-ID Oversight activity and data analysis. It also provides direction and/or recommendations to the contractor.

In addition, limited trending and analysis is performed as part of the Monthly Oversight Review Meeting. The DOE-ID Senior Leadership Team (SLT) receives periodic and special updates on the results of DOE-ID oversight of contractor

activities. These updates include reports on the analysis of accident, injury and occurrence records in addition to special reports that are prepared on an as needed basis to address oversight findings of special significance. Each or these reviews involve the limited analysis of oversight findings and appropriate actions are initiated by the SLT.

The current Process Descriptions (PDs), Work Instructions (WIs) and Office Procedures (OPs) that are included in the Idaho Management System (IDMS) do not include a formal process for tracking and trending the results of DOE-ID oversight of the contractor's work planning and control process

OIMS provides very limited tracking and trending capability in that it contains the ability to perform keyword searches. The DOE-ID facility staff uses the OIMS information during preparation of the Contract Oversight Plans. DOE-ID has provided no guidance for the conduct of tracking and trending of Idaho National Laboratory (INL) oversight information. This information was previously proceduralized by DOE-ID but did not make the transition from the previous DOE-ID management system to the current IDMS.

Activity contrary to DOE orders, regulatory requirements, and contractor procedures is documented in the issue management section of OIMS. The contractors document corrective actions for issues in their TRACKWISE at AMWTP, and Issue Communication and Resolution Environment (ICARE) for the remainder of the Idaho Site. The FRs monitor the TRACKWISE and ICARE issue management systems. The documentation of the contractor tracking and trending is provided to management for review, and monthly oversight letters are provided to the contractor with information concerning oversight of work planning and control.

DOE-ID generates a monthly ICP Performance Metrics Summary which tracks and trends federal oversight performance. The summaries are not kept on the DOE-ID Local Area Network O-drive, and therefore cannot be accessed by DOE-ID personnel. The summaries are maintained as individual employee files.

WI-122, *Conduct of Operational Oversight Activities*, gives direction for placing DOE-ID EM identified issues in OIMS, requires that the issues be tracked to closure and directs that the corrective actions taken be evaluated for effectiveness.

All issues resulting from DOE line management oversight activities are reported verbally to responsible contractor management in a timely manner and by CO letter monthly per WI-123, *Monthly Review of EM-ICP Oversight Results.* Issues are tracked and closed, along with an evaluation of the corrective actions taken, in accordance with WI-122 and WI-123.

Monthly and quarterly evaluation of DOE-ID EM contractor ES&H performance is conducted in accordance with OP-120, *Monthly and Quarterly Evaluation of EM Contractor ES&H Performance.* Various tools are utilized to track, trend and report

contractor performance. These tools include the monthly transmittal of OIMS reports, the monthly ICP Performance Metrics Summary and the monthly CWI Scorecard.

Evaluation:

Performance Objective partially met

Recommendations:

1. DOE-ID should develop a formal process for tracking and trending the results of oversight of the contractor's work planning and control process.
2. DOE-ID should consider maintaining Performance Metrics summaries on the O-drive as a read-only copy to allow easier review by personnel involved in oversight.

Performance Objective F&I-3: DOE Line Management Oversight

DOE line management have established and implemented effective oversight processes that evaluate the adequacy and effectiveness of contractor assurance systems and DOE oversight processes.

NOTE 1: The ICP Contract does not require the establishment of a "Contractor Assurance System (CAS)". ICP Contract Section C.9.2 requires the contractor to maintain a single Integrated Safety Management System (ISMS) to accomplish all work as required by DEAR 970.5223-1, *Integration of Environment, Safety and Health into Work Planning and Execution*. To accomplish this end, the contractor utilizes PDD-1004, *Integrated Safety Management System*, to address the activities that are included in the review criteria for this objective. PDD-1004, along with other program description documents, management control procedures, and standards, describe the various levels of assessment/awareness activities; deficiency identification and management; corrective action identification, completion and verification process; lessons learned program; and event reporting processes that would otherwise constitute a CAS. PDD-1004 is required to be updated annually and submitted to DOE-ID for approval. The contractor has submitted the annual update of PDD-1004 and DOE-ID is reviewing the document.

NOTE 2: The AMWTP contract does not require the establishment of a CAS. AMWTP has developed two documents that are similar to a CAS description document. The first document is the Environment, Safety, and Health Program Operating Plan (ESHPOP). Part A of the ESHPOP establishes the fundamental commitments applicable to integrated safety management and implementation of the ES&H programs for the AMWTP. Section A.5 also discusses the process by which the requirements determined to be applicable and mandatory sources of requirements for the AMWTP are identified and derived. The second document is the AMWTP Quality Assurance Program Plan (QAPP). The QAPP represents the top tier document of the quality system and demonstrates the AMWTP management commitment to ensuring quality through all phases of the project by applying criteria of 10 CFR 830 for applicable activities. Effective implementation also provides processes and tools to support principles and functions of the AMWTP Safety Management System (SMS). Both of these

documents are submitted to DOE-ID on an annual basis for review and approval. These two documents are upper tier documents and list the programs and processes used in a CAS but do not fully detail those programs and processes.

NOTE 3: The INL CAS plan has been submitted to DOE-ID, but has not yet been approved and implemented.

F&I-3 Criterion 1: DOE line management has established a baseline line management oversight program that ensures that DOE line management maintains sufficient knowledge of site and contractor activities to make informed decisions concerning hazards, risks and resource allocation, provide direction to contractors, and evaluate contractor performance.

Results:

DOE-ID has established an oversight program based on risk to ensure contractor compliance with applicable requirements. DOE/NE-ID-1195, *Contract Oversight Guidance Document*, establishes a baseline for the DOE-ID oversight program. DOE/NE-ID-1195 is based on the Tenera model of risk and assigns the most comprehensive oversight to the highest risked activities. If emerging issues arise, the oversight model allows for the revision to the oversight plan to allow for oversight of the emerging issue. The results of contractor oversight are documented in the OIMS and management reviews the OIMS reports on a monthly basis. Direction is provided to the contractors based on the results of the oversight activities.

PD-108, *Contract Oversight*, defines the process by which DOE-ID applies common oversight principles to increase the consideration of performance-based results in oversight activities, ensures that oversight is graded to risk, increases contractor accountability, increases the utilization of systems validation versus transaction verification, and provides for a deliberate, consistent approach for all ID oversight activities.

The ICP and AMWTP Contract Oversight Plans establish that DOE-ID will routinely monitor work performance through direct observation, walk-through, document reviews, meeting attendance and daily interaction in the field. The plans also establish that DOE-ID will maintain operations awareness to ensure facilities are operated safely and within the safety basis, to provide early identification of vulnerabilities, and to verify that the contractor is effectively controlling operations and conducting credible self-assessments. Personnel assignments for oversight activities are designated on the 90-Day Assessment Schedule that is formulated from the Federal Baseline Schedule.

Oversight for CWI activities are developed using the guidance provided in the ICP and AMWTP Contract Oversight Plan, the DOE/NE-ID-11195, *Contract Oversight Guidance Document*, and WI-122, *Conduct of Operational Oversight Activities*, WI-129, *Identification of Oversight Elements*, WI-130, *Risk Determination*, WI-131, *Integration of Program/Project and Functional Elements*, WI-132, *Oversight*

Techniques, and WI-133, *Oversight Plan*. This guidance includes methods to be used for risk determination, the identification of oversight elements and the selection of oversight techniques for designated oversight activities in the Plans. These techniques may include oversight of contractor self-assessment, joint systems reviews with the contractor, external assessments/reviews, oversight of corrective actions, assessments, metrics / trending / benchmarks, for cause reviews and operational awareness activities.

All issues resulting from DOE line management oversight activities are reported verbally to responsible contractor management in a timely manner and by CO letter monthly per WI-123, *Monthly Review of EM-ICP Oversight Results*. Issues are tracked and closed, along with an evaluation of the corrective actions taken, in accordance with WI-122, *Conduct of Operational Oversight Activities,* and WI-123, *Monthly Review of EM-ICP Oversight Results.*

Monthly and quarterly evaluation of DOE-ID EM contractor ES&H performance is conducted in accordance with OP-120, *Monthly and Quarterly Evaluation of EM Contractor ES&H Performance*. Various tools are utilized to track, trend and report contractor performance. These tools include the monthly transmittal of OIMS reports, the monthly ICP Performance Metrics Summary and the monthly CWI Scorecard.

Evaluation:

Performance Objective fully met

F&I-3 Criterion 2: DOE line oversight program includes assessments, operational awareness activities, performance monitoring and improvement, and assessment of contractor assurance systems. Documented program plans have been established that define oversight program activities and annual schedules of planned assessments and focus areas for operational awareness. Operational awareness activities must be documented either individually or in periodic (e.g., weekly or monthly) summaries. Deficiencies in programs or performance identified during operational awareness activities are communicated to the contractor for resolution through a structured issues management process.

Results:

DOE-ID has developed a Contract Oversight Plan and an R&D Laboratory Contract Oversight Plan for the STC, CFA and NS activities. These documents were developed and approved in September 2005. The oversight consists of assessments, operational awareness activities, performance monitoring and improvement, and assessment of the CAS (when approved and implemented). Deficiencies in contractor programs or performance identified by DOE oversight activities are transmitted to the contractor in Oversight Monthly Reports.

The RTC and SMC Oversight Plans are developed using the guidance provided in the DOE/NE-ID-11195, *Contract Oversight Guidance Document*, and WI-133, *Oversight*

Plan. Part of this guidance includes the selection of oversight techniques for designated oversight activities in the Contract Oversight Plan. These techniques include oversight of contractor self-assessment, joint systems reviews with the contractor, external assessments/reviews, oversight of corrective actions, assessments, metrics/trending/benchmarks, for cause reviews and operational awareness activities. Contract Oversight Plans have been developed for RTC and SMC and are used for the conduct of oversight. The DOE-INL has no procedure for the documentation of operational awareness oversight activities. However, NE FRs document operational awareness oversight activities in the OIMS when the activity results in issues or noteworthy practices. These issues are verbally communicated to the responsible contractor management in a timely manner and by CO letter monthly. The DOE-ID NE organization does not have a procedure that describes this process. DOE/NE-ID-11195 also requires that "NE-ID will review the extent, effectiveness, and timeliness of contractor corrective actions" regardless of who generated the issue. Currently RTC and SMC FRs perform verification of contractor corrective actions for issues generated by DOE-ID and external organizations and document the results in the OIMS. RTC and SMC FRs do not perform corrective action closure verification for contractor-identified issues other than those specified in the ORPS and the NTS. The DOE-ID NE organization has not provided guidance on the performance and documentation of corrective action associated activities. The BEA CAS has been submitted to DOE-ID but has not yet been approved and implemented.

The MFC Oversight Plan includes a rollup of all MFC Operations and Production activities scheduled for the fiscal year. This plan includes scheduled ES&H assessments and operation reviews, including work control processes, review and approval of trend analysis, performance indicators, and operational awareness activities. The MFC Oversight Plan provides the annual schedule of all planned assessments and operational awareness reviews at MFC. The MFC team leader meets weekly with contractor management to discuss all oversight activities at MFC. This meeting is conducted using a formal agenda with topic areas that include the status of major oversight activities performed by the DOE-ID field office staff. DOE-ID formally transmits a monthly report to the contractor that documents the oversight activities performed during the previous month. Findings and recommendations, as well as the individual reports, are formally documented and tracked on the OIMS computer database. The contractor then takes these findings and enters them into their own database for tracking and trending.

The ICP and AMWTP Oversight Plan establishes that DOE-ID will routinely monitor work performance through direct observation, walk-through, document reviews, meeting attendance and daily interaction in the field. The plan also establishes that DOE-ID will maintain operations awareness to ensure facilities are operated safely and within the safety basis, to provide early identification of vulnerabilities, and to verify that the contractor is effectively controlling operations and conducting credible self-assessments. Personnel assignments for oversight activities are designated on the 90-Day Assessment Schedule, which is formulated from the Federal Baseline Schedule.

Oversight for DOE-ID EM activities are developed using the guidance provided in the ICP and AMWTP Contract Oversight Plan, the DOE/NE-ID-11195, *Contract Oversight Guidance Document*, and WI-122, *Conduct of Operational Oversight Activities*, WI-129, *Identification of Oversight Elements*, WI-130, *Risk Determination*, WI-131, *Integration of Program/Project and Functional Elements*, WI-132, *Oversight Techniques*, and WI-133, *Oversight Plan*. This guidance includes methods to be used for risk determination, the identification of oversight elements and the selection of oversight techniques for designated oversight activities in the Plan. These techniques may include oversight of contractor self-assessment, joint systems reviews with the contractor, external assessments/reviews, oversight of corrective actions, assessments, metrics / trending / benchmarks, for cause reviews and operational awareness activities.

All issues resulting from DOE-ID EM oversight activities are reported verbally to the responsible contractor management in a timely manner and by CO letter monthly per WI-123, *Monthly Review of EM-ICP Oversight Results*. Issues are tracked and closed, along with an evaluation of the corrective actions taken, in accordance with WI-122, *Conduct of Operational Oversight Activities*, and WI-123, *Monthly Review of EM-ICP Oversight Results*.

Currently, DOE-ID EM FRs perform verification of contractor corrective actions for issues generated by DOE-ID and external organizations and document the results in the OIMS. DOE-ID EM FRs do not perform corrective action closure verification for contractor-identified issues other than those specified in the ORPS and the NTS.

Monthly and quarterly evaluation of DOE-ID EM contractor ES&H performance is conducted in accordance with OP-120, *Monthly and Quarterly Evaluation of EM Contractor ES&H Performance*. Various tools are utilized to track, trend and report contractor performance. These tools include the monthly transmittal of OIMS reports, the monthly ICP Performance Metrics Summary and the monthly ICP Scorecard.

Evaluation:

Performance Criteria partially met

Recommendations:

1. DOE-ID NE should document the process for transmitting oversight information to the contractor.
2. DOE-ID should develop a procedure/instruction for determining what DOE identified issues are of sufficient magnitude to merit transmittal to senior contractor management by the CO. Currently all "deviations from requirements", regardless of severity, are transmitted by the monthly transmittal letter.
3. DOE-ID should develop a process for verification of corrective actions for contractor and DOE-ID identified issues (this applies to both NE and EM).

F&I-3 Criterion 3: DOE line management monitors contractor performance and assesses whether performance expectations are met; that contractors are assessing site activities adequately; self-identifying deficiencies; and, taking timely and effective corrective actions. Responsibilities for line oversight and self-assessment are assigned and managers, supervisors, and workers are held accountable for performance assurance activities. Deficiencies must be brought to the attention of contractor management and addressed in a timely manner.

Results:

Performance expectations are established and monitored in accordance with the "*Idaho National Laboratory Contract Management Plan*" (CMP), Section 12.0, *Performance Evaluation Measurement Plan (PEMP) Approach and Process.*

Contractor assessment activities are included in the contractor Integrated Safety Management System (ISMS), which is approved and implementation verified by DOE-ID in accordance with WI-116, *Integrated Safety Management System Description Documentation.*

The DOE-ID Operational Support Operations Safety and Quality Assurance Division *Contractor Oversight Plan* assesses corrective action effectiveness semi-annually, currently scheduled to occur in February and August. This plan was developed in accordance with DOE/NE-ID-11195, *Contract Oversight Guidance Document.*

Responsibilities for line oversight and self-assessment are identified in OD-101, *Functions, Responsibilities and Authorities* and the CMP. DOE-ID employees are held accountable for performance assurance activities established in subject matter oversight plans and individual performance agreements.

Reports of DOE-ID contractor oversight activities are transmitted to the contractor monthly as a standard practice. However, there is no documented instruction for this practice. Timeliness of deficiency correction is tracked in the contractor corrective action system, ICARE, and evaluated by DOE-ID semi-annually as described above.

As part of the Contract Oversight Plan, the Acting Team Leader for Infrastructure, STC and CFA monitors the contractor performance and continually assesses whether performance expectations are met. Monthly meetings between the Acting Team Leader and contractor representatives are held to discuss contractor performance and related issues. The Acting Team Leader and the FR have frequent discussions concerning the contractor's performance. The contractor routinely invites the FR to accompany them on contractor-conducted self-assessments in various laboratories. Deficiencies noted by DOE personnel are immediately brought to the attention of the self-assessment team members. The team members report the results of these self-assessments to the contractor management.

RTC and SMC Contract Oversight Plans specify the responsible party for completion of assigned oversight whether it's contractor oversight or self-assessment. The

Position Descriptions for the RTC and SMC FRs and senior FE contain responsibility and accountability for oversight activities. All issues resulting from DOE-ID oversight activities are reported verbally to responsible contractor management in a timely manner and by CO letter monthly. The DOE-ID NE organization does not have a procedure that describes this process.

At MFC, DOE-ID Procurement Services Division, using input from line management, maintains a *Performance Evaluation Management Plan* (PEMP) database. The MFC Team Leader is accountable to his management for the contractor's progress in meeting assigned PEMP measures. Quarterly, the MFC Team Leader inputs an assessment to the PEMP database that tracks the probability of the contractor successfully meeting his assigned PEMP measure. The MFC Team Leader regularly meets (at least weekly) with contractor management to discuss the status of the PEMP measures.

For ICP and AMWTP, the Federal Baseline Schedule identifies the responsible party for completion of assigned oversight whether it's contractor oversight or self-assessment. In addition to the Position Description for the FRs, and the ICP and AMWTP Contract Oversight Plans contain responsibilities and authorities for all levels of DOE-ID EM personnel involved in oversight activities including review of the contractor self-assessment program and corrective action effectiveness.

All issues resulting from DOE line management oversight activities are reported verbally to responsible contractor management in a timely manner and by CO letter monthly. WI-123, *Monthly Review of EM-ICP Oversight Results*, describes the process used to facilitate the monthly transmittal of oversight results to the contractor. WI-122, *Conduct of Operational Oversight Activities,* describes the process for tracking and closure of issues.

Monthly and quarterly evaluation of DOE-ID EM contractor ES&H performance is conducted in accordance with OP-120, *Monthly and Quarterly Evaluation of EM Contractor ES&H Performance.* Various tools are utilized to track, trend and report contractor performance. These tools include the monthly transmittal of OIMS reports, the monthly ICP Performance Metrics Summary and the monthly CWI Scorecard.

Evaluation:

Performance Objective partially met

Recommendations:

1. Same as F&I-3 Criterion 2, Recommendation #1.

F&I-3 Criterion 4: DOE line management requires that findings must be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans.

Results:

The DOE-ID Line Management for STC and CFA has utilized the contractors ICARE system and the OIMS system to track identified findings from both contractor and DOE-ID oversight. The DOE-ID generated OIMS issues must be verified prior to closure in the system by DOE-ID personnel.

DOE/NE-ID-11195, *Contract Oversight Guidance Document*, requires that "NE-ID [DOE-ID] will review the extent, effectiveness, and timeliness of contractor corrective actions" regardless of who generated the issue. Currently, RTC and SMC FRs perform verification of contractor corrective actions for issues generated by DOE-ID and external organizations and document the results in the OIMS. RTC and SMC FRs do not perform corrective action closure verification for contractor-identified issues other than those specified in the Occurrence Reporting and Processing of Operational Information System (ORPS) and the Non-Compliance Tracking System (NTS). The DOE-ID NE organization has not provided guidance on the performance and documentation of corrective action associated activities.

DOE-ID uses the OIMS to formally report and track findings generated by DOE-ID oversight activities. These oversight activities include periodic review of contractor corrective action plans and responses to DOE-ID findings. In addition, DOE-ID conducts effectiveness reviews of contractor and DOE corrective action plans in accordance with DOE O 414.1C, *Quality Assurance.*

For DOE-ID EM, DOE/NE-ID-11195, *Contract Oversight Guidance Document*, requires that "NE-ID will review the extent, effectiveness, and timeliness of contractor corrective actions" regardless of who generated the issue. Currently, DOE-ID EM FRs perform verification of contractor corrective actions for issues generated by DOE-ID and external organizations and document the results in the OIMS. DOE-ID EM FRs do not perform corrective action closure verification for contractor-identified issues other than those specified in the ORPS and the NTS.

All issues resulting from DOE-ID oversight activities are reported verbally to the responsible contractor management in a timely manner and by Contracting Officer letter monthly. WI-123, *Monthly Review of EM-ICP Oversight Results*, describes the process used to facilitate the monthly transmittal of oversight results to the contractor. WI-122, *Conduct of Operational Oversight Activities*, describes the process for tracking and closure of issues.

Monthly and quarterly evaluation of DOE-ID EM contractor ES&H performance is conducted in accordance with OP-120, *Monthly and Quarterly Evaluation of EM Contractor ES&H Oversight Performance.* Various tools are utilized to track, trend and report contractor performance. These tools include the monthly transmittal of

OIMS reports, the monthly ICP Performance Metrics Summary and the monthly CWI Scorecard.

Evaluation:

Performance Objective partially met

Recommendations:

1. DOE-ID NE should provide guidance on corrective action associated activities (documentation, reporting, and closure).

F&I-3 Criterion 5: DOE line management regularly assesses the effectiveness of contractor issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback). DOE line management must also evaluate contractor processes for communicating information, including dissenting opinions, up the management chain.

Results:

Contractor corrective action effectiveness is assessed semi-annually by OSD in accordance with the OSD Contract Oversight Plan for fiscal year 2006. This plan was developed in accordance with DOE/NE-ID-11195, *Contract Oversight Guidance Document.*

DOE-ID line management for STC and CFA assesses the effectiveness of contractor issues management and corrective action processes, lessons learned processes and worker feedback through informal reviews of the contractors ICARE system. DOE-ID line management has a process to insure that externally generated lessons learned (such as the Columbia incident, or the Laser Safety lessons learned at other DOE complexes) are distributed, however feedback to the Lessons Learned Coordinator is not being made, and the effectiveness of the program can not be evaluated as required in WI-108, *ID Lessons Learned.*

RTC and SMC Oversight Plans contain the requirement for a quarterly review of contractor issues management. Additionally, RTC and SMC also schedule and perform an assessment of the contractor self-assessment program on an annual basis. There are currently no requirements in the Oversight Plans at RTC or SMC for DOE line management to evaluate contractor processes for communicating information, including dissenting opinions, up the management chain.

The MFC Oversight Plan includes formal review of the contractor's performance indicators and analysis of operations information annually. Also, an annual review of the contractor's Assessment/Management Assessment Program is conducted per the requirements of DOE O 414.1C, *Quality Assurance* (Criterion #9). Routine FR tours of MFC facilities cover all aspects of ISMS including evaluation of the contractors feedback and improvement processes.

For the DOE-ID EM, periodic assessments of the contractor self-assessment program are performed in accordance with the Federal Baseline Schedule.

Monthly and quarterly evaluation of DOE-ID EM contractor ES&H performance is conducted in accordance with OP-120, *Monthly and Quarterly Evaluation of EM Contractor ES&H Performance.* Various tools are utilized to track, trend and report contractor performance. These tools include the monthly transmittal of OIMS reports, the monthly ICP Performance Metrics Summary and the monthly CWI Scorecard.

Evaluation:

Performance Objective partially met

Recommendations:

1. DOE does not have a requirement for line management to evaluate contractor processes for communicating information, including dissenting opinions, up the management chain. As a result DOE-ID does not have a requirement for line management to evaluate contractor processes for communicating information, including dissenting opinions, up the management chain. DOE-ID management should evaluate the need for implementing such a system, and take actions as appropriate.
2. DOE-ID should fully implement WI-108, *ID Lessons Learned.*

F&I-3 Criterion 6: DOE line management must verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE assessments or reviews are closed, and requires that deficiencies are analyzed both individually and collectively to identify causes and prevent recurrences.

Results:

Corrective actions associated with DOE-ID self-assessments are managed in accordance with PD-106, *Issues Management.* PD-106 includes activities for performance of causal analysis, corrective action preparation, issue closure, feedback, and lessons learned.

Deficiencies are not analyzed collectively to identify causes and prevent recurrence. Contractor corrective action effectiveness is assessed semi-annually. The FY-06 OSD Contract Oversight Plan calls for review of the contractors corrective action program in February and August.

DOE Line Management for STC and CFA performs spot checks to verify that corrective actions are complete and performed in accordance with the requirements. The time required by DOE-ID employees (FEs, SMEs and FRs) to perform verification of closure for the corrective actions is not scheduled in the oversight plan; therefore frequently there is insufficient personnel resources to verify the proper closure of corrective actions.

The MFC, RTC and SMC Contract Oversight Plans include a quarterly review of the contractor's response to DOE-ID findings. These reviews evaluate the contractor's corrective actions taken in response to DOE-ID identified findings to determine if they are effective in addressing the causes and preventing recurrences. In addition, DOE-ID line management conducts effectiveness reviews of contractor and DOE-ID corrective action plans in accordance with DOE O 414.1C, *Quality Assurance.*

For DOE-ID EM, DOE/NE-ID-11195, *Contract Oversight Guidance Document*, requires that "NE-ID will review the extent, effectiveness, and timeliness of contractor corrective actions" regardless of who generated the issue. Currently, DOE-ID EM FRs perform verification of contractor corrective actions for issues generated by DOE-ID and external organizations and document the results in the OIMS. DOE-ID EM FRs do not perform corrective action closure verification for contractor-identified issues other than those specified in the ORPS and the NTS.

All issues resulting from DOE-ID oversight activities are reported verbally to responsible contractor management in a timely manner and by CO letter monthly. WI-123, *Monthly Review of EM-ICP Oversight Results*, describes the process used to facilitate the monthly transmittal of oversight results to the contractor. WI-122, *Conduct of Operational Oversight Activities,* describes the process for tracking and closure of issues.

Evaluation:

Performance Objective fully met

Recommendations:

1. Same as F&I-3 Criterion 4 recommendation.

F&I-3 Criterion 7: DOE line management has established appropriate criteria for determining the effectiveness of site programs, management systems, and contractor assurance systems, and includes consideration of previous assessment results, effectiveness of corrective actions and self-assessments, and evidence of sustained management support for site programs and management and assurance systems. Review criteria are based on requirements and performance objectives (e.g., laws, regulations, and DOE directives), site-specific procedures/manuals, and other contractually mandated requirements and performance objectives.

Results:

The DOE-ID EM organization has developed a process, WI-121, *Management of ID Environmental Management Quarterly Oversight Review Meetings*, to evaluate the effectiveness of CWI and AMWTP programs, management systems, and CAS by reviewing the results of DOE-ID oversight reports. The quarterly oversight meetings look at performance trends and issues and respective corrective actions identified in previous monthly meetings, contractor self-assessments and corrective action

effectiveness. The meetings are also used to analyze contractor plans and schedules to identify higher risk or unique evolutions.

The DOE-ID NE organization has not developed a process to determine the effectiveness of site programs, management systems, and the CAS.

Evaluation:

Performance Objective partially met

Recommendations:

1. The DOE-ID NE organization should develop a process to determine the effectiveness of site programs, management systems, and CAS.

F&I-3 Criterion 8: DOE line management has established and maintained appropriate qualification standards for personnel with oversight responsibilities, and a clear, unambiguous line of authority and responsibility for oversight.

Results:

DOE-ID uses the DOE-HQ established process for qualification, the Technical Qualification Program (TQP). This program developed in response to Defense Nuclear Facility Safety Board (DNFSB) Recommendation 1993-3, and has been implemented at DOE-ID. The TQP has provided DOE-ID management with a means to assure the technical competence of personnel with assigned oversight responsibilities.

Evaluation:

Performance Objective fully met

F&I-3 Criterion 9: Line management periodically reviews established performance measures to ensure performance objectives and criteria are challenging and focused on improving performance in known areas of weakness.

Results:

The DOE-ID process for the management, oversight and modification of performance measures is described in PD-116, *Idaho National Laboratory (INL) Performance Evaluation Measurement Plan and Fee Administration*, and WI-138, *INL Performance Evaluation Measurement and Fee Administration*. The use of performance measures is established in Part III Section J, Attachment K of the contract with BEA. The process for establishing and administering the PEMP is described in Section I.17, DEAR 970.5215-1, '*Total Available Fee: Base Fee Amount And Performance Fee Amount Alternate I (Dec 2000) Alternate Iv (Dec 2000)* of the contract. Contract Modification M005 dated March 31, 2005 modified page 1 of Part III Section J, Attachment K of the contract and established the PEMP for FY2005. DOE-ID reviews the contractor's progress relating to the Performance Based Incentives (PBIs)

on a monthly basis. The process provides for the modification of the PEMP as necessary to insure innovation is promoted while both long and short term DOE mission goals are met. No changes have been made in the PEMP since it was established on March 31, 2005.

DOE-ID EM staff review and evaluate CWI performance indicators on a monthly and quarterly basis per OP-120, *Monthly and Quarterly Evaluation of EM Contractor ES&H Performance*. Both contractor and federal performance indicators are summarized monthly and distributed for management review by the eleventh day of the following month. The performance indicators are based on the contractor's approved Safety Performance Objectives, Measures and Commitments (SPOMC) and monthly safety statistics, as well as federal oversight reports, event fact sheets and occurrence reports, and the contractor's Safety Assessment Center daily event summaries.

The monthly operational performance reports are used for monthly updates to the CWI "scorecard", an internal DOE-ID process that evaluates contract performance against the criteria of CWI contract clause I.141 for conditional payment of fee (CPOF). The DOE-ID Performance Oversight Lead (POL) convenes a meeting each month of a scorecard analysis team to ensure all relevant information has been recorded and to make recommendations for possible fee-reductions based on poor contractor performance related to worker safety and health.

The scorecard process is not yet operational for the AMWTP. BBWI contract clause I.66 for CPOF calls for "minimum performance requirements" to be established in the contractor's safety management system or via separate document. To date, these minimum performance requirements have not been established by DOE-ID. Absent approved minimum performance requirements, DOE-ID's ability to reduce fee for worker safety and health performance is limited to "catastrophic events". The DOE-ID staff lead for ISMS has recently proposed minimum performance requirements for BBWI, but the BBWI scorecard is not expected to be operational before March 2006 and may have little impact on contract oversight prior BBWI contact expiration at the end of April 2006.

Evaluation:

Performance Objective fully met

Recommendation:

1. DOE-ID EM should complete the implementation of the scorecard process for BBWI.

F&I-3 Criterion 10: DOE line management has established effective processes for communicating line oversight results and other issues up the DOE line management chain, using a graded approach based on the hazards and risks. Established processes include provisions for communicating and documenting dissenting opinions. Formal structured processes for resolving disputes for oversight findings and other significant issues have been implemented, and include provisions for independent technical reviews for significant findings.

Results:

DOE-ID has several formal and informal processes for communicating oversight results and other issues up the line management chain. These processes appear to be effectively implemented, with the exception of the process for resolving differing technical opinions.

The processes utilized by DOE-ID include, but are not limited to the following: weekly activity reports, monthly review and transmittal to the contractor of ID oversight reports, Fact Sheets, and presentations to the DOE-ID SLT on oversight results.

DOE-ID OP-155, *Differing Technical Opinion*, outlines the process for resolving differing technical opinions. In 2005, there was one case where a difference in technical opinion was not resolved in accordance with OP-155. DOE-ID management later recognized that OP-155 had not been followed and an effort is in progress to resolve and formally document the resolution for this event.

Evaluation:

Performance Objective fully met

F&I-3 Criterion 11: An effective employee concerns program been established and implemented in accordance with DOE Directives that encourages the reporting of employee concerns and provides thorough investigations and effective corrective actions and recurrence controls.

Results:

DOE-ID has an established and effectively implemented employee concerns program. Information on the program is posted at various locations. During FY05, DOE-ID processed and closed eleven concerns. The process is described in OP-147, *Federal Employee Programs and Human Resources Activities*. This procedure refers to the DOE-ID home page on the INL Internet for detailed information on the employee concerns process. However, it was found that most of the web links related to employee concerns are not currently functional. The reviewer passed this concern on the ID employee concerns program manager. DOE-ID Human Resources will work to restore the links so that the current information on the employee concerns process is available.

Evaluation:

Performance Objective fully met

Recommendations:

1. DOE-ID should ensure that the DOE-ID employee concern web links are re-established and that employees are aware of the web link locations.

Idaho National Laboratory INL

January 9, 2006

CCN 203882

Mr. Geoffrey L. Beausoleil
U.S. Department of Energy
Idaho Operations Office (DOE-ID)
1955 Fremont Avenue
Idaho Falls, ID 83401-1216

SUBJECT: Contract No. DE-AC07-05ID14517 - Department of Energy's Implementation Plan Commitment 23 and Commitment 25 for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Oversight Complex, High-Hazard Nuclear Operations; Request for Action

Reference: Elizabeth D. Sellers letter to Addressee List, Department of Energy's Implementation Plan Commitment 23 and Commitment 25 for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Oversight Complex, High-Hazard Nuclear Operations; Request for Action (OS-QSD-05-153), December 2, 2005

Dear Mr. Beausoleil:

As directed by the reference, Battelle Energy Alliance, LLC has performed a self-assessment of Idaho National Laboratory work planning and control and feedback and improvement processes. The results of the assessment are presented in the enclosed report. The assessment identified ten issues and five areas for improvement. A draft action plan to address the assessment findings will be provided to DOE-ID on January 10, 2006 as directed in the reference.

If you have questions about the assessment or need further information, please contact T. D. Lee at (208) 526-4744.

Sincerely,

Fran Williams

Francesca B. Williams
Director, ESH&Q

TDL:kw

Attachment

cc: M. L. Adams, DOE-ID, MS 1221
J. Alvarez, INL, MS 3695
A. Clark, INL, MS 3695
J. J. Grossenbacher, INL, MS 3695
D. J. Richardson, INL, MS 6146
L. A. Sehlke, INL, MS 3810 (w/o Att.)

bcc: H. M. Ashley, MS 6130
K. W. Baldwin, MS 7102
D. K. Jensen, MS 3405
T. D. Lee, MS 3133
D. B. Lively, MS 4131
INL Correspondence Control, MS 3108
F. B. Williams Letter File

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Idaho National Laboratory

Assessment of Work Planning and Control and Feedback and Improvement

Assessment Report: IAS 06984

January 8, 2006

Assessment of
Work Planning and Control
and Feedback and Improvement

Prepared by:

T. D. Lee, Quality Assurance Director — Date: 1/8/06

Approved by:

F. B. Williams, ESH&Q Director — Date: 1/8/06

EXECUTIVE SUMMARY

On December 2, 2005, the DOE Idaho Operations Office directed Battelle Energy Alliance, LLC, to perform a self-assessment of work planning and control and feedback and improvement at the Idaho National Laboratory and to develop a draft action plan based on the results of the assessment. The assessment was required to meet two commitments made by DOE in response to Defense Nuclear Facilities Safety Board Recommendation 2004-1 to improve DOE oversight.

The work planning and control and feedback and improvement Criteria Review and Approach Documents (CRADs) provided by DOE were used as the basis of the assessment. The assessment was performed by completing three activities:

- Comparing INL program and process documentation to the criteria listed in the CRADs,
- Evaluating program and process implementation by reviewing the results of internal and external assessments performed since February 1, 2005 (the date of formation of the INL and initiation of the BEA contract), and
- Evaluating performance by reviewing previous assessment reports and performance measurement and analysis reports.

The assessment identified six strengths and recorded ten issues and five areas for improvement which had been identified by previous assessments. Seven issues and two areas for improvement related to work planning and control; three issues and three areas for improvement related to feedback and improvement.

The assessment concluded that eight of the eleven performance objectives identified by DOE had been fully met. The performance objectives for work planning and control oversight, assessment, and issues management were only partially met because of implementation issues identified by previous assessments.

CONTENTS

TABLE

Assessment of Work Planning and Control and Feedback and Improvement

1. INTRODUCTION

On May 21, 2004, the Defense Nuclear Facilities Safety Board (DNFSB) issued Recommendation 2004-1 which pertains to oversight of Department of Energy (DOE) complex, high-hazard nuclear operations. DOE accepted the DNFSB recommendation on July 21, 2004, and developed its statutorily required Implementation Plan (IP) which defines and describes specific DOE commitments to improve oversight of nuclear operations.

Commitment 23 of the IP focuses on consistency and reliability of work planning and work control at the activity level. Commitment 25 focuses on the adequacy and effectiveness of feedback and improvement processes. Both commitments include actions to perform baseline assessments of existing processes and their implementation, using newly established Criteria Review and Approach Documents (CRADs), and to develop action plans based on the assessments to improve processes and performance.

On December 2, 2005, the DOE Idaho Operations Office (DOE-ID) directed Battelle Energy Alliance, LLC, (BEA) to perform a self-assessment of work planning and control and feedback and improvement at the Idaho National Laboratory (INL) using designated CRADs and to develop a draft action plan based on the results of the assessment.

2. PURPOSE AND SCOPE

This assessment was performed in accordance with the DOE-ID direction provided in the December 2, 2005 letter to BEA. The purpose of the assessment was to determine the adequacy and effectiveness of work planning and control and feedback and improvement at INL. The scope of the assessment included both documentation and implementation of programs and processes and demonstrated performance.

3. APPROACH AND METHODOLOGY

The work planning and control and feedback and improvement CRADs provided by DOE-ID (Appendix A) were used as the basis of the assessment. The assessment was performed by completing three activities:

- Comparing INL program and process documentation to the criteria listed in the CRADs,
- Evaluating program and process implementation by reviewing the results of internal and external assessments performed since February 1, 2005 (the date of formation of the INL and initiation of the BEA contract), and
- Evaluating performance by reviewing previous assessment reports and performance measurement and analysis reports.

The program and process documentation, assessment reports, performance reports and analyses, and other documents which were reviewed during the assessment are listed in Appendix B.

To the extent possible, the assessment included a comparison of the criteria used in the previous assessments to the criteria listed in the DOE CRADs. In some cases, the discussion and results of the assessments were used as evidence that criteria were addressed even if the criteria were not formally specified. Some additional review was performed in cases where specific DOE criteria did not appear to have been addressed.

4. ASSESSMENT TEAM

The assessment team included the following members:

- T. D. Lee, Quality Assurance Director (Lead)
- D. K. Jensen, Performance Assurance Director
- K. Baldwin, Nuclear Operations Quality Assurance Manager
- D. B. Lively, Maintenance Coordination Manager
- H. M. Ashley, Nuclear Operations Specialist
- S. L. Hunt, Issues Management Subject Matter Expert (SME)
- G. K. Murphy, Assessment SME
- G. L. Branson, Occurrence Reporting and Lessons Learned SME
- B. W. Stutzman, Performance Measurement and Analysis SME.

5. RESULTS

The results of the assessment of work planning and control are described in Appendix C. The results of the assessment of feedback and improvement are described in Appendix D. The assessment results are presented in the format provided by DOE-ID. This format includes statements of the performance objectives from the DOE CRADs that are applicable to contractors (WPC-3, WPC-4, WPC-5, WPC-6, WPC-7, F&I-1, and F&I-2) and for each objective:

- A description of the INL program and processes that address the objective and associated criteria,
- A discussion of the adequacy of the program and processes and the effectiveness of implementation,
- A discussion of performance to support the adequacy and effectiveness discussion,
- A listing of issues and areas for improvement, and
- An evaluation conclusion of whether the performance objectives was met.

The DOE format also included an identification of noteworthy practices for each objective. These noteworthy practices were described as those processes and procedures which are worthy of sharing with other sites looking to improve existing processes. Such practices were not identified in the results for two reasons:

- Many of the current INL processes are being consolidated and transformed to more effectively address the needs of the new laboratory, and

- Identifying noteworthy practices requires knowledge of the activities and practices of other sites which INL does not fully possess.

However, INL is willing to share any current or future processes and procedures which may benefit other sites in improving performance.

6. CONCLUSIONS

Based on the results of the assessment, the assessment team developed conclusions about the adequacy and effectiveness of the work planning and control and feedback and improvement processes and identified strengths, issues, and areas for improvement.

6.1 Adequacy and Effectiveness

The assessment results in Appendices C and D contain discussions of the adequacy and effectiveness of the processes and an evaluation rating based on the discussions. The evaluation ratings are the following:

Work Planning and Control		
Performance Objective		Evaluation
WPC-3	Work Planning and Control Program Documentation	Fully Met
WPC-4	Work Activity Definition and Hazard Identification	Fully Met
WPC-5	Work Control Documents	Fully Met
WPC-6	Work Performance	Fully Met
WPC-7	Work Planning and Control Oversight	Partially Met

Feedback and Improvement		
Performance Objective		Evaluation
F&I-1	Contractor Program Documentation	Fully Met
F&I-2.1(a)	Assessment	Partially Met
F&I-2.1(b)	Performance Indicators	Fully Met
F&I-2.2	Operating Experience	Fully Met
F&I-2.3	Event Reporting	Fully Met
F&I-2.4	Issues Management	Partially Met

The performance objectives for work planning and control oversight, assessment, and issues management were not fully met because of implementation issues identified by assessments.

6.2 Strengths

Several strengths were noted by the assessment including the following:

- Senior management involvement especially in oversight of feedback and improvement processes.
- Employee involvement in work planning and in feedback and improvement.
- Identification and reporting of programmatic Price-Anderson noncompliances to leverage improvement.

- ISO-14001 Certification of the Environmental Management System.
- Comprehensiveness in the descriptions of the programs and processes.
- Implementation of the Senior Supervisory Watch Program.

6.3 Issues

The assessment recorded ten issues which had been identified by previous assessments. Seven issues were related to work planning and control:

- Inadequate rigor in analysis of potential radiological hazards associated with non-uniform radiation fields and glovebox failures.
- Inadequate process for identifying controls for non-radiological hazards for RCTs entering spaces at ATR to perform surveys.
- Inadequate controls to ensure that all workers are promptly notified of fire alarms at ATR in areas where the alarms cannot be heard.
- Inconsistent application of requirements for confined spaces at ATR.
- Programmatic failure of work planning and hazard control for a radiological evolution at MFC.
- Continued problems with administrative errors in RTC maintenance work packages.
- Programmatic failure of the nuclear facility training and qualification program at MFC.

Three issues were related to feedback and improvement:

- Ineffective implementation of the assessment program at RTC.
- Ineffective implementation of the assessment program laboratory-wide.
- Inconsistent implementation of the issues management program at RTC and site-wide.

6.4 Areas for Improvement

The assessment recorded five areas for improvement which had previously been identified:

- Consolidation/transformation of the work planning and control processes to improve risk management and process efficiency and to better meet the needs of the new laboratory in performing research and development.
- Implementation of integrated behavior based safety/human performance processes.
- Revision of contractor assurance system documentation to address new DOE Order 226.1, "Implementation of the Department of Energy Oversight Policy."

- Screening of external operating experience information and developing and tracking responsive actions, and soliciting feedback from employees during post-job reviews.

- Documentation, analysis, and correction/prevention of injuries and illnesses.

Appendix A

Assessment Objectives and Criteria

Appendix A

Assessment Objectives and Criteria

Work Planning and Work Control

FUNCTIONAL AREA GOAL: Improvement in the consistency and reliability of work planning and work control performance at the activity level (for this document, activity level refers to work tasks in the area of operations, maintenance, construction/destruction, and research and development).

REQUIREMENTS/REFERENCES:

- DOE Order 226.1, Implementation of DOE Oversight Policy
- DOE Order 5480.19: Conduct of Operations
- DOE Order 414.1C: Quality Assurance
- DOE Order 440.1A: Worker Safety and Health
- 10 CFR 830.122(b): Quality Assurance
- DOE Manual 426. 1-1A, Chg 1, Federal Technical Capability Manual
- DEAR Clause 970.5223-1, Integration of Environment, Safety, and Health into Work Planning and Execution

INTRODUCTION:

This procedure is the base document for developing and conducting an assessment of the Work Planning/Control Program at Energy, Science, and Environment (ESE) sites. It should be considered the minimum acceptable effort for performing assessments of Work Planning/Controls. The Objectives and Criteria contained in this document were largely based on DOE Policy 450.4, Integrated Safety Management, and lessons learned from EM closure sites. A site may take credit for all or part of individual Criteria and Review Approach Documents (CRADs), if appropriate documentation can be provided that verifies that CRADs, Objectives, and/or Criteria used in site assessments, performed within the last 12 months, were equal to or more rigorous (scope and detail) than the stated CRADs, Objectives, and/or Criteria in this document.

The individual sites may make minor changes to this base document to coincide with their field element terminology (e.g., document titles, organization, and position titles). Although additional Objectives or Criteria may be added, deletion of established Objectives and Criteria is not permitted without written authorization from the appropriate Program Secretarial Office.

Performance Objective WPC-3: Work Control Program Documentation

The contractor has developed an effective work planning and control process.

Criteria:

1. Contractor work control manual/procedure for initiating, analyzing, and developing work control documents, including job hazard analysis, is approved and implemented.

2. The contractor's work control process establishes the level of review and approval for different types of work control documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work activity.

3. The contractor has established work planning/control requirements for all personnel performing work at their site, including subcontractors. Affected personnel are trained on these requirements.

4. The contractor's work control manual/procedure includes turnover requirements when line management and/or first line supervisor responsibilities are transferred.

5. The contractor's work control manual/procedure includes a process for lessons learned/feedback during the execution of work control activities, including incorporation of lessons learned into active and in- development work control documents.

6. The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or work control manual/procedure.

7. The qualification requirements for Work Control Managers and Planners are established.

8. Records that document the successful completion and qualification of Work Control Managers and Planners are retained and auditable.

REVIEW APPROACH (for the initial baseline):

Document Review:

- Contractor Work Control Program Manual/Procedure.
- Work Control Manager Qualification Records.
- Work Control Planner Qualification Records.

Interviews:

- Contractor Work Control Manager

Observations:

Not Applicable.

Performance Objective WPC-4: Work Activity Definition and Hazard Identification

Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

Criteria:

1. Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries arc understood.

2. A team (team) comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health Subject Matter Experts, etc.) is selected by line management to participate in the development of the work control document.

3. The team performs effective walk downs and Job Hazard Analyses in order to develop work steps/techniques and identify possible hazards and their associated controls.

4. The team considers potential upset conditions, accidents, and "what if' scenarios and their consequences during the walk downs and JHAs.

5. The team selects controls based upon the following hierarchy: (1) hazard elimination/reduction, (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.

6. The team ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction). [This Criteria addresses potential loss of safety function during D&D and may not be applicable to all work activities]

7. The team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.

REVIEW APPROACH (for the initial baseline):

Document Review:

- Approved work control documents.
- Contractor's work control manual/procedure.

Interviews (if applicable):

- Work Control Planner
- Work Control Manager
- Engineers
- Job Supervisor
- Workers
- Radiological Safety
- Occupational Safety/Industrial Hygiene
- Nuclear Safety
- Criticality Safety
- Quality Assurance
- Waste Management
- Fire Protection
- Safeguards and Security

Observations:

- Work planning team walk down.
- JHA walk down meeting (if separate from work planning walk down).

Performance Objective WPC-5: Work Control Documents

The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

Criteria:

1. The work scope and associated boundaries are clearly defined.
2. The work control document is written in a clear, concise, and worker friendly manner.
3. The work steps for activities are properly sequenced.
4. Work control documents adequately incorporate technical and administrative requirements (e.g., contract, safety basis, regulatory, consensus codes, etc.).
5. Work hazard controls identified in the JHA have been incorporated into the work control document.
6. The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.

REVIEW APPROACH (for the initial baseline):

Document Review:

- Approved work control documents.
- Contractor's work control manual/procedure.

Interviews:

- Work Control Planner
- Work Control Manager
- Job Supervisor
- Workers
- Radiological Safety
- Occupational Safety/Industrial Hygiene
- Nuclear Safety
- Criticality Safety
- Quality Assurance
- Waste Management
- Fire Protection
- Safeguards and Security

Observations:

- Work control document team walk down.
- JHA meeting (if separate from walk down).

Performance Objective WPC-6: Work Performance

Contractor personnel perform work in accordance with approved work control documents.

Criteria:

1. First line supervisors and workers are knowledgeable of their work control documents and meet all applicable training and medical requirements.

2. Operations work control authority reviews and authorizes all work control documents prior to commencement of work. He/she is required to evaluate all work at a facility and/or site to ensure work activities of one scope do not adversely affect the safe work of another.

3. Effective pre-evolutionary briefings are performed.

4. First line supervisors and workers follow work control document instructions as written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their change control process.

5. First line supervisors and workers understand their stop work authority.

6. Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.

7. Lessons learned feedback is incorporated into active and in-development work control documents in a timely manner.

REVIEW APPROACH (for the initial baseline):

Document Review:

- Approved work control documents.
- Pre-evolution briefing documentation.

Operations Work Control Authority

- Work Control Planner
- Work Control Manager
- Job Supervisor
- Workers
- Lessons Learned Coordinator

Observations:

- Work activities governed by a work control document.
- Pre-evolution briefing.

Performance Objective WPC-7: Work Planning and Control Oversight

The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents.

Criteria:

1. The contractor has scheduled and performed independent and self-assessment of the work planning and control process. These activities are of sufficient scope, detail, and quantity that the contractor can ascertain the status of their work planning and control process.

2. Line managers periodically perform surveillances, which include the observations of job walk downs and JHA walk downs/meetings, pre-evolution briefings, and work performed to work control documents.

3. Line managers periodically review in-development and approved work control documents.

4. The contractor tracks and trends the results of oversight activities performed on their work planning and control process and takes appropriate actions.

REVIEW APPROACH (for the initial baseline):

Document Review:

Contractor assessment schedules.
- Completed assessments of work planning and control process.
- Line managers' work planning and control surveillance documentation.
- Line managers' work control document review documentation.
- Contractor tracking and trending documentation of their work planning and control process.
- Actions taken due to the results of the tracking and trending data.

Interviews:

- Assessment Manager
- Assessors
- Assessment Schedule Coordinator
- Line managers

Observations:

- Performance of a work planning and control independent assessment (if available).
- Performance of a work planning and control self-assessment (if available).
- Performance of line managers' work control surveillance.

8. Contractor assurance system data is formally documented and available to DOE line management. Results of assurance processes are periodically analyzed, complied, and reported to DOE line management as part of formal contract performance evaluation.

9. Contractors have established and implemented sufficient processes (e.g., self-assessments, corporate audits, third-party certifications or external reviews, performance indicators) for measuring the effectiveness of the contractor assurance program.

10. Requirements and formal processes have been established and implemented that ensure personnel responsible for managing and performing assurance activities possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities.

Performance Objective F&I-2: Contractor Program Implementation

2.1 Assessments & Performance Indicators: Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.

Criteria:

1. Line management has established and implemented a rigorous assessment program for performing comprehensive evaluations of all functional areas, programs, facilities, and organizational elements, including subcontractors, with a frequency, scope and rigor based on appropriate analysis of risks. The scope and frequency of assessments are defined in site plans and program documents, include assessments of processes and performance-based observation of activities and evaluation of cross-cutting issues and programs, and meet or exceed requirements of applicable DOE directives.

2. Rigorous self-assessments are identified, planned, and performed at all levels periodically to determine the effectiveness of policies, requirements, and standards and the implementation status.

3. Appropriate independent internal assessments are identified, planned and performed by contractor organizations or personnel having the authority and independence from line management, to support unbiased evaluations.

4. Line managers have established programs and processes to routinely identify, gather, verify, analyze, trend, disseminate, and make use of performance measures that provide contractor and DOE management with indicators of overall performance, the effectiveness of assurance system elements, and identification of specific positive or negative trends. Approved performance measures provide information that indicates how work is being performed and are clearly linked to performance objectives and expectations established by management.

5. Line managers effectively utilize performance measures to demonstrate performance improvement or deterioration relative to identified goals, in allocating resources and establishing performance goals, in development of timely compensatory measures and corrective actions for adverse trends, and in sharing good practices and lessons learned.

2.2 Operating Experience: The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incidental event analyses to potential users and applied to future work activities.

Criteria:

1. Formal processes are in place to identify applicable lessons leaned from external and internal sources and any necessary corrective and preventive actions, disseminate lessons learned to targeted audiences, and ensure that lessons learned are understood and applied.

2. Line managers effectively identify, apply, and exchange lessons learned with the rest of the DOE complex. Lessons learned identified by other DOE organizations and external sources are reviewed and applied by line management to prevent similar incidental events.

3. Formal programs and processes have been established and implemented to solicit feedback or suggestions from workers and work activities on the effectiveness of work definition, hazard analyses and controls, and implementation for all types of work activities, and to apply lessons learned.

Employee concerns related to management of DOE and NNSA programs and facilities are promptly and thoroughly reported and investigated in accordance with applicable DOE directives.

2.3 Event Reporting: Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.

Criteria:

1. Formal programs and processes have been established to identify issues and report, analyze, and address operational events, accidents, and injuries. Events, accidents, and injuries are promptly and thoroughly reported and investigated, including the identification and resolution of root causes and management and programmatic weaknesses, and distribution of lessons learned.

2. Reporting of operational events, accidents, and injuries are conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE directives, and contract terms and conditions. Trending analysis of events, accidents, and injuries are performed in accordance with structured/formal processes and applicable DOE directives.

2.4 Issues Management: The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.

Criteria:

1. Program and performance deficiencies, regardless of their source, are captured in a system or systems that provides for effective analysis, resolution, and tracking. Issues management system elements include structured processes for determination of risk, significance, and priority of deficiencies; evaluation of scope and extent of condition; determination of reportability under applicable requirements; identification of root causes; identification and

documentation of corrective actions and recurrence controls to prevent recurrence; identification of individuals/organizations responsible for corrective action implementation; establishment of milestones based on significance and risk for completion of corrective actions; tracking progress; verification of corrective action completion; and validation of corrective action implementation and effectiveness.

2. Issues management processes include mechanisms to promptly identify the potential impact of a deficiency and take timely actions to address conditions of immediate concern, including stopping work, system shutdown, emergency response, reporting to management, and compensatory measures pending formal documentation and resolution of the issue.

3. Processes for analyzing deficiencies, individually and collectively, have been established that enable the identification of programmatic or systemic issues. Line management effectively monitors progress and optimizes the allocation of assessment resources in addressing known systemic issues.

4. Processes for communicating issues up the management chain to senior management have been established and based on a graded approach that considers hazards and risks. Line management receives periodic information on the status of identified deficiencies and corrective actions and holds organizations and individuals accountable for timely and effective completion of actions. Line management has executed graded mechanisms such as independent verification and performance-based evaluation to ensure that corrective action and recurrence controls are timely, complete, and effective. Closure of corrective actions and deficiencies are based on objective, technically sound, and verified evidence. The effectiveness of corrective actions is determined on a graded basis and additional actions are completed as necessary.

5. Results of various feedback systems are integrated and collectively analyzed to identify repeat occurrences, generic issues, trends, and vulnerabilities at a lower level before significant problems result.

6. Individuals or teams responsible for corrective action development are trained in analysis techniques to evaluate significant problems using a structured methodology to identify root and contributing causes and corrective actions to prevent recurrence.

Appendix B

Documents Reviewed

Appendix B

Documents Reviewed

1. **Work Planning and Control Program and Processes**

   - AWP-2.1, "Work Control"
   - AWP-2.6, "Maintenance Management"
   - AWP-4.1, "Training"
   - AWP-4.6, "Planning Programs, Experiments, and Tests"
   - Environment, Safety, and Health Manual Section 4.1K, "Safe Work Program and Hazards Assessment Process"
   - GDE-51, "Construction Project Management Guide"
   - GDE-6212, "Hazard Mitigation Guide for Integrated Work Control Process"
   - GDE-70, "General Project Management Methods"
   - LRD-7001, "Project Management System Requirements"
   - LWP-1201, "Document Management"
   - LWP-14002, "Stop Work Authority"
   - LWP-4002, "Service Acquisitions"
   - LWP-7001, "Management of Projects"
   - LWP-9100, "Laboratory Excellence Guidance for Communications"
   - Manual 7, "Project Management"
   - Manual 9, "Operations"
   - MCP-3003, "Performing Pre-Job Briefings and Documenting Feedback"
   - MCP-33, "Personnel Training and Qualifications"
   - MCP-3562, "Hazards Identification, Analysis, and Control of Operational Activities"
   - MCP-3571, "Independent Hazards Review"
   - MCP-7201, "INL Construction"
   - MCP-9174, "Science & Technology Complex Lessor Work Control"
   - PDD-600, "Site Maintenance Management Program"
   - PDD-9000, "Laboratory Excellence Program and Organization Structure"
   - PRD-25, "Activity Level Hazards Identification, Analysis, and Control"
   - STD-101, "Integrated Work Control Process"

2. **Feedback and Improvement Program and Processes**

- DOE Order 226.1, "Implementation of the Department of Energy Oversight Policy"
- GDE-13770, "Planning, Scheduling and Performing Assessments"
- LRD-13700, "Assessment"
- LRD-13800, "Quality Improvement"
- LWP-13730, "Developing, Integrating, and Implementing Assessment Plans and Schedules"
- LWP-13740, "Performing Inspections and Surveillances"
- LWP-13750, "Performing Management Reviews and Assessments"
- LWP-13760, "Performing Independent Reviews and Assessments"
- LWP-13820, "Identification, Reporting and Resolution of Price-Anderson Noncompliances"
- LWP-13840, "Corrective Action System"
- LWP-13845, "Causal Analysis Program"
- LWP-13850, "Processing Lessons Learned and Operating Experience Information"
- LWP-13870, "Establishing, Monitoring, and Reporting ESH&Q Performance Objectives, Goals, and Measures"
- LWP-13880, "Trending and Analyzing Environment, Safety, Health and Quality (ESH&Q) Performance"
- LWP-13890, "Performing Annual Evaluations of the Integrated Safety Management System"
- LWP-14001, "Occupational Injury and Illness Reporting and Follow-up"
- LWP-9301, "Event Investigation and Occurrence Reporting"
- Manual 13A, "Quality Assurance Program Requirements"
- MCP-165, "Critiques"
- MSD-101, "Contractor Assurance System"
- PDD-1004, "Integrated Safety Management System"
- PDD-13710, "Integrated Assessment Program"
- PDD-13720, "Assessor and Lead Assessor Training and Qualification Program"
- PDD-13810, "Issues Management Program"
- PDD-13860, "ESH&Q Performance Measurement, Analysis, and Reporting"

3. **Assessment Reports**

- (DOE) "Independent Oversight Inspection of the Environment, Safety, and Health Programs at the Idaho National Laboratory Advanced Test Rector," June 2005.
- (INL) IAS051965, "ISMS Consolidation Assessment," September 29, 2005.
- (INL) IAS06775, "Integrated Safety Management System Annual Report," INL/EXT-05-01027, December 2005.
- (INL) IOD-05-02, "Limited Review of the Assessment Program During Consolidation at the Materials and Fuels Complex," August 2005.
- (INL) IAS051844, "Independent Oversight Review of Integrated Safcty Management Implementation at the Idaho National Laboratory," November 10, 2005.
- (INL) IAS051876, "Assessment of the Materials and Fuels Complex Nuclear Facility Training and Qualification Programs," June 2005.
- (INL) IAS051966, "Implementation and Effectiveness of the ESH&Q Assessment Program," September 29, 2005.
- (INL) IAS05934, "Comprehensive Environmental Management System Assessment," October 31, 2005.
- (INL) IAS051750, "Independent Assessment on Conduct of Operations at RTC Nuclear Facilities, Assessment Plan," May 25, 2005.
- (INL) IAS051954, "Independent Assessment on Conduct of Operations at the Hot Fuel Examination Facility," August 30, 2005.
- (INL) IAS051961, "Independent Assessment on Conduct of Operations at the Fuel Conditioning Facility," October 21, 2005.
- (INL) IAS06228, "Independent Assessment on Conduct of Operations at the Materials and Fuels Complex Treatment, Storage, and Disposal Facilities," November 30, 2005.
- (INL) IAS05989, "SMC 3rd Quarter Work Control Process (STD-101)," June 29, 2005.
- (INL) IAS05991, "SMC Conduct of Operations (Work Control, Operating Boundaries, LO/TO, CA/RBA)," July 31, 2005.
- (INL) IAS051526, "SMC JSA Review and Implementation," March 29, 2005.
- (INL) IAS05988, "SMC 2nd Quarter Work Control Process Implementation MCP-3562," April 28, 2005.
- (INL) IAS06753, "Idaho National Laboratory Environment, Safety, Health, and Quality Quarterly Performance Report and Analysis," November 2005.
- (INL) IAS06757, "Quarterly INL Occurrence Reporting Performance Analysis," September, 30, 2005.

Appendix C

Work Planning and Control Assessment Results

Appendix C

Work Planning and Control Assessment Results

Performance Objective WPC-3—Work Planning and Control Program Documentation: The contractor has developed an effective work planning and control processes.

Process Description

The processes and documents used for activity-level work planning and control at INL are described in PDD-1004, "Integrated Safety Management System." Before formation of the INL on February 1, 2005, two separate activity-level work planning and control processes were used by the facilities which compose the INL: one by those INL facilities which were operated by Argonne National Laboratory-West (ANL-W) which are now known as the Materials and Fuels Complex (MFC) and the other by those INL facilities which were part of the Idaho National Engineering and Environmental Laboratory (INEEL). Most of these separate processes are still in use. A decision was made to not consolidate these processes during CY 2005 because of the divergence of the processes and the need to transform to a new work planning and control process that better serves the new laboratory. The existing processes were judged adequate for safe work performance until the transformation is completed in CY 2006.

The activity-level work planning and control processes currently in use are tailored to the four types of work performed at INL: operations, maintenance, projects (including construction/ destruction), and research and development.

- **Operations**: Laboratory-wide Manual 9, "Operations," contains the documents which describe the work planning and control processes for operations. These documents provide direction and guidance for ensuring operations are performed in accordance with DOE conduct of operations requirements. Laboratory-wide Procedure (LWP)-9100, "Laboratory Excellence Guidance for Communications," describes the requirements for development, review and approval, revision, availability, and use of operations procedures by which all operational activities are performed. Three types of procedures, which vary in degree of formality and use, may be developed based upon the risk, complexity, and frequency of the activity.

  All INL facilities develop operations procedures using the LWP-9100 guidance and direction in accordance with LWP-1201, "Document Management." When the procedures are developed, two separate processes are used for hazards identification, analysis, and control. At MFC, "Environment, Safety, and Health Manual," Section 4.1K, "Safe Work Program and Hazards Assessment Process" and Argonne West Procedure (AWP)-2.1, "Work Control" are used to identify and analyze hazards and to develop hazards controls. For the balance of INL, Management Control Procedure (MCP)-3562, "Hazards Identification, Analysis, and Control of Operational Activities" is used. The resulting hazard controls are included in the operations procedures.

- **Maintenance**: Currently, there are two separate Maintenance Management Programs used at INL that establish the management and performance of safe, efficient, and cost-effective maintenance of facilities and equipment. MFC Work Procedure AWP-2.6, "Maintenance Management," describes the processes and procedures that implement Maintenance Management at MFC and PDD-600, "Site Maintenance Management Program," describes

the processes and procedures that implement Maintenance Management for the balance of INL. Both programs integrate the core functions and guiding principles of Integrated Safety Management (ISM).

Work processes are in place to provide guidance to individuals performing the work. These processes are implemented by MFC: AWP-2.1, "Work Control" at MFC and Standard (STD)-101, "Integrated Work Control Process" for the balance of INL.

All maintenance activities must be evaluated by a documented hazard assessment process to determine the appropriate method of hazard control. If it is determined that an activity could lead to personnel injury or property damage, then the activity has an appropriate hazard control set identified and incorporated into the work instructions to support the work being performed safely.

Activity-level hazards are identified and controlled through either a hazard identification and mitigation process or a hazard assessment checklist (MFC only). The analysis of the hazards results in a description of the controls that must be in place before the activity can proceed.

Leased-facility maintenance when conducted by INL or subcontract personnel under the guidance of INL Facility Management follows the processes identified in STD-101. Leased-facility maintenance when conducted by the lessor follows the requirements set forth in MCP-9174, "Science & Technology Complex Lessor Work Control."

Work agreements between contractors INL and the Idaho Completion Project are captured in a blanket master agreement and an interface agreement.

- **Projects**: Project Management System requirements and procedures are contained in Manual 7, "Project Management." Laboratory Requirements Document (LRD)-7001, "Project Management System Requirements" and LWP-7001, "Management of Projects" require the development of Project Execution Plans (PEPs) or equivalent project strategy/planning documents, that must identify Environmental, Safety, Health, and Quality (ESH&Q) requirements applicable to the projects. A PEP is developed by a multi-disciplined team, ensuring functional integration of requirements and balanced priorities. STD-101 describes the process for developing project work control documents and for identifying and analyzing hazards and developing hazards controls. MCP-7201, "INL Construction," provides requirements specific to construction projects. Guide (GDE) -70, "General Project Management Methods" and GDE-51, "Construction Project Management Guide" provide guidance for these activities.

- **Research and Development (R&D)**: At MFC, R&D work is planned in accordance with AWP-4.6, "Planning Programs, Experiments, and Tests." This planning includes identification and analysis of hazards and development of hazards controls. For the balance of INL, these activities are performed in accordance with MCP-3571, "Independent Hazards Review."

- **Subcontractor and Vendor Work**: INL flows down ESH&Q requirements to its on-site subcontractors and vendors, including all lower tiers. Recognizing that the functions and principles of the INL ISM are necessary to perform all work, not only complex and hazardous work, INL uses a graded approach when applying the mechanisms that implement the ISM core functions to all on-site subcontractors and vendors. The graded approach is applied based on the complexity and hazards of the subcontractor/vendor scope of work.

Four distinctions are made with the application of ESH&Q requirements.

- Professional Services (e.g., instructor in a conference room)
- Commercial Services (e.g., freight delivery)
- Minimal Hazard (e.g., copy machine repair, vending machines)
- Hazardous (e.g., construction).

The implementation of this approach is described in LWP-4002, "Service Acquisitions."

Initially, all on-site subcontractors who may perform hazardous work are evaluated during the contracting process. Dependent on the subcontractor's prior safety record, the subcontractor is categorized as "Approved," "Conditionally Approved," or "Not Approved." Depending on that categorization, approval authority can extend up to the Director of ESH&Q. In addition, during the subcontractor's performance period, subcontract language allows INL to terminate the subcontract "for default" based on inadequate ESH&Q practices. Subcontractor selection and performance is monitored throughout subcontract period of performance in accordance with direction contained in LWP-4002. At the conclusion of the subcontract performance period, a performance evaluation is conducted, which is used to determine eligibility for future work.

All of these work planning and control processes include provisions for stopping work when activities cannot be performed as specified or when unsafe conditions are identified. These stoppages as well as other feedback or lessons learned result in modifications to active and in-development work control documents

After work activities have been performed, feedback is obtained and used, in accordance with AWP-2.1 at MFC and MCP-3003, "Performing Pre-Job Briefings and Documenting Feedback," to improve subsequent work activities or the work planning and control process.

Personnel who plan and manage activity level work are trained and qualified in accordance with AWP-4.1, "Training" at MFC and MCP-33, "Personnel Training and Qualifications" for the balance of INL. The training and qualification requirements are documented and are recorded in the Training Requirements and Implementation Network (TRAIN) database.

Adequacy and Effectiveness

The performance objective criteria are adequately addressed by the program and process documentation. Internal and external assessments have concluded that the work planning and control processes used at INL are adequate and are effectively implemented with some exceptions. The DOE Office of Independent Oversight and Performance Assurance (DOE-OA) assessment of the Reactor Technology Complex/Advanced Test Reactor (RTC/ATR) rated the implementation of ISMS core functions 1-4 for maintenance and operations as effective performance. The ISMS Consolidation Assessment concluded that work planning and control was effectively implemented at the Science and Technology Complex (STC), MFC, RTC, the Specific Manufacturing Capability (SMC), and the Site Wide Area (SWA).

Issues and Areas for Improvement

Issues in work planning implementation and control have been identified by internal and external assessments and by reportable occurrences. The issues identified by DOE-OA are being tracked in the DOE Corrective Action Tracking System (CATS). Other issues were reported as Price-

Anderson Amendments Act (PAAA) noncompliances and are being tracked in the DOE Noncompliance Tracking System (NTS). These issues are identified in the following discussions under the performance objective to which they best relate.

Although the work planning and control processes currently used at INL are adequate and effectively implemented, they are being consolidated and transformed to better meet the needs of the new laboratory which is focused on research and development. This consolidation/ transformation is focused on improving the processes by using benchmarking information from other DOE sites and by better addressing both risk management and process efficiency.

To ensure work is performed safely and to improve overall safety performance, INL has initiated actions to attain VPP Star status for the INL Safety and Health Program and to implement integrated behavior-based safety and human performance processes. ISO-14001 certification for the INL Environmental Management System was attained in January 2006.

Evaluation

Performance Objective Fully Met.

Performance Objective WPC-4—Work Activity Definition and Hazard Identification: Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

Process Description

As discussed in WPC-3, most processes used by INL to ensure activity-level work is adequately defined and to identify, analyze, and control hazards are those previously used by ANL-W and INEEL.

For operational activities, INL uses a consolidated process for developing operations procedures which define the activities to be performed (LWP-9100 and LWP-1201) but uses separate processes for identifying and analyzing hazards. MFC uses Environment, Safety, and Health Manual Section 4.1K and AWP-2.1 for those activities while the balance of INL uses MCP-3562.

For maintenance activities, MFC uses AWP-2.1 and Environment, Safety, and Health Manual Section 4.1K to define the work activity and to identify, analyze, and control hazards. The balance of INL uses STD-101 and GDE-6212, "Hazard Mitigation Guide for Integrated Work Control Process."

For project activities, INL uses consolidated processes for defining the work activity and identifying, analyzing, and controlling hazards. These processes are described in LRD-7001, LWP-7001, and GDE-70. For construction project activities, these process are further defined in STD-101, MCP-7201, and GDE-51.

For research and development activities, MFC uses AWP-4.6 for defining the work activities and for identifying, analyzing, and controlling hazards. The balance of INL uses MCP-3571.

For subcontractors and vendors, LWP-4002 is used to ensure the work activity is appropriately defined and hazards are identified, analyzed, and controlled.

Although some of these processes have not been consolidated, they are similar in that they employ the following activities using a graded approach which is based upon the risk of the work activities:

- Assignment of appropriate personnel to execute the processes.
- Walkdowns of the job site as necessary to ensure the work activity is appropriately defined and to develop work steps and techniques.
- Initial identification of hazards and controls using checklists and hazard mitigation guides.
- Reviews by appropriate subject matter experts (SMEs) of the proposed work control documents.
- Job-site walkdowns by the SMEs depending upon the nature and complexity of the work and the hazards.
- Consideration of both the hazards of the job, the hazards at the job site, the hazards caused by upset conditions, and hazards potentially caused by the hazard controls.
- Use of a hierarchy of controls for those hazards that cannot be eliminated with engineered controls as the first choice, followed by administrative controls, and then personal protective equipment.
- Final review and approval of the work control documents by line management and SMEs from appropriate support organizations.

The balance of INL uses a requirement document, PRD-25, "Activity Level Hazards Identification, Analysis, and Control," that specifies the processes that are implemented in MCP-3562, STD-101, and MCP-3571. The balance of INL has also integrated the human performance improvement techniques into the work planning and control processes to ensure consideration and control of human error in execution of work activities.

Adequacy and Effectiveness

The performance objective criteria are adequately addressed by the process documentation. Internal and external assessments have concluded that the work definition and hazards identification, analysis, and control processes at INL are comprehensive and effectively implemented. The OA Assessment at RTC/ATR rated the processes used for operations and maintenance as effective performance. The ISMS Consolidation Assessment found these processes were effectively implemented at RTC, STC, MFC, SMC, and SWA. The ISMS Annual Evaluation concluded that these processes were being maintained, improved, and effectively implemented.

Issues and Areas for Improvement

The OA Assessment at RTC/ATR identified four specific findings in hazards identification, analysis, and control:

- Analysis of potential radiological hazards associated with non-uniform radiation fields and glovebox failures has not been sufficiently rigorous to ensure that these hazards are adequately controlled.
- ATR does not have a process for identifying controls for non-radiological hazards for RCTs entering spaces to perform surveys.

- ATR has not established appropriate controls to ensure that all workers are promptly notified of fire alarms in areas where the alarms cannot be heard.

  INL has not ensured that clear and unambiguous requirements for confined spaces are consistently applied at ATR to minimize the risk to workers, consistent with the intent of safety regulations.

The ISMS Consolidation Assessment identified a concern with the adequacy of hazards controls for one maintenance evolution that questioned the adequacy of the hazards control process for minor maintenance. This concern will be addressed in the transformed work planning and control process. No other significant issues were identified by internal assessments; however, a causal analysis of a radiological exposure which had occurred at MFC identified a programmatic failure of work planning and hazard control. This failure was reported as PAAA noncompliance NTD-ID-BEA-FMF-2005-0002.

Evaluation

Performance Objective Fully Met.

Performance Objective WPC-5—Work Control Documents: The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

Process Description

LWP-9100, LWP-1201, STD-101, MCP-3571, AWP-2.1, AWP-4.6, and MCP-7201 contain instructions for developing work control documents. Other guides and standards provide additional instructions. Collectively these instructions address:

- Clearly defining the scope of work and associated boundaries,
  Developing clear, concise, and easily understood work instructions (steps),
- Properly sequencing the work steps,
- Incorporating technical and administrative requirements,
- Incorporating hazards controls developed for the work activity, and
- Delineating and highlighting specific controls before the work control step where the hazard is encountered.

Adequacy and Effectiveness

The process documentation adequately addresses the performance objective criteria. Internal and external assessments have concluded that work control documents are adequate and effective for performing work. The DOE-OA Assessment at RTC/ATR concluded, with some exceptions, that maintenance work packages and operations procedures were adequate. The ISMS Consolidation Assessment reached similar conclusions for RTC and for the other INL complexes.

Issues and Areas for Improvement

Although work control documents were found to be adequate by most assessments, one assessment at RTC identified continued problems with administrative errors in maintenance work packages that demonstrate inadequacies in corrective actions for previous problems. This assessment finding was reported as PAAA noncompliance NTS-ID-BEA-ATR-2005-0002.

Evaluation

Performance Objective Fully Met

Performance Objective WPC-6—Work Performance: Contractor personnel perform work in accordance with approved work control documents.

Program Description

Plan-of-the-day and plan-of-the-week (POD/W) schedules are used by line management to authorize work that will be performed. Tenant work is authorized by tenant line management and is included on the POD/W in accordance with the tenant use or interface agreement or as mutually agreed upon by tenant and facility management.

Pre-job briefings described in MCP-3003 and AWP-2.1, are conducted in which the work procedures or instructions, results of hazards analysis, and required permits and controls necessary to perform the job are reviewed with the worker.

Maintenance work is performed by maintenance organizations assigned to individual facilities, functioning in a support role to the operating organizations. The maintenance organization and construction management work closely with operations and other support organizations to plan, schedule, and perform work.

All personnel who perform work have specific training and qualification requirements. Line management verifies that these requirements have been met prior to allowing personnel to perform the work.

Line supervisors and managers ensure activities relating to ESH&Q issues (such as safety system operability, environmental compliance monitoring, and personnel safety) are appropriately resource-loaded to ensure timely and accurate completion. Personnel continuously analyze facility and equipment conditions and resources and initiate action to ensure activities significant to ESH&Q are promptly resolved. Safety basis controls are closely monitored through surveillance testing, equipment status control programs, and operator rounds.

All personnel are trained to strictly adhere to the instructions in work control documents unless the instructions cannot be followed or doing so would create unsafe conditions. In these cases or for similar reasons, personnel are instructed to stop work in accordance with LWP-14002, "Stop Work Authority" and to resume work only when the conditions have been corrected through formal change control processes.

Feedback is gathered on a continuous basis at all stages of work performance to correct problems and develop lessons learned for use in other work activities.

Adequacy and Effectiveness

The process documentation adequately addresses the performance objective criteria. Internal and external assessments have determined that activity level work is performed safely at INL. The DOE-OA Assessment at RTC/ATR determined that maintenance work, with some minor exceptions, was performed safely and in accordance with required controls and that operations activities were performed within established controls by operators who understood the associated hazards and the importance of procedural compliance.

Interviews and observations performed by the ISMS Consolidation assessment team determined that managers and employees recognized, understood, and accepted the work control processes and were performing work in accordance with those processes. Managers and workers were technically competent and knowledgeable of programs and facilities. Pre-job briefs were adequate and job-specific walkdowns were routinely performed by mangers and workers. Procedures and work packages were being followed. Work and facility conditions were being monitored. All employees were confident of their stop work authority and used established feedback mechanisms. Managers routinely assessed performance and initiated corrective or improvement actions as appropriate.

Issues and Areas for Improvement

An internal assessment performed at MFC identified a programmatic failure of the nuclear facility training and qualification program. This failure was reported as PAAA noncompliance NTS-ID-BEA-MFC-2005-0001.

Evaluation

Performance Objective Fully Met

Performance Objective WPC-7—Work Planning and Control Oversight: The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control processes, including periodic reviews of active and in-development work control documents.

Process Description

The overall INL assessment program is described in the results for Performance Objective F&I 2.1(a). In addition to the formal assessment program, line and support organizations perform routine observations of work activities. Various surveillance tools are used during observations or walkdowns. Some of these tools are checklists that are routinely used for specific activities (such as pre-job briefings) or specific area walkdowns. The research laboratories use a Monthly Inspection Checklist that includes a review of the various research and development activities and associated hazard controls used in each laboratory.

The Senior Supervisory Watch (SSW) program described in PDD-9000 is particularly important to work control oversight. Personnel are assigned by the senior line manager to perform the SSW as part of a normal process, as a compensatory action, or as a roving or task specific watch within a facility or area to assess work activities. Personnel assigned SSW duty periodically partner with area/project ESH&Q professionals on their walkdowns to promote understanding and ownership of the ESH&Q program. Assigning the SSW does not relieve line management of their responsibilities for activities and safety.

Assignment of the SSW is at the discretion of the senior line manager. The SSW is not intended to replace assessments or routine management observation of departmental work and is not used for routine low risk activities. The following are examples of when an SSW may be warranted:

- High risk maintenance activities,

  First time evolutions of a complex activity,
- Repeat or similar problems occurring with a specific activity,
- Nonroutine confined space entries,

- Activities determined as highly hazardous per the INL work control system, or
- Any special evolution requiring the transport of radioactive materials, asbestos-bearing items, or unusually large objects, including those being transported via railroad.

The SSW key responsibility is to provide an independent overview of the work control process, including hazard identification and mitigation, job walk-downs, safety integration, briefing adequacy, lockout/tagout usage, use of procedures, and job safety performance. The SSW ensures identified deficiencies are being properly addressed through on-the-spot feedback and mentoring. SSW observations are reported to the senior line manager.

The following are additional examples of SSW responsibilities:

- Review lockout/tagout activities routinely during each SSW assignment.
- Review work documentation for deficiencies, especially in the area of hazard mitigation of the planned activity and authorization.
- Observe communications, feedback, and continuous improvement activities and provide suggestions for improving effective communications regarding work scope clarity, hazard identification and mitigation, and "person-in-charge."
- Ensure any nonroutine activities that release wastewater or discharge other liquids are controlled per environmental requirements. At a minimum, review the work documents for the activity to ensure the environmental requirements have been included in the planning for the evolution.
- Spot check surveillance activities that support documented safety analysis report requirements.

The results of oversight activities are tracked and trended as described in Performance Objective F&I 2.1(b).

Adequacy and Effectiveness

The process documentation adequately addresses the performance objective criteria. Internal and external assessments have concluded that some aspects of the assessment and oversight program, especially the SSW, are adequately and effectively implemented, but these assessments have also identified issues and areas for improvement which are discussed in Performance Objective F&I 2.1(a).

Evaluation

Performance Objective Partially Met

Appendix D

Feedback and Improvement Assessment Results

Appendix D

Feedback and Improvement Assessment Results

Performance Objective F&I-1—Contractor Program Documentation: Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.

System Description

The INL operational assurance system is primarily described in the following documents:

Management System Description (MSD)-101, "Contractor Assurance System" (CAS). This document was developed in accordance with Part 1, Section H.4 of the BEA Contract. It satisfies the key attributes of Section H.4 and includes the following key elements:

- Three functional levels of oversight with clearly defined roles, responsibilities, authorities, and accountabilities: governance, leadership/management, and performance;
- Board of Managers committees to oversee INL management systems and processes in finance and audit, operations, compensation and personnel, and science and technology;
- Annual effectiveness review of the CAS by the Board of Managers;
- Annual assurance statement by the Laboratory Director and a Board of Managers designated official;
- Independent audits and assessments by corporate entities, as required;
- Leadership/management councils, boards, and committees to oversee performance, integrate functions, and conduct trending and analysis;
- Emphasis on coordination and integration with DOE-ID contract oversight model implementation;
- Independent oversight of the effectiveness of self-assessment programs;
- Process for notifying the Contracting Officer of changes;
- Risk analysis tools and processes for management systems; and
- Assurance plans for each functional management system.

The CAS provides a means by which DOE-ID, INL Leadership and Management, and the BEA Board of Managers can monitor the health of management processes using a risk and control methodology. CAS processes are designed to assure DOE-ID that contractor management practices:

- Identify and address program, system, and performance deficiencies, areas for improvement, and practices worthy of emulation;
- Provide DOE-ID with a comprehensive performance baseline for design of effective and efficient contractor oversight activities;
- Identify and control risks within bounds established in the contract; and
- Meet contract performance expectations and strategic goals.

MSD-101 has been approved by the BEA Board of Managers and submitted to DOE-ID.

- PDD-1004, "Integrated Safety Management System" (ISMS). This document includes descriptions of the feedback and improvement processes used by INL as part of the ISMS. These processes include worker feedback mechanisms, work observation processes, assessment (including management review and assessment, independent review and assessment, surveillance, and inspection), issues management (including event and issue reporting, corrective action system, lessons learned and use of operating experience, and causal analysis), and performance measurement and analysis. PDD-1004 also describes the INL processes for ensuring competence commensurate with responsibility. PDD-1004 has been submitted to DOE-ID and is pending approval.

- Manual 13A, "Quality Assurance Program Requirements" which includes a description of the Quality Assurance Program and the detailed program requirements documents. These requirements documents include LRD-13700, "Assessment" and LRD-13800, "Quality Improvement," which establish requirements for most of the feedback and improvement processes that are described in PDD-1004. LRD-13800 includes training and qualification requirements for assessment personnel. Manual 13A has been submitted to DOE-ID and has been approved.

The processes and procedures which implement the descriptions and requirements in these three documents are described in more detail in Performance Objective F&I-2.

Adequacy and Effectiveness

The system documentation adequately addresses the performance objective criteria. Internal and external assessments have determined that the INL feedback and improvement processes are comprehensively defined and collectively adequate. However, some of these assessments have identified implementation deficiencies and areas for improvement. In particular, the DOE-OA Assessment of RTC/ATR rated feedback and improvement as needs improvement.

Issues and Areas for Improvement

The feedback and improvement issues identified by internal and external assessments are identified and discussed in the applicable parts of Performance Objective F&I-2.

One overall area for improvement in INL program documentation concerns newly issued DOE Order 226.1, "Implementation of Department of Energy Oversight Policy." This order, which is being added to the BEA contract, requires submittal of a contractor assurance system to DOE for review and approval. Although the requirements in the order are substantially addressed by current INL processes and documents, the three main documents listed in the system description above will need some revision to ensure that the INL contractor assurance system adequately addresses the order.

Evaluation

Performance Objective Fully Met

Performance Objective 2: Contractor Program Implementation

2.1(a) Assessment: Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis.

Program Description

The INL assessment program is described in PDD-13710, "Integrated Assessment Program." Senior management sponsors the assessment program. Clear roles and responsibilities for execution of the program are identified in implementing documents. Performance Assurance is responsible for the IAP development and oversight. Directors and managers are responsible for ensuring that assessments are effectively planned, scheduled, and performed.

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

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

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

During the performance of assessments, issues are identified, documented, and dispositioned in accordance with LWP-13840, "Corrective Action System." The effectiveness of the integrated assessment process is measured by analyzing the performance of assessments, assessment results, and the execution of the overall process.

The following company documents are those primarily used to implement the Integrated Assessment Program. The hierarchy of these documents is shown in PDD-13710. Other documents not listed here are also used to perform assessments.

- LWP-13730, "Developing, Integrating, and Implementing Assessment Plans and Schedules," describes the process for developing a comprehensive assessment plan and integrating and maintaining the assessment schedule.
- GDE-13770, "Planning, Scheduling and Performing Assessments," provides guidance for developing plans and schedules and for performing management and independent assessments. It also provides information to management, assessment personnel, and others involved in the assessment process to help in understanding the philosophy, requirements, expectations, and benefits of a comprehensive assessment program.

- PDD-13720, "Assessor and Lead Assessor Training and Qualification Program," describes the level of training or qualifications needed by assessment personnel performing independent assessments. It describes how the Assessor and Lead Assessor Training and Qualification Program is defined, structured, administered, and implemented.

  LWP-13750, "Performing Management Reviews and Assessments," provides instructions for performing management reviews of management processes to identify systemic issues, potential risks, and areas for improvement. It also provides instructions for performing management assessments to determine the adequacy and effectiveness of an organization's management programs.

- LWP-13760, "Performing Independent Reviews and Assessments," provides instructions for performing independent reviews to identify systemic issues, potential risks, and areas of improvement. It also provides instructions for performing independent assessments to verify that performance criteria have been met and to determine the adequacy and effectiveness of programs and management systems. It addresses planning, performing, reporting, documenting, and closing independent assessments.

  LWP-13740, "Performing Inspections and Surveillances," provides the instructions for performing inspections, which are usually detailed walkdowns of designated areas to determine compliance with regulatory and procedural requirements, and surveillances that are typically focused on a single operation, activity, or process. Surveillances involve observation of real-time activities augmented by discussions/interviews with personnel, review of documentation to verify conformance with specified requirements and evaluation of adequacy and effectiveness.

All assessments described above are scheduled and tracked in the Integrated Assessment System database. This database provides a compilation of assessment requirements contained in the contract laboratory procedures, and organizational specific documents. It also describes how the required assessments are expected to be implemented.

Adequacy and Effectiveness

The program documentation adequately addresses the performance objective criteria. Internal and external assessments have determined that the INL assessment program is adequately and comprehensively defined but have identified implementation deficiencies and areas for improvement. Even with these deficiencies, the program has identified numerous issues that have been tracked and corrected. Overall improvements in performance have been noted by reductions in both internally and externally identified issues.

Issues and Areas for Improvement

The DOE-OA Assessment of RTC/ATR identified one issue: BEA has not implemented a fully effective program of ATR assessment activities with sufficient scope and rigor tailored to ongoing activities, conditions, and past performance to ensure that ES&H performance is consistently and accurately evaluated.

Internal assessments identified similar and additional implementation issues. These issues were collectively reported as PAAA noncompliance NTS-ID-BEA-INLPROGM-2005-0001.

Evaluation

Performance Objective Partially Met

2.1(b) Performance Indicators: Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.

Program Description

The INL Performance Measurement and Analysis Program is described in PDD-13860, "ESH&Q Performance Measurement, Analysis, and Reporting."

Performance Assurance is primarily responsible for administration and oversight of the program and coordinates/leads/performs analysis and trending activities, as appropriate. Management System Owners, Cognizant Directors and Functional Support Managers are responsible for collecting, analyzing, and reporting performance information and for taking actions to address performance issues. The ISMS Leadership-Management Committee establishes performance objectives, goals, and evaluation criteria, reviews performance reports, and ensures actions are taken to address performance issues.

Long-term ESH&Q objectives are established and documented in the INL Strategic Plan. Performance indicators and measures are then selected to support achievement of the established performance objectives. Each year, goals and evaluation criteria are established for each approved performance indicator and measure. Organizational responsibility is assigned for collecting and analyzing data for each indicator and measure. Appropriate actions to address identified issues are initiated and tracked to completion.

Each fiscal quarter, ESH&Q performance is analyzed. The analyses include adverse trends, recurring issues, and noteworthy practices. The analyses address assessment program implementation, identified issues, management of issues, and performance indicators and measures. The results of the analyses are reported and actions are initiated to address performance issues.

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

To support the collection, analysis, and reporting of performance indicators and measures, various databases are used to maintain data of current and historical performance. Guidance is provided for analyzing performance. Appropriate training is provided to management and support personnel. Periodic reviews of the program are performed to determine adequacy and effectiveness. Actions are taken as necessary to address program deficiencies or needed improvements.

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

- LWP-13870, "Establishing, Monitoring, and Reporting ESH&Q Performance Objectives, Goals, and Measures," describes the process for establishing long term ESH&Q performance objectives and annual performance goals; selecting performance indicators, measures, and criteria for those objectives and goals; collecting and analyzing performance data; reporting performance; and responding to performance issues. It also addresses providing oversight and administration of the program.
- LWP-13880, "Trending and Analyzing Environment, Safety, Health and Quality Performance," describes the process for analyzing ESH&Q performance including planning and scheduling the analyses, collecting performance information, analyzing the information, identifying performance issues, determining actions for identified issues, and reporting results.
- LWP-13890, "Performing Annual Evaluations of the Integrated Safety Management System," describes the processes for planning and scheduling evaluations, evaluating key processes and documents, functional support areas, ESH&Q performance, and potential system impacts; determining conclusions; developing safety performance objectives, measures, and commitments; reporting evaluation results; and responding to the results.

Adequacy and Effectiveness

The program documentation adequately addresses the performance objective criteria. The ISMS Annual Report concluded that the performance measurement and analysis program had been maintained with one exception discussed in the next section. The report also contained the following discussion of performance measures.

Twenty performance measures were identified for INL for the February 1 – September 30, 2005 period in FY 2005 Safety Performance Objectives, Measures, and Commitments required by the ISMS contract clause. Because INL was formed from ANL-W and INEEL, determining performance baselines and making comparisons to previous performance was difficult. However, some baselines were estimated for comparison, and goals or performance expectations were established for most of the performance measures. The status of performance relative to these measures was reported in monthly and quarterly reports. Performance as indicated by these measures during the performance period is summarized in Table 4 and the discussion that follows. More detailed information is contained in the Fourth Quarter FY 2005 INL Environment, Safety, Health, and Quality (ESH&Q) Quarterly Report and Analysis (INL/EXT-05-00312) (IAS06753).

Table. ESH&Q Performance: February 1 – September 30, 2005

Performance Area	Performance Measure	Goal/ Expectation	Actual	Result
Environmental Compliance	Reportable Environmental Releases	0	0	Achieved
	Environmental Noncompliances	0	0	Achieved
	Completed Enforceable Milestones	10	10	Achieved
P2E2	Alternative Fuel Consumption	75%	12%	Not Achieved

Performance Area	Performance Measure	Goal/ Expectation	Actual	Result
Occupational Safety and Health (OSHA)	DART Case Rate	<0.58	0.56	Achieved
	TRCR	<1.13	1.35	Not Achieved
	Unprotected Exposures > Limits	0	0	Achieved
	Construction Subcontractor TRCR	None	1.91	Indeterminate
Radiation Safety	Contamination/Radiation Control Events	0	0	Achieved
	Radiation Expos. >100 mrem Above Planned	0	0	Achieved
Nuclear Safety	Criticality Safety Violations	0	0	Achieved
	TSR Violations	0	1	Not Achieved
	Late Safety Basis Submittals	0	0	Achieved
	Positive USQs	N/A	1	Indeterminate
Assessment	Externally Identified Issues	<10%	12%	Not Achieved
Issues Management	Issues Not Closed on Time	None	9%	Indeterminate
	Issue Extensions	None	29%	Indeterminate
	Corrective Action Effectiveness Reviews	100%	86%	Not Achieved
	Corrective Action Effectiveness	100%	83%	Not Achieved
	Recurring Issues	None	16	Indeterminate

The table above shows that performance goals or expectations were achieved for nine measures but were not achieved for six measures and that performance as shown by five measures was indeterminate. This performance demonstrates progress in achievement of the safety performance objectives identified for FY 2005 for the following reasons:

- Nine performance measures show achievement of goals or expectations. These are 9 of the 11 most important measures in the group of 20 because they measure protection of the environment and the workers. Total Recordable Case Rate (TRCR) and Technical Safety Requirements (TSR) Violations are the other two most important measures.) Goals/Expectations for eight of the nine measures were set at perfection (i.e., zero). The goal for a 5% reduction in the Day Away, Restricted, and Transferred (DART) Case Rate was exceeded with a reduction of 9%.

- Six goals/expectations were not achieved. Three were for assessment and issues management measures. The expectations for these measures did not reflect improvement based on historical performance, since performance history could not be constructed. Future performance will be compared to the February 1 – September 30, 2005 baseline. Although the expectations were not met, performance was acceptable. For the other three measures: The one TSR Violation exceeded the goal of zero; the TRCR increased from the estimated baseline; and Alternative Fuel Usage has never been close to achieving the 5-year goal established by an executive order that expired on September 30, 2005. (Although the goal has expired, actions are still being taken to increase alternate fuel usage.) Senior

management judged injury/illness performance unacceptable during the performance period and initiated numerous responsive actions, including a laboratory-wide Safety Pause.

- Five measures showed indeterminate performance because of the lack of historical performance information. However, only one of the five was judged to show a performance issue: Issue Extensions. Management has initiated actions to address this problem. For the other four: The Construction Subcontractor TRCR involved only one injury; only one Positive Unreviewed Safety Question (USQ) was identified; the percent of Issues Not Closed On Time relates primarily to MFC, which has been significantly impacted by laboratory consolidation; and the Recurring Issues measure needs additional focus to generate meaningful data. (This focus is planned.)

Issues and Areas for Improvement

The ISMS Annual Report identified a degradation of the performance measurement and analysis program caused by the cessation of quarterly performance analyses previously performed by organizations and functional support areas.

Evaluation

Performance Objective Fully Met

2.2 Operating Experience: The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.

Program Description

The INL program for using operating experience information is described in the following documents:

- PDD-13710, "Integrated Assessment Program" and implementing procedures LWP-13740, LWP-13750, and LWP-13760.
- PDD-13810, "Issues Management Program" and implementing procedures LWP-13840, "Corrective Action System," LWP-9301, "Event Investigation and Occurrence Reporting," and LWP-13850, "Processing Lessons Learned and Operating Experience Information."

Using internal operating experience information involves:

- Identifying and reporting adverse conditions and noteworthy practices (LWP-13740, LWP-13750, LWP-13760, LWP-9301, LWP-13840)
- Determining the causes and extent of adverse conditions (LWP-13840) and the applicability of noteworthy practices (LWP-13850)
- Correcting adverse conditions (LWP-13840) and implementing noteworthy practices (LWP-13850)
- Developing lessons learned and recording lessons learned for use in future activities (LWP-13850)

- Exporting selected lessons learned to other DOE sites (LWP-13850).

Using external operating experience information requires identifying information and screening it for applicability, evaluating applicable information for responsive actions, tracking those actions to completion, and recording lessons learned from this information for use in future activities. LWP-13850 addresses all of the processes for using external operating experience except tracking corrective actions which is addressed in LWP-13840.

Worker feedback is solicited and processed through several processes, especially by using AWP-2.1 and MCP-3003.

Lessons learned from internal and external operating experience information are recorded in an electronic database, which is available to all employees. The work control program requires the use of this database during the planning of work activities.

Adequacy and Effectiveness

The program documentation adequately addresses the performance objective criteria. The current operating experience information program was revised in FY 2005 to address weaknesses in the use of external information. The DOE-OA Assessment of RTC/ATR evaluated the INL program and its implementation at RTC/ATR and concluded that the program had improved in FY 2005 but identified opportunities for further improvement.

During FY 2005, external operating experience information was used to remove defective equipment from service and to seek improvements in electrical safety, laser safety, boiler safety, and criticality safety evaluations. Internal operating experience sent to DOE for use at other sites included information on boiler safety and cut resistant gloves.

Issues and Areas for Improvement

No issues were identified by DOE-OA or internal reviews, but DOE-OA identified the need for improvement in screening of external information, developing and tracking responsive actions, and soliciting feedback from employees during post job reviews.

Evaluation

Performance Objective Fully Met

2.3 Event Reporting: Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.

Program Description

The INL program for event reporting is described in and implemented by the following documents:

- LWP-9301, "Event Investigation and Occurrence Reporting"
- LWP-13820, "Identification Reporting, and Resolution of Price-Anderson Noncompliances"
- LWP-13840, "Corrective Action System"
- LWP-13845, "Causal Analysis Program"

- LWP-13880, "Trending and Analyzing Environment, Safety, Health, and Quality Performance"
- LWP-14001, "Occupational Injury and Illness Reporting and Followup
- MCP-165, "Critiques."

The event reporting program provides consistent processes for identifying and investigating events, determining causal factors, identifying appropriate responsive actions, analyzing to identify adverse trends, and communicating information to the appropriate management levels and DOE.

Line management has the overall responsibility for ensuring appropriate notifications are made and actions are taken in a timely manner. Line management has been provided specific training to categorize and report abnormal events and to facilitate appropriate responses. They refer to the INL Emergency Preparedness and Safeguards and Security programs for related events.

All personnel have the responsibility to notify immediate supervision of "unexpected circumstances, conditions, and/or events." Their immediate supervision is responsible for ensuring the appropriate line management is notified. FLASH messages are used for timely notification of an event or situation to INL senior management and other INL contractors for further dissemination to potentially affected management and personnel. This rapid dissemination process allows management to take immediate corrective actions, provide resources to other areas, and provide hazard mitigation as necessary to ensure work is performed in a safe manner. This message may not contain all the necessary details but will provide a "heads up" about the event or situation.

Critiques are used for event reconstruction and event evaluation. Event reconstruction is performed by personnel involved in the event and takes place as soon as possible following actions necessary to stabilize conditions and make required notifications. Event reconstruction and event evaluation may be conducted concurrently or separately based on the cause analyst's judgment and the availability of personnel.

Formal or apparent causal analyses are performed for events based upon their significance. Corrective actions are developed to address identified causes. Event corrective actions are tracked in the issues management database. Trending and analysis of events is performed quarterly. The results are reported to INL management and DOE.

Occupational injuries and illnesses are reported and investigated by a separate process (LWP-14001). Corrective actions which cannot be completed immediately are tracked in the issues management database.

Adequacy and Effectiveness

The program documentation adequately addresses the performance objective criteria. Internal and external assessments have concluded that the INL event reporting program is adequately documented and effectively implemented. The ISMS Annual Report contains an evaluation of events reported during FY 2005.

Issues and Areas for Improvement

No significant issues related to event reporting have been identified, but the DOE-OA Assessment at RTC/ATR identified the need for improvement in the documentation, analysis, and correction/prevention of injuries and illnesses.

Evaluation

Performance Objective Fully Met

2.4 Issues Management: The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.

Program Description

The INL Issues Management Program is described in PDD-13810, "Issues Management Program." Issues included in the program may be facility specific, site-wide, or programmatic in nature and may be identified by external agencies, independent assessments, management assessments, inspections, surveillances, and employees during the conduct of work assignments. Issues may be identified during research and development, manufacturing, installation, testing, operations, and maintenance activities. All issues are tracked in the Issues Communication and Resolution (ICARE) database. Active implementation of the program is the responsibility of Cognizant Directors and Responsible Managers. Directors ensure that the program is implemented by promoting an open environment and culture to support the identification and resolution of issues. Training is provided to all Cognizant Directors and Responsible Managers.

The cornerstone of the Issues Management Program is the Corrective Action System, as described in LWP-13840, "Corrective Action System." The Corrective Action System provides for a single process to document failures, malfunctions, deficiencies, defective items, non-conformances, and conditions or actions that have a reasonable potential to cause adverse operational, environmental, safety and health, or quality assurance consequences. The Corrective Action System consists of the following basic elements: documentation, pre-screening, categorization, classification, causal analysis, extent of conditions evaluations, and corrective action planning, implementation, verification, and follow-up.

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

After issues have been appropriately categorized and, when applicable, classified, an investigation and cause analysis are conducted to determine the appropriate corrective and/or preventive actions. The causal analysis program is described in LWP-13845. For significant deficiencies and most reportable events, a formal root cause analysis is conducted to arrive at actions that will prevent recurrence. For deficiencies classified as adverse and all other issues, an apparent cause analysis is performed. Extent of conditions evaluations are then performed for all significant issues, and when warranted, for less significant issues. All cause analysts are trained and formal cause analysts are also qualified.

On the basis of significance, cause analysis, and extent of conditions evaluations, formal plans are developed to address compensatory, corrective, and preventive actions, which eliminate identified causes. In developing and implementing corrective action plans, care is given to ensuring that proposed corrective actions are compatible with requirements and other commitments and do not introduce adverse impacts on company performance. Corrective action plans are reviewed and approved before implementation and for significant deficiencies, including PAAA reportable noncompliances and most reportable occurrences, are verified by an independent and knowledgeable person upon completion. The effectiveness of corrective and preventive action for significant issues is validated through follow-up assessments.

Nonconforming items are controlled and resolved per the requirements described in LWP-13830, "Control of Nonconforming Items." These processes provide for the identification, documentation, evaluation, control, and disposition of items, e.g., hardware, material, or data, that do not conform to specified requirements in order to prevent their inadvertent installation or use. Nonconforming items include those that do not meet commercial standards, applicable regulatory requirements, specifications, and testing requirements. Nonconforming items can be found during testing, operations, inspections or audits. The processing of a non-conformance report is required when an item: fails to meet required technical or quality requirements; is of indeterminate quality; is a suspect/counterfeit item; or has documentation deficiencies (i.e., missing, incomplete, illegible, or damaged documentation; improper revisions; or documents having unauthorized changes), which render the quality of the item indeterminate. Nonconformances are tracked in ICARE.

Performance measurement and trend analysis are used to identify adverse trends and potentially emergent and recurring issues, and will generally result in the reporting of a new issue for resolution. Program assessments and performance metrics are used to monitor the adequacy and effectiveness of the Issues Management Program.

Adequacy and Effectiveness

The program documentation adequately addresses the performance objective criteria. Internal and external assessments have concluded that the INL issues management program is adequately defined and documented. Some implementation deficiencies and opportunities for improvement have been identified. The effectiveness of the program is routinely monitored by senior management using a variety of performance measures and indicators that are reported monthly and quarterly. Actions have been initiated by senior based on reported performance (e.g., reduction of issue extensions and focus on closure of old issues). Corrective Action Review Boards are used by most line organizations to manage issues.

Issues and Areas for Improvement

The DOE-OA Assessment at RTC/ATR identified one issue: BEA has not consistently implemented its corrective actions program at ATR in a manner that ensures that ES&H deficiencies are appropriately documented, categorized, and evaluated in a rigorous and timely manner, with causes, extent of condition, and appropriate recurrence controls identified.

Evaluation

Performance Objective Partially Met

AMWTP
Advanced Mixed Waste Treatment Project

Date: January 8, 2006

To: G. L. Beausoleil MS 1216 WCB 317B 526- 6558

From: R. F. French MS 4207 - Bldg 677 557-7148

Subject: BBWI AMWTP Input for DOE-ID Assessments of FeedBack & Improvement and Work Planning and Control

References: Department of Energy's Implementation Plan Commitment 23 and Commitment 25 for Defense Nuclear Facilities Safety Board Recommendation 2004-1,*Oversite of Complex, High-Hazard Nuclear Operations*; Request for Action (OS-QSD-05-153)

The attached reports document the results of the Self Assessment (SA) conducted at the AMWTP. The assessments were conducted per the request of the DOE and reviewed implementation of the "Work Planning and Work Control" and "Feedback and Improvement" processes that are vital in any Integrated Safety Management System.

Joe Uptergrove led the review of Work Planning and Control and Bob French led the review of Feedback & Improvement.

At this time, based on the reviews concluding that each objective is met, we do not consider any AMWTP specific corrective action plan to be necessary. Please feel free to contact Joe or I with any questions or to discuss the results further.

RFF/rff

Attachments

cc:
Joe Uptegrove
Scott Raish
Guy Girard
French Memo file - FR-004-06

Bechtel, BWXT Idaho, LLC (BBWI) Assessment of the Effectiveness of Feedback & Improvement Processes at *Advanced Mixed Waste Treatment Plant (AMWTP)*

Performance Objective 1: Contractor Program Documentation: Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.

Criteria and Results:

1. A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by the contractor management, and forwarded to DOE for review and approval. The program description is reviewed and updated annually and forwarded to DOE for review and approval.

The AMWTP's primary assurance system documentation is the electronic Trackwise System used for the documentation, verification and tracking of issues, assessment and corrective actions.

The ESHPOP and QA program description (QAPP) documents detail the programs and processes established for feedback and improvement. The primary methods are graded to the AMWTP single purpose activity (waste management) in accordance with best management and QA procedures including MP-Q&SI-5.6, Graded Approach, and include:

Corrective Action (CARs) and Action Items (AIs)– Procedure MP-Q&SI-5.3 – ensures that Conditions Adverse to Quality (CAQ) are promptly identified and corrected as soon as practicable – used for identifying and correcting issues that could impact personnel safety.

Management Assessment (MARs) – Procedure MP-M&IA-17.1 – ensures that management is periodically reviewing processes, systems, services, or programs to identify and correct problems or improve.

Nonconformance Reports (NCRs) – Procedure MP-Q&SI-5.4, Identification of Nonconforming Conditions – This procedure describes the overall process AMWTP utilizes to control nonconforming materials, parts, components, items, services, and data. It is applicable to all safety-related and important to safety related material; parts or components that are identified as

nonconforming to applicable specification, procedures, regulations or customer specified contractually imposed requirements.

2. The contractor's assurance system includes assessment activities (self-assessments, management assessments, and internal independent assessments as defined by laws, regulations, and DOE directives such as quality assurance program requirements) and other structured operational awareness activities; incident/event reporting processes, including occupational injury and illness and operational accident investigations; worker feedback mechanisms; issues management; lessons-learned programs; and performance indicators/measures.

Assurance system includes assessment activities (independent and self/management) and other structured operational awareness activities such as surveillance, inspection and Senior Supervisory Watch (SSW). Assessment activities include:

Management/Independent Assessments – Procedures MP-M&IA-17.1/17.2, Management (MARs)/Independent Assessment – ensures that AMWTP management is periodically reviewing processes, systems, services, or programs to identify and correct problems or improve.

Management prepares annual assessment schedules of significant operational, administrative and ES&H programs and submits it to QA and operations management and uses tracking in Trackwise.

Notifications that are received by DOE, INL Flash Reports, and ORPS of defective equipment, materials or processes may be addressed, when appropriate, in the management assessment process to ensure adequate consideration and documentation.

Workplace Walkdowns and QA/Operations Surveillance – Procedure MP-ISIH-2.9/MP-M&IA-17.3 – establishes surveillance programs used by the Industrial Safety and Industrial Hygiene/QA and operations organizations to identify workplace deficiencies, hazards, problems and to evaluate the adequacy of controls, to ensure compliance with regulatory, programmatic and safety requirements. When appropriate, surveillance results are used for tracking and trending of performance in selected areas.

Radiological Surveillances - Procedure INST-6.1.1 – the surveillance schedules are planned with consideration to the radiological hazards and prior problems in each location.

Radiological Assessment Program – Procedure MP-RS&C-6.1 – is used to review the program content and implementation of the Radiological Protection Program (RPP) at AMWTP. The radiological assessments are carried out by management / Management Assessments (procedure MP-M&IA-17.1) and radiological technicians / Radiological Surveillances (procedure INST-6.1.1).

Corporate and Contract Audits - Bechtel Corporate has conducted an internal audit of AMWTP programs that included the Lessons Learned Program while BWXT reviewed aspects of our Maintenance Engineering. AMWTP also commissioned a subcontract review of Conduct of Operations programs in 2005.

Other structured operational awareness activities utilized include:

Incident/Event Reporting Processes (including occupational injury and illness and operational accident investigations) – The *Monthly Safety Report* contains information on AMWTP recent injuries by type and cause, injury and illness rates and leading indicator data for key safety programs. The report allows management and workers to better understand our safety performance related issues and to apply corrective actions for areas not meeting performance expectations. The Leading Indicator Program is focused at looking at unsafe conditions, unsafe acts, unidentified hazards and near misses on the project. This allows us to identify programmatic weaknesses and correct issues before they result in injuries. *Monthly Safety Reports* are posted on the Orion Home Page under Safety Surf for management and employee information.

Worker Feedback Mechanisms – Work control feedback is discussed in that assessment. ES&H has provided the AMWTP employees a mechanism to report any safety concerns. ES&H management is responsible for looking into the concern and responding as requested by the employee. The *Safety Suggestion Box* is located on the Orion Home Page under Safety Surf. *Employee Q & A Forum* provides employees with a device to have their questions answered regarding any company related issues. Access to this program is found on the Orion Home Page.

The Employee Safety Committee allows employees to interact with management and to identify any safety concerns. Management is available at the meeting to address those concerns. Many of these have been placed into the electronic Trackwise System as a mechanism for tracking the issues and to ensure closure.

Issues Management – Primarily the Trackwise system as discussed earlier in this section.

Projects Notes allows management or employees (with management approval) to disseminate information to all personnel on a regular basis. This is sent through the Lotus Notes electronic system.

The Safety Toolbox is utilized by management to address safety-related issues. The information may include a seasonal topic or a current safety concern. Hard copies are posted throughout AMWTP with all the electronic versions located on the Orion Home Page under Safety Surf.

Lessons Learned Programs – Procedure MP-ISIH 2.43 describes the process used by AMWTP to document and communicate lessons learned within AMWTP and throughout the DOE Complex. It provides management and personnel with instructions and a form for submitting lessons learned, lessons learned sources of information, and integration of

the AMWTP Lessons Learned Report. This report is disseminated through *Project Notes* to all employees and posted on the Orion Home Page under Safety Surf.

Sources of lessons learned at the AMWTP include: DOE Complex LL Program, AMWTP and DOE Complex ORPS, DOE ES&H Bulletins and INL Flash Reports. These may be disseminated electronically to applicable management and personnel and/or used in the AMWTP Lessons Learned Report. All lessons learned originating at the AMWTP are placed in an AMWTP Lessons Learned Report.

Performance Indicators/Measures –The *Monthly Budget Analysis, ORPS Quarterly Analysis, QA Monthly, (Daily, Weekly and Monthly) Production and Equipment Availability Reports* and the *Monthly Safety (OSHA, ALARA, BBS, Leading Indicator)* Reports are the primary reports that contain information on AMWTP performance. These reports include appropriate trending analysis, operations performance information, recent injuries by type and cause, injury and illness rates and leading indicator data for key safety programs.

These reports are issued and posted at selected locations at AMWTP facilities and are generally available on the Orion page or Enterprise server. The reports allow management and workers to better understand our safety performance related issues and to apply corrective actions for areas not meeting performance expectations. The Leading Indicator Program is focused at looking at unsafe conditions, unsafe acts, unidentified hazards and near misses on the project.

These reports allow management to identify programmatic weaknesses and correct issues as necessary to promote improvement and before they result in larger problems or personnel injuries. Reference ESHPOP, DSA, MP-ISIH 2.10, MP-ISIH 2.43 and other discussed procedures.

3. The contractor's assurance system monitors and evaluates all work performed under their contract, including the work of subcontractors.

In addition to the above discussed items covering the subcontractor work, AMWTP employs Procedure MP-CMNT-15.8 – Submittal of Subcontractor Safety, Health and Radiological Requirements.

In addition, the AMWTP Safe System Work Control applies fully to subcontractor that work on-site. This allows hazard identification and controls to be consistently applied for all work at the AMWTP. IS/IH personnel conduct daily oversight and Radiological controls provides appropriate coverage to vendor work.

The QA organization also conducts vendor and subcontractor approval and oversight per MP-Q&SI series procedures.

4. Contractor assurance system data is formally documented and available to DOE line management. Results of assurance processes are periodically analyzed, complied,

and reported to DOE line management as part of formal contract performance evaluation.

DOE is both routed appropriate reports and provided electronic access to AMWTP information including TRACKWISE, Orion and Enterprise WEB areas and ORPS. Reference-Management and Independent Assessment, MP-M&IA 17.1 and 17.2.

5. Contractors have established and implemented sufficient processes (e.g., self-assessments, corporate audits, third-party certifications or external reviews, performance indicators) for measuring the effectiveness of the contractor assurance program.

Self-assessment activities utilized at AMWTP are provided in sections above. In summary:

Management/Independent Assessments – Procedures MP-M&IA-17.1/17.2, Management (MARs)/Independent Assessment.

Workplace Walkdowns and QA/Operations Surveillance – Procedure MP-ISIH-2.9/MP-M&IA-17.3.

Radiological Surveillances - Procedure INST-6.1.1.

In addition, notifications that are received via industry or DOE, INL Flash Reports, and ORPS of defective equipment, materials or processes may be addressed in the management assessment process to ensure adequate consideration and documentation.

Radiological Assessment Program – Procedure MP-RS&C-6.1.

Corporate and Contract Audits - Bechtel Corporate has conducted an internal audit of AMWTP programs that included the Lessons Learned Program while BWXT reviewed aspects of our Maintenance Engineering. AMWTP also commissioned a subcontract review of Conduct of Operations programs in 2005.

6. Requirements and formal processes have been established and implemented that ensure personnel responsible for managing and performing assurance activities possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities.

AMWTP procedures require training of personnel that will be using the Trackwise System. Each AMWTP Organization is required to identify individuals to manage the Trackwise System for the organization. This involves initiation of the annual assessment schedule, tracking of all Trackwise items related to operations and ES&H, notifications to assigned personnel of upcoming items, periodic status reports, and assistance.

QA vendor and internal assessment staff are provided training and qualifications in accordance with MP-Q&SI-5.8. No formalized requirements exist for training individual operations/ES&H or other support managers or workers on assessment and associated processes. However, there are requirements in DOE Order 5480.20A, that we follow for ITP's and Job descriptions documents. Job descriptions and HR processes require and validate the responsible worker's experience as it pertains to job duties. Hiring managers and HR staff ensure personnel possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities. This includes root cause analysis and investigator functions when appropriate.

Evaluation: Performance Objective fully met.

Noteworthy Practices: None.

Performance Objective 2: Contractor Program Implementation

2.1 Assessments & Performance Indicators: Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.

Criteria and Results:

1. Line management has established and implemented a rigorous assessment program for performing comprehensive evaluations of all functional areas, programs, facilities, and organizational elements, including subcontractors, with a frequency, scope and rigor based on appropriate analysis of risks. The scope and frequency of assessments are defined in site plans and program documents, include assessments of processes and performance-based observation of activities requirements of applicable DOE directives.

See section 2.1 Criteria 2 response above for in-depth discussion and more details regarding assessments. AMWTP's Behavioral Based Safety (BB S) Program is implemented and provides good indicator processes. BBS tracks field surveillances performed by trained personnel. This would include oversight of subcontractors. This report is used to identify some of the topics for inclusion in the AMWTP Lessons Learned Reports.

Organizations prepare an annual assessment schedules for significant programs and places them in Trackwise and submits them to QA and operations management.

Notifications that are received by DOE, INL Flash Reports, and ORPS of defective equipment, materials or processes may be addressed in the management assessment process to ensure adequate consideration and documentation.

2. Rigorous self-assessments are identified, planned, and performed at all levels periodically to determine the effectiveness of policies, requirements, and standards and the implementation status.

See section 2.1 Criteria 2 response above for in-depth discussion and more details regarding assessments. AMWTP findings (deficiencies) or observations (recommendations) are addressed through the initiation of Corrective Actions, Nonconformance Reports or action items. These are assigned to the appropriate organization and personnel for closure in the electronic Trackwise System.

AMWTP incorporates Change Actions and Lessons Learned into Training, procedure MP-RTQP-14.17 – describes the process for incorporating change actions such as applicable lessons learned, changes to the facility, procedures, Safety Analysis Reports, Technical Safety Requirements, job scope, or regulations into training programs. Such actions are normally scheduled in TRACKWISE.

Assessments generally include established criteria and approaches that are reviewed by management. These will normally include both compliance and performance effectiveness bases.

3. Appropriate independent internal assessments are identified, planned and performed by contractor organizations or personnel having the authority independence from line management, to support unbiased evaluations.

See section 2.1 Criteria 2 response above for in-depth discussion and more details regarding assessments. Performing assessments of Operational and ES&H programs related areas owned by AMWTP organizations are often identified as needing change or improvements. These issues are addressed by initiating CARs and/or action items and assigning them to the responsible organizations (examples: training, maintenance, operations).

Frequent QA, ES&H and outside organization (corporate, DOE, regulators, contractors, etc) assessments are conducted to review various programs or processes as scheduled or as emergent reviews.

4. Line managers have established programs and processes to routinely identify, gather, verify, analyze, trend, disseminate, and make use of performance measures that provide contractor and DOE management with indicators of overall performance, the effectiveness of assurance system elements, and identification of specific positive or negative trends. Approved performance measures provide information that indicates how work is being performed and are clearly linked to performance objectives and expectations established by management.

See section 2.1 Criteria 2 response above for in-depth discussion and more details regarding assessments and indicator evaluation. The following summarizes information covering performance indicators:

Performance Indicators/Measures –The *Monthly Budget Analysis, ORPS Quarterly Analysis, QA Monthly, (Daily, Weekly and Monthly) Production and Equipment Availability Reports* and the *Monthly Safety (OSHA, ALARA, BBS, Leading Indicator)* Reports are the primary reports that contain information on AMWTP performance. These reports include appropriate trending analysis, operations performance information, recent injuries by type and cause, injury and illness rates and leading indicator data for key safety programs.

These reports allow management to identify programmatic weaknesses and correct issues as necessary to promote improvement and before they result in larger problems or personnel injuries. Reference ESHPOP, DSA, MP-ISIH 2.10, MP-ISIH 2.43 and other discussed procedures.

DOE is both routed reports and provided electronic access to AMWTP information including TRACKWISE, ORION WEB and ORPS. Reference: Management Assessment, MP-M&IA 17.1.

5. Line managers effectively utilize performance measures to demonstrate performance improvement or deterioration relative to identified goals, in allocating resources and establishing performance goals, in development of timely compensatory measures and corrective actions for adverse trends, and in sharing good practices and lessons learned.

See section 2.1 Criteria 2 response above for in-depth discussion and more details regarding assessments and indicator evaluation. AMWTP Incident Rate Targets (TRIR,DART,DACR)

Senior Managers employ a Corrective Action Review Board Charter, MP-Q&SI-5.10 to review and validate selected and or more significant corrective actions such as those related to PAAA. Department Management periodically reviews follow-up actions identified during assessments to ensure that line management actions are effective and taken in a timely manner.

MP-ISIH-2.43, Lessons Learned – Management is to consider the generation of lessons learned to address issues, assessments, occurrences, findings, and good work practices at AMWTP. They review and evaluate any lessons learned for applicability and sharee them with their subordinates. This includes taking any necessary actions beyond communication, such as the recent removal of poor quality Multi-meters from use at AMWTP based on an event at another DOE facility, or making procedural changes and/or implementation of training (procedure MP-RTQP-14.17).

Evaluation: Performance Objective fully met.

Noteworthy Practices: None.

2.2 Operating Experience: The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.

Criteria and Results:

1. Formal processes are in place to identify applicable lessons learned from external and internal sources and any necessary corrective and preventive actions, disseminate lessons learned to targeted audiences, and ensure that lessons learned are understood and applied.

Lessons Learned – Procedure MP-ISIH 2.43 describes the process used by AMWTP to document and communicate lessons learned within AMWTP and throughout the DOE Complex. It provides management and personnel with instructions and a form for submitting lessons learned, assigned point-of-contact(s) / Operations Manager that is responsible for the initiation of lessons learned from the workplace, assigning of a Lessons Learned Coordinator, identifies lessons learned sources of information, and integration of the AMWTP Lessons Learned Report. This report is disseminated through *Project Notes* to all employees and posted on the Orion Home Page under Safety Surf.

Sources of lessons learned at the AMWTP include: Industry feedback generally via corporate input, DOE Complex LL Program, AMWTP and DOE Complex ORPS, DOE ES&H Bulletins and INL Flash Reports. These may be disseminated electronically to applicable management and personnel and/or used in the AMWTP Lessons Learned Report. All lessons learned originating at the AMWTP are placed in an AMWTP Lessons Learned Report.

Management is required to consider the generation of lessons learned to address issues, assessments, occurrences, findings, and good work practices at AMWTP. Per MP-ISIH-2.43, Lessons Learned – Management is required to consider the generation of lessons learned to address issues, assessments, occurrences, findings, and good work practices at AMWTP. They review and evaluate any lessons learned for applicability and sharee them with their subordinates. This includes taking any necessary actions beyond communication, such as the recent removal of poor quality Multi-meters from use at AMWTP based on an event at another DOE facility, or making procedural changes and/or implementation of training (procedure MP-RTQP-14.17).

2. Line mangers effectively identify, apply, and exchange lessons learned with the rest of the DOE complex. Lessons learned identified by other DOE organizations and external sources are reviewed and applied by line management to prevent similar incidents/events.

Lessons Learned, procedure MP-ISIH-2.43 identifies that as appropriate each lesson learned that originated at the AMWTP will be reviewed by the SME or manager for dissemination to the DOE Complex.

Each lessons learned initiated at the AMWTP is tracked and dissemination of the lesson is identified by the Lessons Learned Coordinator. The DOE Complex and external lessons learned that are disseminated electronically to applicable organizations are kept on file through Lotus Notes.

Management is required to consider the generation of lessons learned to address issues, assessments, occurrences, findings, and good work practices at AMWTP. They review and evaluate any lessons learned for applicability and sharee them with their subordinates. This includes taking any necessary actions beyond communication, such as the recent removal of poor quality Multi-meters from use at AMWTP based on an event at another DOE facility, or making procedural changes and/or implementation of training (procedure MP-RTQP-14.17).

BBWI has also teamed with CWI in an effort to show the commitment and support of worker safety. The ICP and AMWTP Electrical Safety Improvement Plan (Document ID: PLN-1971) has identified the Employee Safety Committee (ESC) as a vehicle to conduct a year-long, active, high-level worker-involvement driven electrical safety improvement program that includes conducting a vigorous lessons learned campaign focused on electrical safety. This campaign will have lessons learned based on sharing operating experience information. The campaign will encourage job supervisors to actively support implementation of this approach by conducting effective post-job briefs and encourage work teams to submit lessons learned. The Electrical Safety Subcommittee (ESS) which consists of workers and ES&H employees is involved in the LL review process and determine their applicability and need to act on or distribute them. The ESC can reward workers and work groups that apply sound electrical safety principles to their work and share the lessons learned principles with their co-workers. This campaign includes weekly company Safety Toolbox and safety share messages focusing, as appropriate, on electrical safety and other ESH topics with memos/posters displayed at job sites on proper process information such as for LO/TO. The AMWTP Lessons Learned Report identifies actions taken at AMWTP for each lesson in the report.

3 / 4. Formal programs and processes have been established and implemented to solicit feedback or suggestions from workers and work activities on the effectiveness of work definition, hazard analyses and controls, and implementation for all types of work activities, and to apply lessons learned. Employee concerns related management of DOE and NNSA programs and facilities are promptly and thoroughly reported and investigated in accordance with applicable DOE directives.

Worker Feedback Mechanisms – AMWTP has provided the AMWTP employees many mechanisms to report operational and safety concerns. AMWTP management is

responsible for looking into the concern and responding as requested by the employee. The Safety Suggestion Box is located on the Orion Home Page under Safety Surf. Employee Q & A Forum provides employees with a device to have their questions answered regarding any company related issues. Access to this program is found on the Orion Home Page.

The Employee Safety Committee allows employees to interact with management and to identify any safety concerns. Management is available at the meeting to address those concerns. Many of these have been placed into the electronic Trackwise System as a mechanism for tracking the issues and to ensure closure.

Lessons Learned, procedure MP-ISIH 2.43, provides management and personnel with instructions and a form for submitting lessons learned. During dissemination of the AMWTP Lessons Learned Report everyone is encouraged to participate in the program and contact information is addressed.

Personnel are also encouraged to contact the LL Coordinator to watch for LL topics applicable to their workplace. The Operations Manager has assigned a point-of-contact that is responsible initiation of lessons learned from the workplace. The AMWTP Lessons Learned Report is disseminated through Project Notes to all employees and posted on the Orion Home Page under Safety Surf.

Evaluation: Performance Objective fully met.

Noteworthy Practices: None.

2.3 Event Reporting: Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.

Criteria and Results:

1 / 2 Formal programs and processes have been established to identify issues and report, analyze, and address operational events, accidents, and injuries. Events, accidents, and injuries are promptly and thoroughly reported and investigated, including the identification and resolution of root causes and management and programmatic weaknesses, and distribution. Reporting of operational events, accidents, and injuries are conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE directives, and contract terms and conditions. Trending analysis of events, accidents, and injuries are performed in accordance with structured/formal processes and applicable DOE directives.

See section 2.1 Criteria 2 response above for in-depth discussion and more details regarding assessment and evaluation of performance indicators and trends.Quarterly

Performance Analysis for ORPS prepared as directed in DOE M 231.1. To address the use of indicators for the identification of topics used in LL Reports and Safety Toolboxes: The indicators identified in the AMWTP Monthly Safety Report and Behavioral Based Safety Program are used to determine which LL will be used in the AMWTP Lessons Learned Report. AMWTP also reviews and includes LL, ORPS and DOE ES&H Notifications or Bulletins that reoccur within the Complex or INL.

Evaluation: Performance Objective fully met.

Noteworthy Practices: None.

2.4 Issues Management: The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.

Criteria and Results:

1. Program and performance deficiencies, regardless of their source, are captured in a system or systems that provides for effective analysis, resolution, and tracking. Issues management system elements include structured processes for determination of risk, significance, and priority of deficiencies; evaluation of scope and extent of condition; determination of reportability under applicable requirements; identification of root causes; identification of root causes; identification and documentation of corrective actions and recurrence controls to prevent recurrence; identification of individuals/organizations responsible for corrective action implementation; establishment of milestones based on significance and risk for completions of corrective actions; tracking progress; verification of corrective action completion; and validation of corrective action implementation and effectiveness.

See section 2.1 Criteria 2 response above for in-depth discussion and more details regarding assessment of performance indicators and trends. Requirements and processes are defined using TRACKWISE, Occurrence Reporting MP-MP-COPS-9.6, Conduct of Operations (DOE Order 5480.19) M&IA 17.1/17.2 Management and Independent Assessment, CARB MP-Q&SI-5.10.

2. Issues management processes include mechanisms to promptly identify the potential impact of a deficiency and take timely actions to address condition of immediate concern, including stop work, system shutdown, emergency response, reporting to management, and compensatory measures pending formal documentation and resolution of the issue.

See section 2.1 Criteria 2 response above for in-depth discussion and more details regarding assessment of performance indicators and trends. Requirements and processes

are defined using TRACKWISE, Occurrence Reporting MP-MP-COPS-9.6, Conduct of Operations (DOE Order 5480.19) M&IA 17.1/17.2 Management and Independent Assessment, CARB MP-Q&SI-5.10.

3. Processes for analyzing deficiencies, individually and collectively, have been established that enable the identification of programmatic or systemic issues. Lines management effectively monitors progress and optimizes the allocation of assessment resources in addressing known systemic issues.

See section 2.1 Criteria 2 response above for in-depth discussion and more details regarding assessment of performance indicators and trends. Requirements and processes are defined using TRACKWISE, Occurrence Reporting MP-MP-COPS-9.6, Conduct of Operations (DOE Order 5480.19) M&IA 17.1/17.2 Management and Independent Assessment, CARB MP-Q&SI-5.10.

4. Processes for communicating issues up the management chain to senior management have been established and based on a graded approach that considers hazards and risks. Line management receives periodic information on the status of identified deficiencies and corrective actions and holds organizations and individuals accountable for timely and effective completion of actions. Line management has executed graded mechanisms such as independent verification and performance-based evaluation to ensure that corrective action and recurrence controls are timely, complete, and effective. *Closure of corrective actions and effectiveness of corrective actions is determined on a graded basis and additional actions are completed as necessary.*

See section 2.1 Criteria 2 response above for in-depth discussion and more details regarding assessment of performance indicators and trends. Requirements and processes are defined using TRACKWISE, Occurrence Reporting MP-MP-COPS-9.6, Conduct of Operations (DOE Order 5480.19) M&IA 17.1/17.2 Management and Independent Assessment, CARB MP-Q&SI-5.10.

5. Results of various feedback systems are integrated and collectively analyzed to identify repeat occurrences, generic issues, trends, and vulnerabilities at a lower level before significant problems result.

See section 2.1 Criteria 2 response above for in-depth discussion and more details regarding assessment of performance indicators and trends. Requirements and processes are defined using TRACKWISE, Occurrence Reporting MP-MP-COPS-9.6, Conduct of Operations (DOE Order 5480.19) M&IA 17.1/17.2 Management and Independent Assessment, CARB MP-Q&SI-5.10.

6. Individuals or teams responsible for corrective action development are trained in *analysis techniques to evaluate significant problems* using a structured methodology

to identify root and contributing causes and corrective actions to prevent recurrence.

QA vendor and internal assessment staff are provided training and qualifications in accordance with MP-Q&SI-5.8. No formalized requirements exist for training individual operations/ES&H or other support managers or workers on assessment and associated processes. However, there are requirements in DOE Order 5480.20A, that we follow for ITP's and Job descriptions documents. Job descriptions and HR processes require and validate the responsible worker's experience as it pertains to job duties. Hiring managers and HR staff ensure personnel possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities. This includes root cause analysis and investigator functions when appropriate.

Evaluation: Performance Objective fully met

Noteworthy Practices: None.

REVIEW APPROACH

Document Review:

- QAPP
- ESHPOP
- Selected AMWTP Procedures (as referenced above)
- Training Program Records

Interviews/Contacts:

- Plant Operations Manager
- ESH Program Manager
- QA Program Manager
- Lessons Learned Coordinator
- Human and Operations Performance Improvement Coordinator
- ISIH Manager(s)-2
- Radiological Control Manager
- Operations Support Manager
- Operations Support Lead

Observations:

Not Applicable.

Results of Assessment of the Work Planning and Controls Processes at *Advanced Mixed Waste Treatment Plant (AMWTP)*

Performance Objective WPC-3: Work Control Program Documentation-The contractor has developed an effective work planning and control process.

Criteria and Results:

1. **Contractor work control manual/procedure for initiating, analyzing, and developing work control documents, including job hazard analysis, is approved and implemented.**

   The COPS-9.18 series of procedures implements the work control process at AMWTP. These procedures include 9.18 (Work Control), 9.18.1 (Approved Method of Work {AMOW}), 9.18.2 (Permit to Work {PTW}), 9.18.3 (Lockout/Tagout- LO/TO), and 9.18.4 (Hazard Assessment). All procedures are approved and implemented.

2. **The contractor's work control process establishes the level of review and approval for different types of work control documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work activity.**

   The AMWTP work control process (Safe System of Work) (9.18) uses three different types of processes based on the degree of risk, hazards, and complexity of the work activity.

   a. The AMOW is used to control routine maintenance work and operational tasks when it is known that conditions are predictable and will remain constant over a long period of time. The AMOW may be generated to address a specific task with individual conditions, such as repetitive routine maintenance tasks or it may be generic in nature to address multiple tasks that have the same of similar conditions. The AMOW is used for entry into certain areas by identifying and providing mitigation and controls for hazards (similar to a Facility Hazards List used at other sites). An AMOW is used for all entries into radiological areas not covered by a PTW. The AMOW process is described in 9.18.1.

   b. A Request for Permit to Work (RPTW) is initiated for other activities. This is the first step in determining if a PTW is required. At PTW is not required for minor maintenance activities meeting the criteria of 9.18, Step 4.2.1.1. The

PTW process is described in 9.18.2, Section 4.1. Work that obviously does not meet the criteria for performance under a RPTW can be directly processed as a PTW without first completing a RPTW.

c. A PTW is used for all other activities and provides information described in 9.18, Step 4.2.4.1. The PTW process is described in 9.18.2, Section 4.2.

The process is unique in that a limited number (currently 7) of qualified personnel (Safe System of Work Controllers {SSWCs}) administer the program. This enhances standardization of the process and continuity of the activities. Limited SSWCs, which perform all activities except PTW development, are also used to administer the program.

3. **The contractor has established work planning/control requirements for all personnel performing work at their site, including subcontractors. Affected personnel are trained on these requirements.**

   All personnel performing work, including subcontractors, are trained to the SSWC methodology. The work control process (T5120) and lockout/tagout process (T5110) are both covered in formal classroom training.

4. **The contractor's work control manual/procedure includes turnover requirements when line management and/or first line supervisor responsibilities are transferred.**

   With the exception of operational activities, the work control process does not contain specific turnover requirements. The process requires any new supervisor taking over the work responsibility to be briefed to and sign the permit. The permit is validated each shift to ensure conditions have not changes, to obtain operations authorization, and that the work can continue. The job status is recorded at the end of each shift on the back of the permit. If conditions change or work is to continue beyond 7 days, the process is re-performed a new permit is issued. Turnover of operational activities is performed following the requirements of MP-COPS-9.10, Operations Turnover.

5. **The contractor's work control manual/procedure includes a process for lessons learned/feedback during the execution of work control activities, including incorporation of lessons learned into active and in-development work control documents.**

   Since the program is administered by a limited number of personnel, the lessons learned and feedback process is managed real time by the SSWCs.

6. **The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or work control manual/procedure.**

Post-job debriefings are held for infrequent or particularly complex tasks or for those activities in which conditions are encountered that were not identified at the onset of the activity. This feedback may be used to update the Hazard Assessment (9.18.4) or placed in the Maintenance Management System for use during the next similar activity.

7. **The qualification requirements for Work Control Managers and Planners are established.**

   SSWCs are formally qualified under QCSSWC qualification package; Limited SSWCs under QCLSSWC. System/maintenance engineers that write maintenance instructions receive no additional training.

8. **Records that document the successful completion and qualification of Work Control Managers and Planners are retained and auditable.**

   The TRAIN system database contains easily retrievable computerized records of qualification. Individual training records contain the completed qualification packages.

Evaluation: Performance Objective fully met

Noteworthy Practices: None.

Performance Objective WPC-4: Work Planning and Control Activity-Definition and Hazard Identification- Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

Summary:

AMWTP performs hazard assessments using three processes:

- Documented Safety Analysis process
- Procedure 9.18.4 addresses preparation and maintenance of hazard assessments of operational facilities and processes. Hazards are identified and mitigation provided relative to building or facility operation or conduct of the process. Exhibit 1 of the procedure provides "prompts" for determining hazards and mitigations. The assessments are provided as appendices to the procedure. These assessments are used in preparing AMOWs, PTWs, and operating procedures/instructions.
- As part of the PTW process during the walkdown of the particular activity.

Criteria and Results:

1. **Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries are understood.**

Walkdowns are performed during the initial hazard assessments performed under 9.18.4 and during the preparation of a permit.

2. **A team (team) compromised of the appropriate personnel (e.g.; planner, work supervisor, workers, safety and health Subject Matter Experts, etc.) is selected by line management to participate in the development of the work control document.**

   "Topic Experts" or individuals/professionals who through training, certification and/or qualification, and experience have developed an expertise in the subject areas of Radiological Safety, Industrial Safety, Industrial Hygiene, Environmental, Operations, Engineering, Maintenance, Fire Protection, SSWC, and other specialty disciplines are utilized during walkdowns. Using this team to participate in developing work control documents is specified in 9.18.1 and 9.18.2.

3. **The team performs effective walk downs and Job Hazard Analyses in order to develop work steps/techniques and identify possible hazards and their associated controls.**

   The topic experts perform the hazard assessment walkdown and record results on a Form-1444. The team leader compiles the results and forwards the assessment to the requesting organization who ensures appropriate procedures/instructions are updated. The results are also incorporated into the appendices of 9.18.4 as appropriate and reviewed when developing a permit. Also 9.18.2 addresses conducting a job walkdown when developing a permit.

4. **The team considers potential upset conditions, accidents, and "what if" scenarios and their consequences during the walk down and JHAs.**

   Exhibit 1 of MP-COPS- 9.18.4 considers upset conditions, accidents, etc in the prompts for determining hazards. The Hazard Analysis Database of the Documented Safety Analysis is also considered in performing the hazard assessment.

5. **The team selects controls based upon the following hierarchy: (1) hazard elimination/reduction, (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.**

   The controls hierarchy is discussed in MP-COPS- 9.18.4, Step 4.2, Note 3.

6. **The team ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction). [This Criteria addresses potential loss of safety function during D&D and may not be applicable to all work activities] .**

Hazard assessments are maintained per 9.18.4, Section 4.3. Workers are required to stop work and notify their supervisors whenever conditions change from that covered in the permit. SSWCs will revise and reissue the permit as necessary.

7. **The team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and also evaluates the possibility of negative synergistic effects selected controls.**

   These evaluations are completed as part of the data compilation of the walkdowns and are included in the hazard/mitigation of MP-COPS-9.18.4 appendices. MP-COPS- 9.18.2 requires the SSWCs to resolve possible negative synergistic efforts of controls with input from the topic experts prior to issuing the permit.

Evaluation: Performance Objective fully met

Noteworthy Practices: None.

Performance Objective WPC-5: Work Planning and Control Process-The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

Summary:

The AMWTP work control process utilizes the PTW process for hazard identification and mitigation, work authorization, pre-job briefing, and each shift validation as described above.

INST-CMNT-10.1.4 (Maintenance Instructions) describes the process for development of instructions for performing the hands-on technical tasks necessary to maintain equipment and operating systems. Maintenance instructions are written by system/maintenance engineers in conjunction with the workers and topic experts.

The maintenance instructions are attached to the work order to document step sequencing and provide signoffs for performance, as necessary. The complexity of the task will normally determine the level of instruction detail. Three levels are provided:

- Skill of the craft – no written instructions; performed under a RPTW
- Tasks that are relatively simple will have minimal instructions input directly into the maintenance management system (MAXIMO) and will be printed as part of the work order.
- More complex tasks will require a formal maintenance instruction.

Maintenance instructions are approved by the maintenance manager.

Criteria and Results:

1. **The work scope and associated boundaries are clearly defined.**

   The work scope is defined in Section 1 of the PTW and in the maintenance instruction.

2. **The work control document is written in a clear, concise, and worker friendly manner.**

   The documents are written in a clear, concise, and worker friendly manner. Since all the hazard identification and mitigation documents are written by only a few personnel a consistent document is the norm.

   Workers are involved in the development of the maintenance instructions from inception to verification (review to determine if instruction is technically accurate and correctly written) and instruction validation (demonstration that the instruction can be performed by the intended user exactly as written). Worker involvement is also a key factor to providing valuable insight into the job being performed based on past operating experience and knowledge of the process as well as feedback after the fact to ensure instructions are accurate and user friendly.

3. **The work steps for activities are properly sequenced.**

   The work instructions provide for the activity sequence. As stated above the sequence is checked during instruction validation.

4. **Work control documents adequately incorporate technical and administrative requirements (e.g., contract, safety basis, regulatory, consensus codes, etc.).**

   The technical and administrative requirements are provided by the system/maintenance engineers, workers, and topic experts during preparation and as discussed above verified during the instruction verification.

5. **Work hazard controls identified in the JHA have been incorporated into the work control document.**

   The documented hazard assessments developed per MP-COPS-9.18.4 are reviewed and incorporated into the AMOW, RPTW, and PTW. The hazard controls are incorporated into the maintenance instruction in the precautions and limitations and carried through to individual steps as cautions and warnings as necessary.

6. **The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.**

The hazard controls are incorporated into the maintenance instruction steps as cautions and warnings as necessary and appropriate.

Evaluation: Performance Objective fully met

Noteworthy Practices: None.

Performance Objective WPC-6: Work Planning and Control Oversight
Contractor personnel perform work in accordance with approved work control documents.

Criteria and Results:

1. **First line supervisors and workers are knowledgeable of their work control documents and meet all applicable training and medical requirements.**

   The first line supervisors and workers are knowledgeable of the work control requirements and meet the applicable training and medical requirements for the activity being performed. The SSWCs discuss qualification of personnel during the pre-job briefs.

2. **Operations work control authority reviews and authorizes all work control documents prior to commencement of work. He/she is required to evaluate all work at a facility and/or site to ensure work activities of one scope do not adversely affect the safe work of another.**

   All AMOWs have approval of the applicable Shift Manager. The applicable Shift Managers provide verbal approval of RPTWs and signature approval of PTWs to ensure plant conditions are met and other activities are not affected by the work. During the shift validation of PTWs, the SSWCs obtain verbal approval from applicable Shift Manager prior to allowing work to commence.

   Also, the Operations Authorization from the Nuclear Facility Managers is provided in the form of a signed Plan of the Week document and daily authorization provided verbally in the Plan of the Day meeting.

3. **Effective pre-evolutionary briefings are performed.**

   The SSWC, along with the applicable maintenance/operations supervisor, Radiological Controls Shift Team Leader, IS/IH on shift personnel, and any other functional area necessary conducts pre-job briefings of all RPTW/PTW controlled activities.

   A pre-job briefing for recovery of breached containers in the TSA-RE on 1/4/06 which was attended by the correct personnel was observed. It was concluded that the briefing was performed very well.

4. **First line supervisors and workers follow work control document instructions as written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their change control process.**

   Work is stopped and permits changed if the activity can not be worked as written. If conditions change or unexpected conditions arise, the permits are also changed. The AMWTP process requires a new permit to be issued rather than change to a current permit. This drives new approvals and briefings for the changed condition.

5. **First line supervisors and workers understand their stop work authority.**

   Stop work authority is understood by all AMWTP personnel. Facility access training covers this authority, and it is stressed in all-hands meetings, staff meetings, and pre-job briefings.

6. **Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.**

   An end of the shift status of activity condition is recorded on the back page of the PTW form and documented as required in the maintenance instruction.

7. **Lessons learned/feedback is incorporated into active and in-development work control documents in a timely manner.**

   As discussed above, since the program is administered by a limited number of personnel, the lessons learned and feedback process is managed real time by the SSWCs.

   Lessons learned and feedback is also incorporated during development of maintenance instructions.

   Lessons learned are discussed and evaluated in the Feedbak and Improvement report also conducted and submitted at this time.

Evaluation: Performance Objective fully met

Noteworthy Practices: None.

Performance Objective WPC-7: Work Planning and Control Oversight - The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents.

Criteria and Results:

1. **The contractor has scheduled and performed independent and self-assessment of the work planning and control process. These activities are of sufficient scope, detail, and quantity that the contractor can ascertain the status of their work planning and control process.**

   Independent assessments (performed by the quality organization) and management assessments (performed by line management) have been completed, are scheduled, or planned. The depth of detail is seen as sufficient to ascertain the health of the process.

   Assessments of the following subjects were found complete, scheduled, or planned for 2006:

   - Post maintenance testing
   - Lockout/Tagout
   - Work control routine activities
   - Work control process
   - Maintenance facilities and equipment
   - Maintenance management program
   - Spare parts
   - Work orders
   - Zone 3 cell entries
   - Personnel qualifications
   - Drawing Control
   - Electrical safety and work controls
   - Hoisting and rigging program
   - Material and equipment tagging
   - Material control
   - Storage of material

2. **Line managers periodically perform surveillances, which include the observations of job walk downs and JHA walk downs/meetings, pre-evolution briefings, and work performed to work control documents.**

   The Senior Supervisory Watch program, conducted by line management, provides oversight of the work control process including walkdowns, pre-job briefings and actual work performance

3. **Line managers periodically review in-development and approved work control documents.**

   As stated above line management provides final approval of work control documents.

4. **The contractor tracks and trends the results of oversight activities performed on their work planning and control process and takes appropriate actions.**

   All management assessments performed are documented in the Trackwise system. This data base also provides for development and completion of corrective actions taken for deficiencies.

   Evaluation: Performance Objective fully met

   Noteworthy Practices: None.

REVIEW APPROACH

Document Review:

- Work Control Program Manual/Procedure.
- SSWC Qualification Records.
- Work Control Training Records (AMWTP and subcontractor personnel).
- Assessment schedules.
- Completed assessments of work control process.
- Actions taken due to the results of the assessments
- Approved work control documents.
- Contractor's work control manual/procedure.

Interviews/Contacts:

- ESH Program Manager
- Maintenance Program Manager
- SSWC Lead
- Operations Support Lead
- Operations Support Lead
- Operations Support Officer
- Nuclear Facility Manager
- Operations Shift Team Lead
- Selected Radiological Control Technicians
- Occupational Safety/Industrial Hygiene
- Selected Operators

Observations:

- Work planning team walk down and pre-job briefing

Attachment 4

CH2M•WG Idaho, LLC
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CH2M•WG IDAHO, LLC

January 9, 2006

CCN 301808

G. L. Beausoleil
Director Quality and Safety Division
Idaho Cleanup Project
U.S. Department of Energy
Idaho Operations Office (DOE-ID)
1955 Fremont Avenue
Idaho Falls, ID 83415-MS-1222

SUBJECT: Contract No. DE-AC07-05ID14516 – ASSESSMENT OF COMMITMENT 23 AND COMMITMENT 25 FOR DEFENSE NUCLEAR FACILITIES SAFETY BOARD RECOMMENDATION 2004-1

REFERENCES:
(a) Department of Energy's Implementation Plan Commitment 23 and Commitment 25 for Defense Nuclear Facilities Safety Board Recommendation 2004-1, *Oversight of Complex, High-Hazard Nuclear Operations*; Request for Action (OS-QSD-05-13); E. M. Sellers, December 2, 2005
(b) Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 23; David K. Garman, Under Secretary for Energy, Science and Environment, November 9, 2005
(c) Defense Nuclear Facilities Safety Board Recommendation 2004-1, Integrated Safety Management System Feedback and Improvement; David K. Garman, Under Secretary for Energy, Science and Environment, November 9, 2005

Dear Mr. Beausoleil:

As requested by Reference (a) CH2M♦WG Idaho LLC has completed an assessment of work planning and work controls for the Idaho Cleanup Project (ICP) using the Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1 Criteria Review and Approach Documents (CRADs) as specified in References (b) and (c). The results of this assessment are described in Appendix A for Work Planning and Work Control (Commitment 23), and Appendix B for Feedback and Improvement (Commitment 25), in the format prescribed by DOE-ID (R. C. Seal). Appendix C contains a summary for the ICDF Area, Appendix D contains Specific Assessment Findings, and Appendix E contains a listing of Opportunities for Improvement.

This assessment was completed and submitted as requested by Reference (a). Due to the short amount of time to prepare and complete this assessment and the limited amount of actual work occurring during the assessment period, findings are based upon a limited sample size.

The most significant findings involve: situations where personnel failed to follow work control documents as written (one of these involved a routine task that is performed typically three times a week), excessive reliance on maintenance planners to identify hazards and establish controls for maintenance work without input or review from subject matter experts, and needed improvements in the conduct of self-assessments.

Additionally, there appears to be an excessive amount of unscheduled/emergent work that is added to the planned work schedules. This increases worker and supervisor frustration, impacts craft utilization and has the potential to create error likely situations.

A draft corrective action plan will be submitted by a separate correspondence.

If you have any questions, please call me or contact James L. Gregory (208) 526-0922.

Sincerely,

Alan M. Parker, President and CEO
Idaho Cleanup Project

JLG:jlg

Attachments:

Appendix A	Results of Assessment of the Work Planning and Work Control at the Idaho Completion Project
Appendix B	Results of Assessment of Effectives of Feedback and Improvement Processes at the Idaho Completion Project
Appendix C	Results of Assessment of the Effectiveness of Feedback & Improvement Processes and Work Planning and Work Control at The Idaho Completion Project ICDF Area
Appendix D	DNFSB Recommendation 2004-1 Criteria Review Summary of Issues
Appendix E	Opportunities for Improvement.

cc: W. L. Bauer, DOE-ID, MS 1240 (w/o Att.)
A. J. Kraupp, DOE-ID, MS 1226
R. E. Nagel, CWI, MS 3206 (w/o Att.)
R. B. Provencher, DOE-ID, MS 1222
R. C. Seal, DOE-ID, MS 1222
E. D. Sellers, DOE-ID, MS 1222
R. A. Taft, DOE-ID, MS 1222

Appendix A
Results of Assessment of the Work Planning and Work Control at The Idaho Completion Project
January 2006

This appendix details the assessment performed by ICP concerning Work Planning and Work Control using the criterion specified in *Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 23; David K. Garman, Under Secretary for Energy, Science and Environment, November 9, 2005.* The summary for each objective is presented in the format specified by DOE-ID.

Performance Objective WPC-3, Work Control Program Documentation:

The contractor has developed an effective work planning and control process.

Results:

When CWI began work on the ICP in May 2005, the work control program documentation that was in effect at the INL remained in effect to provide a framework within which CWI could conduct business under the new, performance based contract. The document hierarchy which existed at the start of the contract continues to be in effect today.

The controlling documents (STD-101, MCP-3192, *Hazard Identification Analysis and Control of Operational Activities,* and GDE-6210) describe and establish requirements for initiating, analyzing and developing work control documents, including job hazard analyses.

There are several different document types used for control of work, including three levels of maintenance work orders (minor maintenance, expedited maintenance, or planned maintenance), project work orders and operating procedures. Levels of review and approval are established for each of these work control documents in their respective MCPs, STDs and other company-level procedures. The choice of which work control document is used is a function of the organization performing the work, the nature of the work (operations, corrective maintenance [e.g. repair], routine or preventive maintenance [e.g. calibration], D&D, construction and environmental restoration), as well as the degree of risk, hazards and complexity of the work.

In accordance with STD-101, maintenance may be performed as either minor maintenance, expedited maintenance, or planned maintenance, each according to increasing hazards, complexity and risk.

Subcontractor work is controlled using project work orders and is subject to the same level of control as that used by CWI organizations, except as noted elsewhere in this report.

Extensive training and qualification requirements exist for crafts and operations personnel. These training topics involve company requirements, craft and operations skills and

qualifications, safety and health training and other relevant topics. In addition, many positions, such as maintenance personnel, have core, position specific and facility specific training requirements. Training and qualification requirements also exist for work control managers and planners as well as for other line managers involved in the work control process. Auditable training records are maintained on a web-based system (*TRAIN*) to which first line supervisors and above have access to assure that crafts, technicians, operators, planners, safety subject matter experts and line managers are trained and qualified.

Turnover requirements exist for transfer of responsibilities of first line supervisors in operations and maintenance. Turnovers are used in operations environments as required in MCP-2980. This MCP outlines the process and requirements for recording shiftily/daily activities. Operations personnel promptly record information regarding activities or events for each key position throughout the shift to ensure the accuracy of the entry. Maintenance criteria for turnover are located in STD-101 (chapter 6) and GDE 6210 (chapter 10). These documents provide direction regarding interfaces and work control coordination, work boundaries, system operability and testing turnover of physical tasks as well as personnel.

Mechanisms exist to collect and utilize lessons learned and feedback from work activities to be used in planning future activities. ICP uses the same lessons learned database that existed at the INL prior to the contract change that is now shared with the INL. Planners are trained in and have access to this database for use in preparing work packages. In some case (e.g. for construction projects), lessons learned were maintained in hard copy and were found to be functional, but were cumbersome to use. Construction projects also lack mechanisms to track and ensure incorporation of post-work review lessons learned on projects related to Voluntary Consent Orders. Furthermore, the assessment identified weaknesses in post-task feedback responses for field operations and maintenance tasks.

Evaluation:

Performance Objective met

Noteworthy Practices:

None

Appendix A
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Performance Objective WPC-4, Work Planning and Control Activity Definition and Hazard Identification:

Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

Results:

PDD-1004, *Integrated Safety Management System*, is the program document that describes the flow down of ISMS requirements from the contractual level (ISMS DEAR Clauses and DOE policies and orders) to implementing documents. Work planning and control activity definition for maintenance work is described in STD-101, *Integrated Work Control Process*, GDE-6210, *Maintenance Guide*, and GDE-6212, *Hazard Mitigation Guide for Integrated Work Control Process*, whereas operating activities are governed by MCP-3562, *Hazard Identification Analysis and Control of Operational Activities*

Maintenance activity planning involves receipt of a request to perform work and assignment of the request to a maintenance expediter or planner to prepare work documents. Initial discussions of work scope, identification of a team to participate in work package development and walk downs and hazard analyses are primarily performed or led by maintenance planners. For planned and project maintenance work orders, planners perform hazard analysis and identification of controls by filling out a Hazards Profile Screening Checklist (HPSC), Form 430.10. In completing this computer-based checklist, planners use the information obtained during the scope of work development and review of facility documents (e.g., the Facility Hazards List (FHL), equipment history, Documented Safety Analyses (DSA), Fire Hazard Assessments (FHA), environmental permits. Based on the planner's input into the HPSC, control sets are generated as are subject matter expert reviews. This process places a very heavy burden on planners to properly identify the right set of hazards. If a planner fails to identify a hazard, there is no additional review of the package by a SME to correct the package or to involve the SME in the walk down process.

For expedited maintenance work orders and minor maintenance work orders, no HPSC is required by STD-101 or GDE-6210, though other hazard analysis approaches are used, including job safety analyses (JSA). Minor maintenance work is restricted to a less hazardous set of activities by using a specified list of circumstances for which the work may not be performed as minor maintenance.

In contrast, MCP-3562 requires that line managers perform screening activities to identify hazards for operational activities and that they review and approve JSAs, determine whether further analysis is needed and designate appropriate individuals to participate in the team that will further analyze the hazards, the Hazard Evaluation Group (HEG). One issue involving

improper flow down of CWI requirements for periodic reviews of Job Safety Analysis (JSAs) was identified as part of a recent Project Evaluation Board (PEB) assessment. This PEB assessment noted that several JSAs were overdue for periodic review. Actions were initiated to correct the problem of having JSAs overdue for review. MCP-3562 provides line managers with a detailed process for performing hazard screening for operational activities that includes hazards related to the task, the facility(ies) in which the task will be performed, potential human errors, lessons learned information and error precursor management. Similar detail is provided for the HEG in analyzing hazards, performing walk downs, using standards to mitigate hazards and other related activities. MCP-3562 also requires that line managers select hazard mitigation according to the hierarchy of engineering controls, administrative controls or PPE.

This assessment team concludes from this difference in approaches that STD-101 and GDE-6210:

- Potentially omit subject matter experts in reviewing or approving maintenance work packages after the hazards and controls are established by the planner,
  do not ensure that line managers designate the members of the team assigned to evaluate the hazards (as does MCP-3562),
  may not ensure that the team so designated acts as a team when evaluating the hazards (individuals may contribute separately to the analysis without meeting together in a table top review or during a walk down),
  permit practices at ICP facilities that rely too heavily on table top reviews instead of walk downs,
  do not explicitly establish a preferred hierarchy of controls (neither MCP-3562, STD-101 nor GDE-6210 mention hazard removal as a part of the preferred hierarchy of controls)
  are written to make maintenance planning for hazard identification, analysis and control an expert-based approach relying on maintenance planners as the primary source of expertise, even though planners are not experts in Documented Safety Analysis (DSA), Fire Hazard Assessments (FHA), environmental permits, and are not Unreviewed Safety Question (USQ) qualified (although they decide whether a USQ review of maintenance work orders are required).

This assessment identified examples of improperly performed hazard analyses as follows:

Hazards for the planned work were not properly identified and controlled in INTEC WO 60004096, emergency/exit light replacement,
INTEC JSA-1128, Fuel Oil System, used in conjunction with TPR-7194, Fuel Oil System for transferring fuel oil from a tanker truck to CPP-701 did not identify hazards associated with lifting heavy objects and lifting restrictions were not identified in the TPR for worker protection

Hazard control sets at D&D activities are not customized to the exact work being performed.

- Hazard control set for Work Order 602907 at RWMC did not identify a LO/TO requirement for the facility air compressor for incorporation into the work package. Although, the work package did require said compressor to be secured and Locked/Tagged. The compressor was secured and locked before any work commenced. The work package development team failed to include said LO/TO in the required hazard set.

Evaluation:

Performance Objective partially met

Noteworthy Practice:

It should be noted that the process outlined within MCP-3562, *Hazard Identification Analysis and Control of Operational Activities*, is a user friendly concisely developed procedure. The design of this MCP enhances the ability of any individual given the responsibility to generate a new, or modify an existing Operational document. The Hazard Screening Checklist (Appendix B) informs the user of the minimum set of subject matter experts required to participate with the development or modification of an Operational work control document. This approach demonstrates Line Management's direct involvement with identification of specific individuals that shall assist with the work control process.

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Performance Objective WPC-5: Work Planning and Control Process:

The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

Results:

Work control documents for maintenance are prepared in accordance with STD-101, *Integrated Work Control Processes*, GDE-6210, *Maintenance Guide*, and GDE-6212, *Hazard Mitigation Guide for Integrated Work Control Process*. Operational activity control documents are prepared in accordance with MCP-3562, *Hazard Identification Analysis and Control of Operational Activities*. The team reviewed over fifty maintenance and operations work control documents to determine whether work control documents were written in a manner that lead to safe and efficient completion of work.

Improperly defined scope of work was an issue in only one work order (WO). At INTEC, the scope of work for minor maintenance WO 60004096 was not clearly defined. This WO was intended to replace twenty emergency and exit lights in CPP-666. The assessment team's observations during the pre-evolutionary briefing revealed that the planner and crafts had discussed and agreed to an undocumented change of scope that would have allowed electricians to initially attempt to repair the lights by working on the portion of the lighting that had a voltage of less than 50 volts. If this was not successful, electricians would then replace the light fixtures, which involved work on AC electrical circuitry up to 277 volts. After discussion among electricians, their foreman and the assessment team member observing the pre-evolutionary briefing, the foreman elected to obtain a WO change prior to beginning the work.

Several problems were noted pertaining to maintenance WOs being written in a clear, concise and worker friendly manner. Assessment team members evaluating construction activities generally found that the ALARA and Waste Stream section of construction WOs were difficult to follow. Additionally, three work documents at INTEC did not meet the requirements of STD-101 and GDE-6210. In one case (WO 602485), a warning statement relating to potential mercury contamination was improperly written (it contained action steps contrary to GDE-6210) and was not located immediately prior to the step in which the hazard was encountered. The requirement for fall protection in WO 60095401 was also not located in the procedure immediately before the steps where the hazard was encountered. Finally, WO 60004096 failed to be clear and concise, because the repair/replacement sequencing discussed above was not mentioned in the WO at all.

Work step sequencing appeared to be satisfactory in all but one of the work control documents reviewed. In D&D WO 603430, Note 1 states: "Steps 3 thru 6 may be worked in any order as directed by the job supervisor," however Step 3 is a "Hold Point" and must be performed prior to Step 4. There were several examples of work control documents not adequately incorporating technical and administrative requirements at INTEC and at D&D activities these were:

> Failure to document the quality level of a replacement part and to include the replacement part in the WO materials list (INTEC WO 602185),
> Conducting work on CPP-603 sludge removal during the week of 12/19/05 with a procedure that had expired on 12/04/05,
> Using a JSA for work on CPP-603 sludge removal that was revised in October 2005 without being reviewed by Fire Protection and Industrial Hygiene (which had reviewed the original JSA).
> Using hazard control sets that were not customized to the exact work being performed for five WOs at D&D facilities. In these cases, WOs identified the use of boilerplate hazard identification and mitigation text, forcing end users (e.g. craft personnel) to determine applicability of hazards.

Work hazards identified in hazard analysis processes were generally found to be properly incorporated into work control documents at INTEC and RWMC and for construction activities, but not for D&D activities, where work hazards, controls, and or "Hold Points" were not identified within four WOs. For example, Review of the RTC WO 602329 identified that the hazard control set required the IH to: (1) conduct an exposure assessments during initial cutting activities, (2) evaluate work activities for repetitive motion concerns, and (3) evaluate noisy work activities and post high noise work areas as appropriate. None of these controls were incorporated into the work steps as required by GDE 6210, Section 6.8.4. It was also noted that the IH review of the work package prior to approval was not performed.

Since GDE-6210 is classified as a guide rather than as a requirements document. Planners are using it to merely for guidance in preparing work control documents, consistent with the definition of a guide in MCP-135, *Creating, Modifying, and Canceling Procedures and Other DMCS-Controlled Document.* GDE-6210 states, in part, "This guide provides detailed *direction* for the implementation of the requirements from STD-101." Classifying GDE-6210 as a guide allows work document preparation inconsistencies and degrades its impact on effecting worker safety.

Evaluation:

Performance Objective partially met

Noteworthy Practices: None

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Performance Objective WPC-6: Work Planning and Control Oversight:

Contractor personnel perform work in accordance with approved work control documents.

Results:

The assessment team interviewed over sixty CWI and subcontractor personnel associated with over 50 jobs and found that first line supervisors and workers are knowledgeable of their work control documents. Training of ICP personnel is recorded in a computerized system, TRAIN. Supervisors and foremen have access to TRAIN to allow them to determine whether personnel assigned to the jobs they supervise meet all relevant training requirements, and interviews revealed that supervisors were knowledgeable about how to access TRAIN to check personnel training records. Based on a sample of the persons associated with the work reviewed, most personnel met all applicable training and qualification requirements. Some examples of individuals who did not meet training and qualification requirements were identified at RWMC and at D&D activities. An electrician at RWMC had not received RWMC Electrician MTELRW0000 (8 of 13 qualifications and courses needed). At TAN, one D&D Forman directing work in the field and conducting pre-job briefings did not have the required qualifications (QLPREJOB, Performing Pre-Job Briefings and QLMNTJSF, INEEL Job Supervisor/Forman). In addition, TRAIN system records showed that one of the D&D supervisors at RTC did not have the pre-job briefing qualification (QLPREJOB). Interviews revealed that he had completed this training, but that the record of his training had been misplaced. Based on a sampling of the persons associated with the work reviewed, all personnel met medical requirements.

Work at ICP is authorized by operations authority, which reviews and authorizes all work control documents prior to commencement of work. Work is scheduled using plan of the week (POW) and plan of the day (POD) formats. At POW/POD meetings, work is evaluated at each facility and/or site to ensure that work activities of one scope do not adversely affect the safe work of another.

At one facility, foremen reported a considerable degree of frustration associated with a general lack of adherence to original/early versions of the POW and POD. Emergent work (e.g. due to equipment failures) is properly added to the POD to be authorized before working as described above, but foreman frequently must change priorities to meet deletions and additions to the schedule. Foremen report that they routinely attempt to prepare well in advance for jobs when they appear on POW/POD. Such preparations include work package review, identification and acquisition of replacement parts and materials and interfaces with operations to ensure that systems and equipment are in a condition ready to work. When schedule changes occur, early preparations for deleted jobs are put on hold and hurried preparations for added jobs begins in order to ensure that crafts are fully utilized. While foremen report that they are not beginning

work in unsafe conditions, the impact of frequent schedule changes is increased risk from more error-likely situations. That facility's maintenance management is aware of this problem, tracks adherence to POW schedules and continues to attempt to work this issue. Lack of rigorous adherence to POW/POD schedules increases frustration, impacts craft and labor effort and increases error-likely situations.

Even though the assessment team observed that effective pre-evolutionary briefings took place in nearly all cases, one RWMC manager indicated that they are not fully satisfied with the present execution of this process, noting that management is presently working with their staff to upgrade the presentation mode of associated briefings. At INTEC, a worker performing work on 12/20/05 under INTEC WO 602425 did not receive the required pre-job briefing, and the pre-job briefing form for INTEC WO 602425 was not properly filled out by the foreman who performed the briefing on 12/14/05. In addition, at a TAN D&D activity, completed pre job briefing forms for WO 600413 had some missing pages and missing information.

Adherence to WO and operating procedures needs improvement. This condition was particularly disappointing, since ICP had been in a work stand down due to a series of recent events and occurrences. During the stand down, ICP management emphasized (among other things) the requirement for all workers to follow written instructions or to stop work if unexpected conditions arose and obtain a change to work documents. Several examples of procedural noncompliance observed across ICP as follows:

- An INTEC Utility Operator and Fuel Oil Subcontractor did not follow TPR-7194, Fuel Oil System, as written to address the additional alignments needed by the Truck Driver to support continued pumping from tanker sections. This procedure is performed up to several times each week during the cold weather, but the need to stop and revise the procedure to allow the actions taken had not been identified.
  At RWMC, Steps 3, 4, 5 on the data sheet for procedure TRE-30 were not initialed or dated as required on the form. Although the data had been taken, the performer did not complete the form. This work package was signed off as complete by management.
- The TAN primary authorized employee (PAE) documented a correctly completed LOTO for TAN Area Firewater Pump FP-P-4 in the wrong place in the work package, leaving the step for the LOTO Hold Point in W.O. 603004 blank. Subsequently, crafts started work even though the PAE had not signed this Hold Point.
  Two RWMC employees keyed up their radio (e.g. transmitted) within an exclusion zone, contrary to the precaution in TPR-7417 that prohibited radio transmission in the marked exclusion area.

During the conduct of RWMC procedure TPR-7417, maintenance personnel failed to wear safety glasses as required. The operator stopped work until safety glasses were worn as prescribed.

- During the conduct of RWMC procedure TPR-7417 an operator reactivated a drain valve before making notification to management as required by step 4.2.6 of MCP 2978, *Control of Equipment and System Status* which states in part "Reposition components found out of position only upon approval from the cognizant manager/supervisor". The valve had been de-energized (unplugged) but was not re-energized and placed back into service following installation of heat tracing.

First line supervisors and workers follow work control document instructions as written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their change control process.

The assessment team did not observe any conditions that warranted stop work for safety reasons. During interviews, first line supervisors and workers demonstrated a good understanding of their stop work authority.

STD-101, *Integrated Work Control Process,* discusses the use of status logs with no prescribed direction as to what is desired or required, and GDE-6210, *Maintenance Guide,* describes "Work Status" place holders. In practice, there was a wide variety of methods used to document work status, including work status logs, procedure step annotations and personal logbooks. In most cases, work control documents contained adequate documentation (i.e., work status log) regarding work status. However, no construction documents included provisions for documenting work status. Two RTC work packages, WOs 603048 and 602715, had completed steps that were not properly signed off.

Lessons learned are being implemented through incorporation directly into work orders or included in the hazard controls associated with the work order, discussed during pre-job briefings, or presented during all hand briefings/safety phases. The feedback process uses more than one approach to track feedback to closure, depending on the different work order types (PM or CM), but both systems meet the requirements for incorporation of lessons learned into work orders. Planners interviewed know how to access the INL lessons learned database, and search the database for applicable lessons learned based on the scope of their work order.

One example of an incomplete work order record was identified. INTEC WO 602185 involved the repair of PCV-118, which was leaking nitric acid. (See CRAD 23.3.4) While performing the work, INTEC personnel discovered that PI-218-2 was not functioning properly. PI-218-2 was replaced under this WO using a work order change (WOC). The WOC for the PI-218-2 replacement was processed, the work completed and the package closed. The package was sent

to be scanned for record retention in EDMS. Due to an oversight during the scanning process, the WOC was not scanned into EDMS.

Some crafts reported that they did not find the Lessons Learned (LL) data base to be a usable tool, due to the scarcity of LLs that appear in the LL database for their facility (RWMC). The database spans five years and has only 27 LL entries. During interviews, some ICP personnel reported that they did not find the ICARE data base to be a usable tool because they do no know how to find issue of interest. Craft personnel need training to search the ICARE system by topic.

Evaluation:

Performance Objective partially met

Noteworthy Practices:

ICP allows use of a "step back" for any person to stop a job without declaring a "stop work". Step backs permit a "no fault" means for personnel to pause to consider and discuss situations to improve safety without completely stopping a job. The practice appears to have wide acceptance and a beneficial impact on safety thus far.

Appendix A
Results of Assessment of the
Work Planning and Work Control
at
The Idaho Completion Project
January 2006

Performance Objective WPC-7: Work Planning and Control Oversight:

The Contractor has an established process that requires line management and assessment personnel to perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents.

Results:

The ICP has established procedures for the conduct of independent and self assessment activities. The Integrated Assessment Program, which is described in PDD-1064, "Integrated Assessment Program," is a comprehensive, integrated, risk-based approach for managing assessments. Integrated assessment includes activities managed under the following company requirement documents:

MCP-9172, *Developing, Integrating, and Implementing Assessment Plans and Schedules*
- LST-202, *Company Level Required Assessments*
- GDE-203, *Planning, Scheduling, and Performing Assessments*
- PDD-124, *Assessor and Lead Assessor Training and Qualification Program*
- MCP-552, *Performing Independent Assessments*
- MCP-8, *Performing Management Assessments and Management Reviews*
- MCP-1221, *Performing Inspections and Surveillances*

CTR-69, *Charter for the Project Evaluation Board*

Other assessment programs exist, such as CTR-154, *INTEC Senior Supervisory Watch Program,* (as well as similar SSW programs at other ICP facilities) and CTR-175, *INTEC Management Observation Program* (MOP), which is unique to INTEC.

Taken together, a system is therefore in place to provide a means of monitoring and evaluating all work performed, including work performed by subcontractors. Implementation of this system, however, is not consistent across the ICP. Although assessments are being performed, including of subcontractors, the evidence suggests a need to pursue a more effective implementation of the existing program. This is demonstrated by:

The lack of or limited scope of management assessments performed at the project level.
- Limited management observations and senior supervisory watches at RWMC.
- The lack of comprehensive functional area assessments for many areas.
- The lack of comprehensive assessments at the project level.
- The focus of many assessments on administrative reviews instead of operational reviews.
- Identified problems (not ICARE issues) not having corrective actions documented.

A schedule exists for ICP assessments as the ICP Integrated Assessment Schedule database. Management assessments and independent assessments of the ISMS program are required to be performed in LST-202, as are surveillances of work in progress. Conformance to this schedule on an ICP-wide basis was not examined.

Line managers periodically perform surveillances, and these surveillances include the observations of, pre-evolution briefings and work performed, but there did not appear to be strong evidence that observations of job walk downs and JHA walk downs/meetings was included in the scope of these surveillances. For example, the assessment team found that at D&D activities, line management assessments did not assess the full spectrum of the work control process. In addition, while the scope of MOP observations at INTEC and SSW observations are particularly focused on work in progress as well as operational preparations for work, they are not directed toward the work package planning process.

The team reviewed completed LST-202 surveillances and the INTEC Management Observation Program Observed Evolution forms / Work Activities and other documents. While the above mentioned oversight programs and activities were valuable and included many criteria important to work control, none of these programs included reviews of completed work orders within the scope of their review criteria. Furthermore, at INTEC and D&D activities, the scope of the completed surveillances and observations that the team reviewed did not include approved work orders.

The primary means of line management oversight of in-development work control documents was line manager review and approval through the implementation of STD-101, *Integrated Work Control Process*. These reviews and approvals are performed by maintenance managers, general foreman (e.g. construction), and maintenance supervisors for in-development work orders. Line managers reviewed approved work orders during Senior Supervisory Watch work activities. There are no scheduled or planned assessments or surveillances of active or in-development work control documents by line managers in existing INTEC oversight programs.

Trending is tracked and reported monthly in accordance with the Safety Performance Objectives, Measures, and Commitments (SPOMC). Also regarding trending, the results of work control oversight activities, the 2005 ICP ISMS Annual Evaluation Report found that:

- Assessments are being scheduled and managed in at least three databases, making it difficult to coordinate planned assessments and to analyze issues for trends
- Not all required areas are performing assessments to support MCP-1175, *Analyzing ESH&QA Performance*. These assessments provide quarterly analysis of ISMS integrity and ESH&QA performance. Area analysis is needed to identify possible trend and recurring issues.

Evaluation:

Performance Objective not met

Noteworthy Practices:

The implementation of the Management Observation Program for INTEC has provided improved management involvement in the self assessment program despite the fact that MOP assessments are not performed at the frequency prescribed by CTR-175. The program, as intended, meets much of the intent of this criterion as well as other worthwhile management goals.

Appendix B
Results of Assessment of the
Effectiveness of Feedback & Improvement Processes
at
The Idaho Completion Project
January 2006

This appendix details the assessment performed by ICP concerning Feedback and Improvement, *Defense Nuclear Facilities Safety Board Recommendation 2004-1, Integrated Safety Management System Feedback and Improvement; David K. Garman, Under Secretary for Energy, Science and Environment, November 9, 2005.* The summary for each objective is presented in the format specified by DOE-ID.

Performance Objective F&I-1: Contractor Program Documentation:

Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.

Results:

The ICP contract does not include the requirement to implement a formal "Contractor Assurance System" in accordance with DOE O 226.1, *Implementation of Department of Energy Oversight Policy*. However, the information contained in PDD-1004, *Integrated Safety Management System (ISMS)*, Revision 9 Draft, addresses the activities that are included in the INL's formal Contractor Assurance System and meets the review and approval requirements outlined in this objective. This integrated operational assurance process, with other program description documents, management control procedures, and standards, also includes assessment activities, other structured operational awareness activities, and the event reporting processes.

The program monitors and evaluates all work performed under the contract, including that of subcontractors. These activities occur through a variety of mechanisms. On a daily basis, the Safety Assessment Center (SAC) provides for senior management discussion on the previous day's work activities and safety issues throughout ICP. A monthly SAC report is issued providing a 12-month rolling trend analysis to each of eleven high focus project areas pertaining to event severity indexes (including good work practices) and ISMS core function breakdowns, in addition to a listing of the issues reported regarding the project area for the previous month. In addition, a monthly Safety Performance Objectives, Measures and Commitments (SPOMC) dashboard report is issued to report on current fiscal year status of operational issues compared against ICP goals.

On a quarterly basis, the Safety Performance Objectives, Measures, and Commitments (SPOMC) documents progress pertaining to the DOE approved performance tracking data points. On an annual basis, the ISMS Annual Evaluation and SPOMC review provide even further insight to current status and performance trending by both the Contractor and subcontractors. The

company PDD-1061, *Integrated Assessment Program* is in place, and is supplemented by PDD-1005, *Line Management and Operations Manual.* Schedules are in place for FY 2006 to support required assessments and surveillances.

While the processes for the various assessments and other structured operational awareness activities are outlined in their respective program documents, the quantity of documents potentially governing a single assessment activity is excessive. Each step from scheduling the assessment to planning, investigating, and reporting, with capillary documents for each type of assessment and resultant outcomes, has its own governing document. The quantity of requirements and in some cases unnecessary rigor spread amongst the number of requirement documents causes inconsistent performance and/or unintentional, non-compliant performance.

Implementation of the self-assessment program is not consistent or adequately effective across the ICP. The program is in place to provide a means of monitoring and evaluating work and assessments being performed, including oversight of subcontractors. However, evidence shows a need to pursue a more effective/efficient implementation of the self-assessment program. This is demonstrated by:

- The lack of or limited scope of management assessments performed at the project level.
- Limited management observations and senior supervisory watches at RWMC.
- The lack of comprehensive functional area assessments for many areas.
- The lack of comprehensive assessments at the project level.
- The focus of many assessments is on administrative reviews instead of operational reviews.
- Identified problems not having corrective actions documented that are not sufficiently serious to warrant tracking in the ICARE system

All products of the program are documented and available to DOE line management. Some of these documents, such as the PDD-1004, ISMS Annual Evaluation, and SPOMC Reports are included in the contract performance evaluation.

The Contractor has established sufficient processes for measuring the effectiveness of the program however; the implementation of the program across ICP is inconsistent and cumbersome.

The requirements and process for establishing and implementing the appropriate training and experience requirements for assurance personnel are outlined in company program documents and reinforced in implementation of PDD-1004.

Evaluation: Performance objective is partially met.
Noteworthy Practices: None.

Appendix B
Results of Assessment of the
Effectiveness of Feedback & Improvement Processes
at
The Idaho Completion Project
January 2006

Performance Objective F&I-2: Contractor Program Implementation

2.1 Assessments & Performance Indicators:

Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.

Results:

The Integrated Assessment Program, based on PDD-1064, *Integrated Assessment Program*, LST-202, *Company-Level Required Assessments*, and inputs from Functional Area Managers and Subject Matter Experts, establishes the assessment program for functional areas, programs, facilities, and organizational elements. The scope and frequency of these assessments is determined based upon regulatory requirements documents in conjunction with an analysis of risk when applicable. The level of rigor is outlined in the implementing documents governing the performance of the different types of assessments, i.e. Management vs. Independent. As discussed previously in Objective F&I-1, this implementation is cumbersome and inconsistently implemented in the field. As a result, this objective is evaluated as only partially met.

The Project Evaluation Board (PEB) is established at ICP to provide the function of independent internal assessments. Assessments are identified, planned and performed by this group which has the authority and independence from line management to support unbiased evaluations. To date the PEB assessments have been focused on specific problems or issues instead of comprehensive project assessments. The 2006 PEB schedule has included these project assessments.

The SPOMC (discussed previously) is approved by line management and DOE. It provides a measure to indicate how work is being performed. This includes the performance objectives and the expectations set by senior management. Other performance monitoring programs include the SAC and Executive Safety Review Board (ESRB) at the senior management level with other process designed to capture and gather issues at the project and supervisor's level such as the Hazard Review Board (HRB). ICP management policy continuously reinforces the ISMS process of Feedback and Improvement to all personnel on Site. This provides multiple avenues of input by which issues, good or bad, are reported to the necessary programs for analysis and trending.

The SAC provides the method of sharing good practices and lessons learned on a daily basis to and from all line managers. The information discussed in these daily meetings is tracked and trended independently and provided to each project area on a monthly basis. In addition, this information is used in the occurrence reporting process and program quarterly evaluation in the review of positive or negative trends. The ESRB also causes issue tracking and trending to be evaluated for issues that are of concern and that may affect safety, performance objectives, or goals. The SPOMC, Monthly ICP Injury/Illness Report, and the Monthly Dashboard data provide the information necessary to identify current status relative to goals and objectives agreed to by CWI and DOE.

Evaluation:

Performance objective partially met.

Noteworthy Practices:

None

2.2 Operating Experience:

The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.

Results:

Formal processes are in place to identify applicable lessons learned from external and internal sources. The processes utilize communication and distribution methods such as the site intranet and e-mail systems, discussion in the SAC, the Lessons Learned Web Site and presentation at job briefings.

Lessons learned are obtained from and provided to external sources such as the DOE Lessons Learned Web and a corporate web for use and sharing at other sites.

ICP has instituted the Voluntary Protection Program (VPP), and its Employee Safety Teams (EST) and Changing Our Behavior Reduces Accidents (COBRA) program that provide the mechanisms necessary to solicit feedback and suggestions from the workforce on any topic for which a need is felt.

Evaluation:

Performance objective fully met.

Noteworthy Practices:

The Safety Assessment Center (SAC) provides a centralized process for timely management involvement in routine reporting, reviewing, and assigning follow-up on safety events; supports safety performance monitoring; and provides a resource for periodic safety performance summary reporting. Data is collected about events and conditions that have the potential for adversely affecting safe operations now and in the future, as well as good practices.

The Executive Safety Review Board (ESRB) is established to oversee the identification, analysis, reporting, and corrective actions of safety significant events, issues with programmatic implications, and other issues as determined necessary.

2.3 Event Reporting:

Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.

Results:

Formal processes are in place to investigate, report, and respond to operational events, incidents and occupational injuries and illnesses. MCP-190, *Event Investigation and Occurrence Reporting,* contains the instructions for documenting and reporting occurrences. In conjunction with reporting these events corrective actions are documented and tracked as specified in MCP-598, *Corrective Action System.* Cause analysis is performed in accordance with a formal process as specified in STD-1113, *Cause Analysis and Corrective Action Development,* by qualified personnel as specified in PDD-1114, *Cause Analyst Training and Qualification Program.*

The SAC as described above provides a centralized process for timely management involvement in routine reporting, reviewing, and assigning follow-up on safety events; supports safety performance monitoring; and provides a resource for periodic safety performance summary reporting. Data is collected about events and conditions that have the potential for adversely affecting safe operations now and in the future, as well as good practices.

The ESRB as described above is established to oversee the identification, analysis, reporting, and corrective actions of safety significant events, issues with programmatic implications, and other issues as determined necessary. The ESRB also causes issue tracking and trending to be evaluated for issues that are of concern and that may affect safety, performance objectives, or goals. The SPOMC, Monthly ICP Injury/Illness Report, and the Monthly Dashboard data provide the information necessary to identify current status relative to goals and objectives agreed to by CWI and DOE.

Lessons learned are obtained from and provided to external sources such as the DOE Lessons Learned Web and a corporate web for use and sharing at other sites consistent with the requirements of MCP-192, *Processing Lessons Learned and External Operating Experience.*

Evaluation:

Performance objective fully met.

Noteworthy Practices

As described above, the SAC and ESRB are considered noteworthy practices.

2.4 Issues Management:

The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.

Results:

The ICP utilizes several programs that comprise satisfaction of this objective. ICARE system is the formal process that captures not only deficiencies, but other noncompliance issues, program commitments and their respective data for tracking. The ORPS reporting system is annotated to use this program for corrective action tracking as well. Event cause analysis and corrective actions are also governed by their respective program documents.

With regard to corrective action plans, they are typically limited in scope and without regard to existing action items in place for other process improvements. Some are developed without regards to similar or cross-cutting effects of other corrective action plans. This method tends to overload the system with duplicative or similar action items being resolved by different groups not knowing of the others' efforts, delaying final achievement of completion.

MCP-598, *The Issues Management Program and Corrective Action System*, MCP-190, *Event Investigation and Occurrence Reporting*, and MCP-553, *Stop Work Authority*, together provide the basic process mechanisms to identify, take action, and resolve issues.

MCP-1269, *Establishing, Monitoring, and Reporting ESH&QA Performance Objectives, Goals, And Measures*, MCP-1175, *Analyzing ESH&QA Performance*, and MCP-598 program documents require review and analysis of deficiencies. Line management is provided the tools and resources to perform this task. Continued management attention is needed to ensure these processes are effective and rigorous.

Communication of issues up the management chain does occur. While the lines of communication have gone through transition pains, management is attentive to the needs of the program.

Feedback programs are integrated and analyzed to identify trends, issues, and potential repeat occurrences. This analysis is performed through several methods. These processes need continued attention to ensure identification of potential significant problems before they become events.

ICP program document PDD-1114, *Cause Analyst Training and Qualification Program*, requires the training of employees on corrective action development and causal analysis techniques.

Formal cause analysis and corrective action development process are implemented in STD-1113, *Cause Analysis and Corrective Action Development.*

Evaluation:

Performance objective fully met.

Noteworthy Practices:

None

Appendix C
Results of Assessment of the Effectiveness of Feedback & Improvement Processes and Work Planning and Work Control at The Idaho Completion Project ICDF Area

January 2006

The assessment team in reviewing work control practices and feedback and improvement at the ICDF area noted that several of the criteria specified in DNFSB recommendations 23 and 25 were not complied with. ICDF is operated under a construction contract that was in place at the time of contract transition to CH2M♦WG Idaho LLC. The ICDF contract does not require the same level of discipline and rigor that is contractually required and expected at other ICP facilities. Due to this difference in operating contract requirements the evaluation of each of the areas above did not include ICDF. Prior to this assessment, CWI management recognized that these gaps existed and the rigor and discipline at ICDF in controlling work did not meet CWI management expectations. CWI management has initiated mitigating actions which include the following:

- An executive level manager and a shift supervisor have been added to the structure to provide facility oversight and direction,
- ICDF is being integrated into the RWMC ES&H assessment program,
- ICDF is being integrated into the work plan process for RWMC areas. A revised approach to routine operations now requires that the ICDF facility manager be involved in the daily planning process including feedback, resource coordination, review of safety issues, and corrective action plans,
- CWI has mandated that all Lockout/Tagouts (LO/TO) performed at ICDF will use the CWI LO/TO procedure and for Level II LO/TO this will be administered by CWI management, and
- Facility walk downs are planned for thawing conditions and a water control plan is being developed.

CWI management expects that operations at ICDF will be fully ISM compliant and performed at the same level and rigor as required at other ICP facilities. Progress to improve performance at ICDF is being monitored by the Vice President, RWMC Project.

Appendix D
DNFSB Recommendation 2004-1 Criteria Review
Summary of Issues

The issues identified in this appendix include both non-compliance with approved ICP procedures and deviations from the specified review criteria. Although some of these issues are not specific non-compliance conditions they were identified by the assessment team since they resulted in a determination that portions of the criterion for DNFSB 2004-1 Commitments 23 and 25 were not fulfilled. The issues are summarized as they relate to specific objectives. Some of the issues are duplicated because the required assessment criteria overlapped.

Performance Objective WPC-3: Work Control Program Documentation:

The contractor has developed an effective work planning and control process.

1. Requirements for periodic review of JSAs in MCP-135 REV 17, *Creating, Modifying, And Canceling Procedures And Other DMCS-Controlled Documents*, are not in agreement with and are less restrictive than higher tier document PRD-25, *Activity Level Hazard Identification, Analysis and Control*, REV-3, Step 3.7. PRD-25 states that hazard analyses shall be reviewed annually for *highly hazardous work activities*, and that there should be a five-year revalidation of "reasonable potential hazard" work. MCP-135, states: "If developing a new document, the need for and interval of periodic reviews should be determined using the following criteria: JSA, Mandatory. Every five years or sooner as determined by document owner. MCP-135 makes no mention of the annual reviews for highly hazardous work activities as required in PRD-25. Additionally, an issue involving improper flow down of CWI requirements for periodic reviews of Job Safety Analysis (JSAs) was identified as part of a recent Project Evaluation Board (PEB) assessment. This PEB assessment noted that several JSAs were overdue for periodic review. Actions were initiated to correct the problem of having JSAs overdue for review. (ICP)
2. The feed Back process for Maintenance is not timely for incorporation of, task feedback/lessons learned into active and in-development work control documents and/or work control manual/procedure. Interviews with workers indicate a lack of task feedback response for field operations/maintenance task that have been identified on the appropriate form 433.24 "Task Evaluation Feedback Form". Based on interviews, task feedback/lessons learned incorporation into documents (if accomplished) may take up to two to three months. Based on the lack of timely response, repetitive procedures/work packages are re-generated for periodic use without the requested changes. The post task review process has no expected time period in which a document should be reviewed, and comments resolved. This has created a less than positive opinion with the work force. (RWMC)

Appendix D
DNFSB Recommendation 2004-1 Criteria Review
Summary of Issues

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification:

Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

1. Discussions of work scope, identification of a team to participate in work package development and walk downs and hazard analyses are primarily performed or lead by maintenance planners. In contrast, MCP-3562, *Hazard Identification Analysis and Control of Operational Activities*, specifies the minimum review and walk down requirements.

   The assessment team concluded that from this difference in approaches that STD-101, *Integrated Work Control Process* and GDE-6210, *Maintenance Guide*:

   - Potentially exclude subject matter experts in reviewing or approving maintenance work packages after the hazards and controls are established by the planner,
   - do not ensure that line managers designate the members of the team assigned to evaluate the hazards (as does MCP-3562),
   - may not ensure that the team so designated acts as a team when evaluating the hazards (individuals may contribute separately to the analysis without meeting together in a table top review or during a walk down),
   - permit practices at ICP facilities that rely too heavily on table top reviews in stead of walk downs,
   - do not explicitly establish a preferred hierarchy of controls (neither MCP-3562, STD-101 nor GDE-6210, mention hazard removal as a part of the preferred hierarchy of controls
   - are written to make maintenance planning for hazard identification, analysis and control an expert-based approach relying on maintenance planners as the primary source of expertise, even though planners are not experts in Documented Safety Analysis (DSA), Fire Hazard Assessments (FHA), environmental permits, and are not Unreviewed Safety Question (USQ) qualified (although they decide whether a USQ review of maintenance work orders are required).

   It was also noted that the majority of walk downs are "table top" walk downs, which may fail to identify recent facility changes.

   Examples of ineffective walk downs and Job Hazard Analyses identified by the team include:

   - INTEC minor maintenance work order 60004096 which contained incomplete and lacked steps/techniques for possible hazards and their associated controls and failed to identify a potential situation where workers could be exposed to 277 volts. (INTEC)

Appendix D
DNFSB Recommendation 2004-1 Criteria Review
Summary of Issues

- RWMC the hazard control set for work order 602907 was incomplete. Work package 602907 identified a LO/TO requirement to isolate an air compressor prior to commencing work. The LO/TO was applied in the field as required within the work package instructions. However, this hazard was not identified, hence, not mitigated *within the hazard set for this task* as required. (RWMC)
- INTEC JSA-1128, Fuel Oil System, used in conjunction with TPR-7194 Fuel Oil System for transferring fuel oil from a tanker truck to CPP-701 did not identify hazards associated with lifting heavy objects and lifting restrictions were not identified in the TPR for worker protection. (INTEC)
- Contrary to GDE-6210, Section 6.8.4 the hazard control sets are not customized to the exact work being performed (WO# 602701, WO# 601775, WO# 602329, WO# 603333, & WO# 602340). (D&D)

Appendix D
DNFSB Recommendation 2004-1 Criteria Review
Summary of Issues

Performance Objective WPC-5: Work Planning and Control Process:

The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

1. Scope of work for minor maintenance work order 60004096 was not clearly defined. (INTEC)
2. The ALARA and Waste Stream sections for work control document are not written in a clear, concise, and worker friendly manner, requiring SME assistance in the field to execute the work control documents. (CONST)
3. The Warning on page 6 of Work Order 602485 was not located immediately preceding the Work Order step(s) to which it applied and gave direction to perform actions contrary to GDE-6210. (INTEC)
4. The instructions of INTEC minor maintenance work order 6004096 did not clearly identify work instructions for emergency/exit light repair or replacement. (INTEC)
5. For INTEC WO 602185, "Repair PCV-118, Leaking Nitric Acid", the replacement part for PI-218-2 was not included in the materials list. (INTEC)
6. For INTEC WO 602185, "Repair PCV-118, Leaking Nitric Acid", the documentation of the quality level for PI-218-2 was not included in the work order. (INTEC)
7. CPP-603 sludge removal work was conducted during the week of 12/19/05 with a procedure that had an expiration date of 12/04/05. (INTEC)
8. The JSA for "CPP-603 Sludge Removal: Diving Operations" was revised in October 2005 without being reviewed by Fire Protection and Industrial Hygiene. Both of these groups were involved in the original JSA preparation and therefore are required to be involved in reviewing changes. (INTEC)
9. Several maintenance work packages lack Post Maintenance Test and/or Operational retest requirements/results. (RWMC)
10. Maintenance work packages were issued for use without material lists. (RWMC) (INTEC)
11. Work hazards, controls, and or "Hold Points" were not identified within several work control documents. (D&D) The assessment team noted that in a recent ICP assessment of Work Orders that an issue was identified with the proper specification of Hold Points in work orders. This issue is documented in ICARE 100112.
12. The requirement for fall protection in WO 60095401 was not located in the procedure immediately before the steps where the hazard was encountered. (INTEC)
13. Work Documents that are prepared for Trouble Shoot and Repair activities, which include broth trouble shoot and repair in the same document without any formal separation of the Trouble Shooting and the Repair modes i.e. hold points or separate work package requirements. This can and has resulted in repairs being accomplished outside of the initial

intention / scope of the package which was to initially understand the existing problem (Trouble Shoot) while the equipment was energized. Hence, without the appropriate controls set in place, personnel are exposed to hazards that should have been mitigated prior to commencing any repair activities. In addition to identifying mitigating factors for the identified hazards, the required post maintenance testing activities are required to be included in the package and executed as written. Without the formal separation between Trouble Shoot and the Repair activities, the appropriate controls cannot be established resulting in situations that violate the do not comply with the requirements of STD-101 and GDE-6210. (INTEC)

14. Contrary to GDE-6210, Section 6.8.4 the hazard control set is not customized to the exact work being performed (WO# 602701, WO# 601775, WO# 602329, WO# 603333, & WO# 602340). (D&D)

Appendix D
DNFSB Recommendation 2004-1 Criteria Review
Summary of Issues

Performance Objective WPC-6: Work Planning and Control Oversight:

Contractor personnel perform work in accordance with approved work control documents.

1. TAN Management has not verified that individuals have the required qualifications prior to placing them in supervisory positions. (D&D)
2. Lack of rigorous adherence to POW/POD schedules increases frustration, leads to inefficient use of craft and labor effort and increases error-likely situations. (INTEC)
3. Pre-job Briefing form for INTEC WO 602425 was not properly filled out by the foreman who performed the briefing on 12/14/05
4. A worker working under INTEC WO 602425 on 12/20/05 did not receive a pre-job briefing. (INTEC)
5. The INTEC Utility Operator and Fuel Oil Subcontractor at INTEC did not follow TPR-7194, Fuel Oil System, as written to address the additional alignments needed by the Truck Driver to support continued pumping from tanker sections. (INTEC)
6. A maintenance Work order was closed out with incomplete documentation. Work order was signed off as completed, but the data sheet was not properly initialed and dated. (RWMC).

   Procedural non-compliance was observed with TPR-7417 Revision 11. Issues related to radio use, maintenance performance, and conduct of operations were observed (Two employees keyed up their radio within the exclusion zone, Maintenance personnel performing the Calibration and PM did not seem to be aware that safety glasses were required in the Breathing Air Trailer and the Hi-PAC as instructed in the TPR, the TPR-is a step-by-step procedure used to start up the breathing air compressor for ARP, an operator reactivated a valve before making notification to management contrary to the notification requirements in the procedure). (RWMC)
8. The use of a Work Status Log or documentation of status of work is weak in most construction work documents. (Construction).
9. A TAN primary authorized employee (PAE) documented a correctly completed LO/TO for TAN Area Firewater Pump FP-P-4 in the wrong place in the work package, leaving the step for the LO/TO Hold Point in W.O. 603004 blank. Subsequently, crafts started work even though the PAE had not signed this Hold Point. (D&D)
10. Steps were not documented in two work packages: W.O. # 603048 had boxes to check off when steps are completed which were not checked and yet the next step was signed off as completed. W.O. # 602715 has five steps with check off blocks, but there were no blocks checked as completed.
11. For WO# 91144, attachment TRE 30 - Steps 3, 4, 5 on the data sheet were not initialed or dated as required on the form. The reading had been taken, but the performer did not complete the form. The work package was signed off as complete by management.

Appendix D
DNFSB Recommendation 2004-1 Criteria Review
Summary of Issues

Performance Objective WPC-7: Work Planning and Control Oversight:

The Contractor has an established process that requires line management and assessment personnel to perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents.

1. Assessments by line management of the full spectrum of the work planning and control process elements, particularly the front end/in-development processes are not being performed. (ICP)
2. INTEC managers are not performing management observations at the frequency specified in CTR-175, "Management Observation Program". (INTEC)
3. There are no scheduled periodic reviews of completed work orders at INTEC.
4. There exists no documented work control process data collection, performance indicator tracking, and/or trending and reporting in the D&D area. (D&D)
5. Not all required areas are performing assessments to support MCP-1175, *Analyzing ESH&QA Performance*. These assessments provide quarterly analysis of ISMS integrity and ESH&QA performance. Area analysis is needed to identify possible trend and recurring issues. (ICP)
6. As stated in F&I-1 Issue #1 - Implementation of the self-assessment program is not consistent or adequately effective across the ICP. The program is in place to provide a means of monitoring and evaluating work and assessments being performed, including oversight of subcontractors. However, evidence shows a need to pursue a more effective/efficient implementation of the self-assessment program. (ICP)

Performance Objective F&I-1: Contractor Program Documentation:

Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.

1. Implementation of the self-assessment program is not consistent or adequately effective across the ICP. The program is in place to provide a means of monitoring and evaluating work and assessments being performed, including oversight of subcontractors. However, evidence shows a need to pursue a more effective/efficient implementation of the self-assessment program. This is demonstrated by:
   - The lack of or limited scope of management assessments performed at the project level.
   - Limited management observations and senior supervisory watches at RWMC.
   - The lack of comprehensive functional area assessments for many areas.
   - The lack of comprehensive assessments at the project level.
   - The focus of many assessments is on administrative reviews instead of operational reviews.
   - Identified problems not having corrective actions documented that are not sufficiently serious to warrant tracking in the ICARE system.

Performance Objective F&I-2: Contractor Program Implementation

2.1 Assessments & Performance Indicators:

Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.

1. The Project Evaluation Board (PEB) is established at ICP to provide the function of independent internal assessments. Assessments are identified, planned and performed by this group which has the authority and independence from line management to support unbiased evaluations. To date the PEB assessments have been focused on specific problems or issues instead of comprehensive project assessments. This issue was identified prior to this assessment and is documented in ICARE # 100258.
2. MCP-9172, Developing, Integrating, and Implementing Assessment Plans and Schedules, Revision 1. Effective date 9/30/2003, paragraph. 4.1.3 specifies revisions to LST-202, *Company-Level Required Assessment* be issued annually to support development of assessment plans and schedules. LST-202 was last issued 9/20/04. This does not support the development of the annual assessment schedules. The assessment team understands that a revision is in progress.

Appendix D
DNFSB Recommendation 2004-1 Criteria Review
Summary of Issues

2.2 Operating Experience:

The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.

No Issues Identified

2.3 Event Reporting:

Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.

No Issues Identified

2.4 Issues Management:

The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.

No Issues Identified

Appendix E
DNFSB Recommendation 2004-1 Criteria Review
Opportunities for Improvement

The following Opportunities are presented to support continuous improvement. These items were developed to further enhance ICP performance in the areas of Feedback and Improvement and Work Control and Planning.

Opportunity for Improvement (OI-1): Evaluate the assessment activity program documents for feasibility of consolidation. This evaluation should also include the types and frequencies of assessments.

Opportunity for Improvement (OI-2): In conjunction with OI-1, develop an implementation plan and training for the appropriate personnel that would compliment the release of the revised assessment process documents.

Opportunity for Improvement (OI-3): The implementation of the Management Observation Program for INTEC has provided improved management involvement in the self assessment program. The program, as intended, provides a positive approach to the performance of Management Oversight. The implementation of this program at all ICP areas should be considered and factored into the evaluation recommended in OI-1.

Opportunity for Improvement (OI-4): The supporting information for some training records was not retained and therefore not auditable. There are differing professional opinions regarding record retention categorization for Hazardous Training and Course Material Information. The required retention period for the records in question has been determined by current company procedures. A review of training record retention is warranted.

Opportunity for Improvement (OI-5): Workers per the TRAIN system show as having expired fall protection qualification (QLFAPRWK) which is inconsistent since the qualification doesn't have an expiration date. This fall protection inconsistency should be resolved as this qualification would appear to be a fundamental training requirement for D& D workers.

U.S. Department of Energy
Idaho Operations Office

DRAFT Action Plan
for
Defense Nuclear Facilities Safety Board
Recommendation 2004-1
Commitment 23
and
Commitment 25

January 2006

The Department of Energy Idaho Operations Office (DOE-ID) completed a Self-Assessment Report for Defense Nuclear Facilities Safety Board Recommendation 2004-1 Commitment 23 and Commitment 25 in January 2006. The Self-Assessment is documented as Oversight Information Management System (OIMS) record ESH-2006-1.

Based on the results of the DOE-ID review, the DOE-ID Self-Assessment Team made the following recommendations for strengthening DOE-ID performance in the areas of Work Planning and Control, and Feedback and Improvement:

DOE-ID Self-Assessment Team Recommendations:

DOE-ID Office Action

1. DOE-ID should provide guidance on the continued maintenance and use of the previous ESH&QA Oversight Plan.
2. DOE-ID should evaluate whether work planning and control oversight will continue to be selected and performed based upon risk determination or if all stages (as specified in the Criterion) will be performed regardless of risk.
3. The DOE-ID Technical Qualification Program should be modified to ensure that candidates who are expected to provide oversight of the contractor work control processes are knowledgeable of those processes.
4. DOE-ID should complete implementation of the DOE-ID FR staffing analysis, currently in progress.
5. DOE-ID should develop a formal process for tracking and trending the results of oversight of the contractor's work planning and control process.
6. DOE-ID should consider maintaining Performance Metrics summaries on the O-drive as a read-only copy to allow easier review by personnel involved in oversight.
7. DOE-ID should develop a procedure/instruction for determining what DOE identified issues are of sufficient magnitude to merit transmittal to senior contractor management by the CO. Currently all "deviations from requirements", regardless of severity, are transmitted by the monthly transmittal letter.
8. DOE-ID should develop a process for verification of corrective actions for contractor and DOE-ID identified issues (this applies to both NE and EM).
9. DOE does not have a requirement for line management to evaluate contractor processes for communicating information, including dissenting opinions, up the management chain. As a result DOE-ID does not have a requirement for line management to evaluate contractor processes for communicating information, including dissenting opinions, up the management chain. DOE-ID management should evaluate the need for implementing such a system, and take actions as appropriate.
10. DOE-ID should fully implement WI-108, *ID Lessons Learned.*
11. DOE-ID should ensure that the DOE-ID employee concern web links are re-established and that employees are aware of the web link locations.

DOE-ID EM Organization Action

1. DOE-ID EM should complete the implementation of the scorecard process for BBWI.

DOE-ID NE Organization Action

2. DOE-ID should revise OD-101, *Functions, Responsibilities, and Authorities,* to reflect the current reporting chain for DOE-ID NE FRs.
3. DOE-ID NE should implement the Contract Oversight Plan for the Science and Technology Complex (STC), Central Facilities Area (CFA), and National Security Programs (NS) activities.
4. DOE-ID NE should document the process for transmitting oversight information to the contractor.
5. DOE-ID NE should provide guidance on corrective action associated activities (documentation, reporting, and closure).
6. The DOE-ID NE organization should develop a process to determine the effectiveness of site programs, management systems, and CAS.

Idaho National Laboratory

January 10, 2006

CCN 203923

Mr. Geoffrey L. Beausoleil
U.S. Department of Energy
Idaho Operations Office (DOE-ID)
1955 Fremont Avenue
Idaho Falls, ID 83401-1216

SUBJECT: Contract No. DE-AC07-05ID14517 - Department of Energy's Implementation Plan Commitment 23 and Commitment 25 for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Oversight Complex, High-Hazard Nuclear Operations; Request for Action

Reference: (a) Elizabeth D. Sellers letter to Addressee List, Department of Energy's Implementation Plan Commitment 23 and Commitment 25 for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Oversight Complex, High-Hazard Nuclear Operations; Request for Action (OS-QSD-05-153), December 2, 2005
(b) Francesca B. Williams letter to Geoffrey L. Beausoleil, Department of Energy's Implementation Plan Commitment 23 and Commitment 25 for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Oversight Complex, High-Hazard Nuclear Operations; Request for Action, January 9, 2006, CCN 203882

Dear Mr. Beausoleil:

Reference (a) directed Battelle Energy Alliance, LLC, to perform a self-assessment of Idaho National Laboratory (INL) work planning and control and feedback and improvement processes. Reference (b) provided the results of the assessment. In accordance with further direction in Reference (a), a draft action plan which addresses the results of the assessment is enclosed.

The INL assessment report documented ten issues and five areas for improvement which had been identified in DOE and INL assessments performed during CY-2005. Six of the issues resulted from the DOE Independent Oversight Inspection at the Advanced Test Reactor which was performed in June 2005. Corrective actions for those six issues have been submitted to DOE and will be entered into the DOE Corrective Action Tracking System (CATS) when approved. The other four issues resulted in Price-Anderson noncompliance reports. Corrective actions for those issues have been entered into the DOE Noncompliance Tracking System (NTS). The enclosed draft action plan references the issue numbers in CATS and NTS but does not repeat the 125 actions that are being or will be tracked in those systems.

If you have questions about the draft action plan or need further information, please contact T. D. Lee at (208) 526-4744.

Sincerely,

Francesca B. Williams
Director, ESH&Q

TDL:kw

Enclosure

cc: M. L. Adams, DOE-ID, MS 1221
J. Alvarez, INL, MS 3695
A. Clark, INL, MS 3695
J. J. Grossenbacher, INL, MS 3695
D. J. Richardson, INL, MS 6146
L. A. Sehlke, INL, MS 3810 (w/o Enc.)

bcc: H. M. Ashley, MS 6130
K. W. Baldwin, MS 7102
D. K. Jensen, MS 3405
T. D. Lee, MS 3133
D. B. Lively, MS 4131
INL Correspondence Control, MS 3108
F. B. Williams Letter File

Uniform File Code: 0352
Disposition Authority: A22-2-b-1
Retention Schedule: Cut off upon completion of audit or investigation. Destroy 10 years after cut off.

NOTE: Original disposition authority, retention schedule, and Uniform Filing Code applied by the sender may not be appropriate for all recipients. Make adjustments as needed.

DNSFB Recommendation 2004-1 Implementation Plan

Idaho National Laboratory
Draft Action Plan

Commitment 23, Work Planning and Control

Objective 3

Area for Improvement

The activity-level work planning and control processes need to be consolidated/transformed to improve risk management and process efficiency and to better meet the needs of the new laboratory focused on research and development.

Action	Deliverable(s)	Due Date	Owner / Organization
Revise work planning and control program and process documentation.	Approved documents	8/1/2006	V. M. Bowen / Facilities and Site Services
Implement revised work planning and control program and processes.	Implementation statements from affected organizations	9/30/2006	

Area for Improvement

Human behaviors and performance need improvement to reduce work related injuries and illnesses and to enhance safe work accomplishment.

Action	Deliverable(s)	Due Date	Owner / Organization
Provide integrated behavior based safety/human performance training.	Training rosters showing 80% completion	9/30/2006	C. A. Johnson, Infrastructure, Optimization, Integration, and Planning
Implement integrated behavior based safety/human performance processes.	Implementation documents	12/15/2006	

Objective 4

Issue:

Analysis of potential radiological hazards associated with non-uniform radiation fields and glovebox failures has not been sufficiently rigorous to ensure that these hazards are adequately controlled.

Source of Issue / Identification Number	Corrective Actions	Due Date	Owner / Organization
OA Assessment / INEEL-08/19/2005-0001-I	15 Actions to be entered into CATS	5/31/2006	C. D. Morgan/ RTC Radiological Controls

Issue:

ATR does not have a process for identifying controls for non-radiological hazards for RCTs entering spaces to perform surveys.

Source of Issue / Identification Number	Corrective Actions	Due Date	Owner / Organization
OA Assessment / INEEL-08/19/2005-0002-I	4 Actions to be entered into CATS	10/31/2006	M. B. McDonough/ ATR Operations

Issue:

ATR has not established appropriate controls to ensure that all workers are promptly notified of fire alarms in areas where the alarms cannot be heard.

Source of Issue / Identification Number	Corrective Actions	Due Date	Owner / Organization
OA Assessment / INEEL-08/19/2005-0003-I	3 Actions to be entered into CATS	7/07/2006	M. B. McDonough/ ATR Operations

Issue:

INL has not ensured that clear and unambiguous requirements for confined spaces are consistently applies at ATR to minimize the risk to workers, consistent with the intent of OSHA regulations.

Source of Issue / Identification Number	Corrective Actions	Due Date	Owner / Organization
OA Assessment / INEEL-08/19/2005-0004-I	9 Actions to be entered into CATS	8/30/2006	P. L. Hapke / Nuclear Operations ES&H

Issue:

Programmatic failure of work planning and hazard control for a radiological evolution at MFC.

Source of Issue / Identification Number	Corrective Actions	Due Date	Owner / Organization
INL Internal Assessment/ NTS-ID-BEA-FMF-2005-0002	26 Actions in NTS	1/30/2006	R. R. Chase / Nuclear Operations Labs and Hot Cells

Objective 5

Issue:

Administrative errors identified during the close-out process for maintenance work orders at ATR indicate that the previous corrective actions developed to resolve the errors were not fully effective.

Source of Issue / Identification Number	Corrective Actions	Due Date	Owner / Organization
INL Internal Assessment / NTS-ID-BEA-ATR-2005-0002	9 Actions in NTS	8/31/2006	J. E. Dwight/ ATR Operations

Objective 6

Issue:

Programmatic failure of the MFC Nuclear Facility Training and Qualification Program.

Source of Issue / Identification Number	Corrective Actions	Due Date	Owner / Organization
INL Internal Assessment / NTS-ID-BEA-MFC-2005-0001	17 Actions in NTS	6/28/2007	R. R. Chase / Nuclear Operations Labs and Hot Cells

DNSFB Recommendation 2004-1 Implementation Plan

Idaho National Laboratory
Draft Action Plan

Commitment 25, Feedback and Improvement

Objective 1

Area for Improvement

The INL contractor assurance system documentation needs to be revised to address new DOE Order 226.1 requirements.

Action	Deliverable(s)	Due Date	Owner / Organization
Revise INL contractor assurance system documentation to address DOE Order 226.1 requirements and submit to DOE-ID for approval	Revised documents and INL submittal letter	6/30/2006	D. K. Jensen / Performance Assurance

Objective 2

Issue

BEA has not implemented a fully effective program of ATR assessment activities with sufficient scope and rigor tailored to ongoing activities, conditions, and past performance to ensure that ES&H performance is consistently and accurately evaluated.

Source of Issue / Identification Number	Corrective Actions	Due Date	Owner / Organization
OA Assessment / INEEL-08/19/2005-0005-I	11 Actions to be entered into CATS	10/06/2006	K. W. Baldwin / Nuclear Operations Quality Assurance

Issue

Ineffective implementation of the INL assessment program.

Source of Issue / Identification Number	Corrective Actions	Due Date	Owner / Organization
INL Internal Assessment / NTS-ID-BEA-INLPROGM-2005-0001	13 Actions in NTS	8/31/2007	D. K. Jensen / Performance Assurance

Issue

BEA has not consistently implemented its corrective actions program at ATR in a manner that ensures that ES&H deficiencies are appropriately documented, categorized, and evaluated in a rigorous and timely manner, with causes, extent of condition, and appropriate recurrence controls identified.

NOTE: The action plan for this issue included actions to address two related areas for improvement:

Area for Improvement

Screening of external operating experience and development and tracking of responsive actions.

Area for Improvement

Documentation, analysis, and correction/prevention of injuries and illnesses.

Source of Issue / Identification Number	Corrective Actions	Due Date	Owner / Organization
OA Assessment / INEEL-08/19/2005-0006-I	18 Actions to be entered into CATS	12/12/2006	K. W. Baldwin / Nuclear Operations Quality Assurance

CH2M•WG Idaho, LLC
P.O. Box 1625
2525 North Fremont Ave.
Idaho Falls, Idaho 83415
208.526.0111

January 11, 2006

CCN 301844

Mr. G. L. Beausoleil
Director Quality and Safety Division
Idaho Cleanup Project
U.S. Department of Energy
Idaho Operations Office (DOE-ID)
1955 Fremont Avenue
Idaho Falls, ID 83415 MS-1222

SUBJECT: Contract No. DE-AC07-05ID14516 – Draft Corrective Action Plan For The ICP Assessment Of Commitment 23 And Commitment 25 For Defense Nuclear Facilities Safety Board Recommendation 2004-1

REFERENCES:
(a) Department of Energy's Implementation Plan Commitment 23 and Commitment 25 for Defense Nuclear Facilities Safety Board Recommendation 2004-1, *Oversight of Complex, High-Hazard Nuclear Operations*; Request for Action (OS-QSD-05-13); E. M. Sellers, December 2, 2005
(b) A. M. Parker letter to G. L. Beausoleil, Contract No. De-AC07-05ID14516 - Assessment of Commitment 23 and Commitment 25 for Defense Nuclear Facilities Safety Board Recommendation 2004-1, January 9, 2006, CCN 301808
(c) Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 23; David K. Garman, Under Secretary for Energy, Science and Environment, November 9, 2005
(d) Defense Nuclear Facilities Safety Board Recommendation 2004-1, Integrated Safety Management System Feedback and Improvement; David K. Garman, Under Secretary for Energy, Science and Environment, November 9, 2005

Dear Mr. Beausoleil:

As requested by Reference (a) CH2M•WG Idaho, LLC has completed a draft corrective action plan for the assessment of work planning and work controls for the Idaho Cleanup Project [Reference (b)] that used the Defense Nuclear Facilities Safety Board Recommendation 2004-1 Criteria Review and Approach Documents as specified in References (c) and (d).

If you have any questions, please call me or contact James L. Gregory (208) 526-0922.

Sincerely,

Alan M. Parker, President and CEO
Idaho Cleanup Project

JLG

Attachment:
DNFSB Recommendation 2004-1 Criteria Review Corrective Action Plan - DRAFT

cc: W. L. Bauer, DOE-ID, MS 1240 (w/o Att.)
J. L. Butler, CWI, MS 5310
T. J. Dieter, CWI, MS 7141
W. J. Johnson, CWI, MS 5108
A. J. Kraupp, DOE-ID, MS 1226
R. E. Nagel, CWI, MS 3206 (w/o Att.)
R. B. Provencher, DOE-ID, MS 1222
D. B. Rankin, CWI, MS 4143
A. D. Rodgers, CWI, MS 4201
R. C. Seal, DOE-ID, MS 6142
E. D. Sellers, DOE-ID, MS 1222
R. A. Taft, DOE-ID, MS 1222

DNFSB Recommendation 2004-1 Criteria Review
Corrective Action Plan -DRAFT

The actions for the issues identified in the assessment of DNFSB 2004-1 Commitments 23 and 25, are summarized below. This is a draft action plan and changes may be made as the issues identified are reviewed in more detail.

Performance Objective WPC-3: Work Control Program Documentation:

The contractor has developed an effective work planning and control process.

1. The requirements for periodic review of JSAs in MCP-135 REV 17, *Creating, Modifying, And Canceling Procedures and Other DMCS-Controlled Documents*, and the requirements in PRD-25, *Activity Level Hazard Identification, Analysis and Control* will be evaluated and the procedure(s) will be revised as necessary to provide a correct and consistent periodic review frequency. In addition, a review of JSAs will be performed to ensure that the periodic JSA reviews are performed at the proper frequency.

   Action: W. F. Grace
   Date: March 1, 2006 – Review and revise procedures
   Action: Area Project Directors
   Date: May 1, 2006 - Ensure JSAs have been reviewed within the required periodic review frequency

2. RWMC will perform a review of the feedback process for maintenance work and establish a corrective action plan to improve performance in this area

   Action: A. D. Rodgers
   Date: March 1, 2006

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification:

Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

1. Specific area/facility findings will be addressed by the responsible Area Directors, with a summary of the corrective action plans issued to the Project Evaluation Board (PEB) for review. The PEB will make a presentation to the ESRB regarding corrective actions for this assessment.

   Action: Area Directors
   Date: February 15, 2006 – Submit corrective action plans to PEB for review

2. The Technical Support Services (TSS) will complete a review of STD-101 and GDE-6210 to determine necessary changes and/or training that is necessary to address the issues identified in this assessment. This review will be led by the TSS Director (M. D. Johnson) and will include representative from each ICP project. Based upon the review, revised procedures and/or revised training will be conducted.

   Action: M. D. Johnson
   Date: April 1, 2006 – Review complete
   Date: May 1, 2006 - Revised procedures issued and/or revised training initiated.

Performance Objective WPC-5: Work Planning and Control Process:

The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

1. Specific area/facility findings will be addressed by the responsible Area Directors, with a summary of the corrective action plans issued to the Project Evaluation Board (PEB) for review. The PEB will make a presentation to the ESRB regarding corrective actions for this assessment.

   Action: Area Directors
   Date: February 15, 2006 – Submit corrective action plans to PEB for review

2. An Executive Management Directive has been issued for work documents that are prepared for Trouble Shoot and Repair activities requiring the troubleshooting work activities to be separate from the repair activities. This requirement will be incorporated into the work planning procedures at the next revision, but no later than July 2006.

   Action: M. D. Johnson
   Date: EMD issued – complete
   Date: May 1, 2006, Revise STD-101 and GDE-6210

3. The Technical Support Services (TSS) will complete a review of STD-101 and GDE-6210 to determine necessary changes and/or training that is necessary to address the issues identified in this assessment. This review will be led by the TSS Director (M. D. Johnson) and will include representative from each ICP project. Based upon the review, revised procedures and/or revised training will be conducted.

   Action: M. D. Johnson
   Date: April 1, 2006 – Review complete
   Date: May 1, 2006 - Revised procedures issued and/or revised training initiated.

Performance Objective WPC-6: Work Planning and Control Oversight:

Contractor personnel perform work in accordance with approved work control documents.

1. The issue of procedure non compliance is a serious concern of ICP management. A comprehensive cause analysis is being developed that will identify specific actions that are necessary to correct this adverse trend.

   Action: W. J. Johnson
   Date: A Corrective Action Plan will be developed by 2/1/06

2. Specific area/facility findings will be addressed by the responsible Area Directors, with a summary of the corrective action plans issued to the Project Evaluation Board (PEB) for review. The PEB will make a presentation to the ESRB regarding corrective actions for this assessment.

   Action: Area Directors
   Date: February 15, 2006 – Submit corrective action plans to PEB for review

3. **Performance Objective WPC-7: Work Planning and Control Oversight:**

The Contractor has an established process that requires line management and assessment personnel to perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents.

Corrective actions for this objective are included in F&I-1 which are designed to improve the quality of the ICP self assessment program.

Performance Objective F&I-1: Contractor Program Documentation:

Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.

1. A revised self assessment program structure will be developed by a selected team of ICP managers who have an extensive background in self assessment program performance. This program will be presented to and approved by the ESRB. Upon approval by the ESRB ICP procedures will be revised, where necessary to implement the revised program.

   Action: M. D. Johnson
   Date: February 25, 2006 - Present to ESRB
   Date March 10, 2006 - Implement revised procedures

2. The Project Evaluation Board will conduct a comprehensive assessment of self assessment performance at all ICP areas to verify proper implementation and execution of the revised assessment program structure.

   Action: J. L. Gregory
   Date: July 2006

Performance Objective F&I-2: Contractor Program Implementation

2.1 Assessments & Performance Indicators:

Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.

1. The Project Evaluation Board (PEB) has established a schedule for CY 2006 that includes project assessments as well as program assessments. To improve the PEB capabilities to perform project assessments on an ongoing basis a review will be performed regarding PEB resources, scope and frequency of assessments.

   Action: J. L. Gregory
   Date: March 30, 2006

2. As required by MCP-9172, *Developing, Integrating, and Implementing Assessment Plans and Schedules*, a revision to LST-202 will be issued by January 30, 2006. In addition future revisions to LST-202 will be issued in July of each year to support the development of FY assessment schedules.

   Action: J. C. Kvamme
   Date: February 25, 2006– Issue revised LST-202
   Date: July 30, 2006 – Issue revised LST-202 to support FY 2007 schedule development.

ICDF Area:

Work control practices and feedback and improvement at the ICDF area

1. CWI management has initiated mitigating actions which include the following:
   - An executive level manager and a shift supervisor have been added to the structure to provide facility oversight and direction,
   - ICDF is being integrated into the RWMC ES&H assessment program,
   - ICDF is being integrated into the work plan process for RWMC areas. A revised approach to routine operations now requires that the ICDF facility manager be involved in the daily planning process including feedback, resource coordination, review of safety issues, and corrective action plans,
   - CWI has mandated that all Lockout/Tagouts (LO/TO) performed at ICDF will use the CWI LO/TO procedure and for Level II LO/TO this will be administered by CWI management, and
   - Facility walk downs are planned for thawing conditions and a water control plan is being developed.

2. CWI management expects that operations at ICDF will be fully ISM compliant and performed at the same level and rigor as required at other ICP facilities. Progress to improve performance at ICDF is being monitored by the Vice President, RWMC Project. Progress in accomplishing this objective will be closely monitored by ICP management.

   Action: A. D. Rodgers
   Date: On going

3. The Project Evaluation Board (PEB) will conduct an assessment of the ICDF area in June 2006.

   Action: J. L. Gregory
   Date: June 2006

Opportunities for Improvement:

The Opportunities for improvement will be evaluated by the responsible manager and a response will be issued to the Project Evaluation Board (PEB) determining what actions if any will be taken. The PEB will issue a summary report of these items and actions taken.

Action: J. L. Gregory
Date: May 1, 2006

SEPARATION

PAGE

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United States Government **Department of Energy**
Oak Ridge Office

memorandum

DATE: January 13, 2006

REPLY TO ATTN OF: SE-30:Monroe

SUBJECT: **DEFENSE NUCLEAR FACILITIES SAFETY BOARD RECOMMENDATION 2004-1, COMMITMENT 23, *WORK PLANNING AND CONTROL* AND COMMITMENT 25, *FEEDBACK AND IMPROVEMENT***

TO: Dr. Raymond L. Orbach, Director, Office of Science, SC-1, HQ/FORS
James A. Rispoli, Assistant Secretary for Environmental Management, EM-1, HQ/FORS
R. Shane Johnson, ActingDirector, Office of Nuclear Energy, Science and Technology, NE-1, HQ/FORS

Reference:
1. Memorandum from David K. Garman to Those Listed, *Work Planning and Control Assessments and Site Action Plans for Defense Nuclear Safety Board Recommendation 2004-1, Commitment 23,* dated November 9, 2005

2. Memorandum from David K. Garman to Those Listed, *Defense Nuclear Safety Board Recommendation 2004-1, Integrated Safety Management System Feedback and Improvement,* dated November 9, 2005

This is an Oak Ridge Office (ORO) consolidated response to the referenced memorandums. The attachments have been prepared for each program to ensure that you can easily obtain your specific information.

ORO has in place the following management tools: (1) The ORO Management System Description (MSD) that details the Safety Management systems in place in ORO; (2) an Environment, Safety, and Health (ES&H) Functions, Responsibilities, and Authorities Manual (FRAM); (3) an Integrated Safety Management System (ISMS) Description; (4) ORO Directives; and (5) Line Organization Procedures. These tools, in addition to a qualified staff, are in place to ensure that the subject commitments are properly implemented. To verify that the adequacies of the tools are in place, ORO underwent an extensive assessment process in FY 2005.

Over the last twelve months, ORO has had numerous ES&H assessments, self-assessments, audits, and reviews performed by organizations that are both external and internal to ORO. These reviews culminated in an external Federal ISM review being conducted in September 2005. The External Review of the Federal ISMS Program was conducted by a team of DOE and contractor subject matter experts led by Mr. Dana Bryson from the DOE Office of River Protection. The Criteria and Review Approach Documents that were used included those for Work Planning and Control (WPC) and Feedback and Improvement (FI).

The team identified seven strengths, four findings, and eight observations. The findings and observations relevant to commitments 23 and 25 are addressed in the attachments. These actions are being tracked in ORION, the ORO issues tracking and management system. Finally, it is to be noted that the ISM review team concluded that the ORO program has significantly improved since the last review in 2003 and met all of the objectives of the review.

The attachments address the ES&H assessments, self-assessments, audits, and reviews that were conducted in the ORO SC, EM, and Nuclear Fuel Supply (NFS) organizations, as well as the data requested in the memoranda from Under Secretary Garman for Commitments 23 and 25. The attachments list the criteria; implementation status of the criteria (i.e., whether the criteria have been met, partially met, or not met); evidence of how the criteria were met; and corrective action(s) should the criteria be partially met or not met. The ORO review concluded that ORO meets the criteria for commitments 23 and 25.

If you, or your staff, have any questions, please contact me at (865-576-4444); George Malosh (865-576-0710) for the SC data; Steve McCracken (865-576-0742) for the EM data; or Larry Clark (865-576-2678) for the NFS data.

Gerald G. Boyd
Manager

Attachments

cc w/attachments:
Dr. James Decker, SC-2, HQ/FORS
Charles E. Anderson, EM-2, HQ/FORS
Dr. Inez Triay, EM-3, HQ/FORS
Don Erbschloe, SC-3, HQ/FORS
Dennis Miotla, NE-2.3, HQ/FORS
R. J. Brown, M-3, ORO
George Malosh, SC-10, ORO
Steve McCracken, EM-90, ORO
Larry Clark, NS-50, ORO
Larry Kelly, SE-30, ORO
Michele Branton, SE-31, ORO
Dale Jackson, EM-94, ORO
J. T. Howell, NS-50, ORO
Randy Smyth, SC-13, ORO

U.S. Department of Energy
Oak Ridge Office

Report for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitments 23, "Work Planning and Control," and 25, "Feedback and Improvement"

January 2006

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Table of Contents

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List of Acronyms

ACEMP	American Centrifuge Engineering and Manufacturing Project
AMEM	Assistant Manager for Environmental Management
AMS	Assistant Manager for Science
AMNFS	Assistant Manager for Nuclear Fuel Supply
BJC	Bechtel Jacobs Company LLC
CLC	Centrifuge Lead Cascade
CRAD	criteria review and approach document
CROET	Community Reuse Organization of East Tennessee
DNFSB	Defense Nuclear Facilities Safety Board
DOE	U.S. Department of Energy
EM	Environmental Management
ES&H	environment, safety, and health
ESC	Electrical Safety Committee
FWENC	Foster Wheeler Environmental Corporation
GDP	Gaseous Diffusion Plant
HFIR	High Flux Isotope Reactor
IAP	Integrated Assessment Program
ISM	Integrated Safety Management
ISMS	Integrated Safety Management System
JHA	job hazard analysis
LRD	Lessee Requirement Document
LSM	Laboratory Space Manager
MSA	management self-assessment
MSD	Management System Description
MWP	maintenance work package
NFS	Nuclear Fuel Supply
OAP	Operational Awareness Program
OM&S	Operations Maintenance and Services
ORION2	Oak Ridge Issues, Open Items, and Nonconformances
ORNL	Oak Ridge National Laboratory
ORO	Oak Ridge Office
ORR	operational readiness review
OSOP	ORNL Site Office Procedure
PAAA	Price-Anderson Amendments Act
PEP	Performance Evaluation Plan
QA	quality assurance
R&D	research and development
RHACS	Research Hazards Analysis and Control System

RMT	Regulatory Management Team
ROA	Regulatory Oversight Agreement
RSS	Research Safety Summary
SBMS	Standards-Based Management System
SC	Science
SME	subject matter expert
TQP	Technical Qualification Program
USEC	United States Enrichment Corporation
USQ	unreviewed safety question
UT-Battelle	UT-Battelle, LLC

EXECUTIVE SUMMARY

The November 2005 memorandum from U.S. Department of Energy (DOE) Under Secretary David K. Garman provided criteria review and approach documents (CRADs) to be used to assess the status of field office completion of Commitments 23, "Work Planning and Control," and Commitment 25, "Feedback and Improvement," identified in the Implementation Plan for the Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1. The purpose of this report is to provide the results of the DOE Oak Ridge Office (ORO) program assessments of Commitments 23 and 25 and to provide corrective actions, as necessary, resulting from the review of the CRADs.

It is relevant to note that ORO has the following management tools in place:

- ORO Manual 100, *ORO Management System Description*, which details the safety management principles in place in ORO. This document has appendices that contain more detailed Management System Descriptions (MSDs) for the ORO Science (SC) and Environmental Management (EM) programs. Safety information, relevant to Nuclear Fuel Supply (NFS), is contained in ORO M 100.
- ORO Manual 411.1-1G, *Manual of Functions, Responsibilities, and Authorities, Level III, for Oak Ridge Office*, and ORO SC and EM programs have organization-specific MSD documents
- The ORO ISM System description (ORO Order 450, Chapter V, *Integrated Safety Management Program*)
- ORO Directives
- ORO line organization procedures

These tools, in addition to a qualified staff, are in place to ensure that Commitments 23 and 25 are properly implemented. To verify the adequacy of these tools, ORO underwent an extensive assessment process in fiscal year 2005. Over the last 12 months, ORO had numerous environment, safety, and health assessments, self-assessments, audits, and reviews by organizations both internal and external to ORO. These reviews culminated in an external ISM review of ORO conducted in September 2005. This external review of the Federal Integrated Safety Management System (ISMS) was conducted by a team of DOE and contractor subject matter experts led by Mr. Dana Bryson from the DOE Office of River Protection. The CRADs for this review included those for work planning and control and feedback and improvement. The review identified seven Findings and eight Observations. The findings and observations relevant to Commitments 23 and 25 are addressed in the attachments. These actions are being tracked in the ORO Oak Ridge Issues, Open Items, and Nonconformances (ORION2) System. The ISM review team concluded that the ORO program has significantly improved since the last review in 2003 and met all of the objectives of the review.

The attachments address the environment, safety, and health (ES&H) assessments, self-assessments, audits, and reviews that were conducted in the ORO SC, EM, and NFS organizations, as well as the data requested in the memoranda from Under Secretary Garman for Commitments 23 and 25. The attachments list the criteria; implementation status of the criteria (i.e., whether the criteria have been met, partially met, or not met); evidence of how the criteria were met; and corrective action(s) should the criteria be partially met or not met.

In addition, in October and November 2005, ORO EM conducted operational readiness reviews (ORRs) on projects to be completed by each of two prime contractors: Bechtel Jacobs Company LLC and Foster

Wheeler Environmental Corporation. These ORRs included independent reviews of the ORO EM oversight activities.

The paragraphs below provide brief summaries of the status of the ORO SC, EM, and NFS programs for Commitments 23 and 25.

Science

The overall review results show that the ORO SC program, as well as its major contractor, adequately implements the objectives and criteria established in Commitments 23 and 25 as discussed in Attachment A, Section 2, of this report and as evidenced in the tables provided in Attachment A.

Environmental Management

The ORO EM program currently meets all requirements of the CRADs as determined by the recent reviews discussed in Attachment B, Section 2, of this report and as evidenced in the tables provided in Attachment B.

Nuclear Fuel Supply

The ORO NFS program currently meets all requirements of the CRADs as determined by the review efforts discussed in Attachment C, Section 2, of this report and as evidenced in the tables provided in Attachment C. Tables 1A and 1B describe compliance of Centrifuge Deployment activities, and Tables 2A and 2B describe compliance of Reindustrialization activities.

Attachment A – Science

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1.0 PURPOSE

The November 2005 memorandum from U.S. Department of Energy (DOE) Under Secretary David K. Garman provided criteria review and approach documents (CRADs) to be used to assess the status of field office completion of Commitment 23, "Work Planning and Control," and Commitment 25, "Feedback and Improvement," as discussed in the Implementation Plan responding to Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1. The purpose of this report is to summarize the results of the U.S. Department of Energy (DOE) Oak Ridge Office (ORO) Assistant Manager for Science (AMS) program assessments of Commitments 23 and 25 and to address the corrective actions, as necessary, resulting from reviews of these CRADS.

2.0 APPROACH

Two principal functions of an Integrated Safety Management System (ISMS) directly correlate to Commitments 23 and 25: (1) perform work within controls and (2) provide feedback and continuous improvement. The approach used to evaluate implementation of the two cited elements significantly considered existing ORO and AMS policies, procedures, and relevant internal and external assessments performed in recent months.

In terms of relevant policies and operating protocols, ORO has established ORO M 100, *ORO Management System Description*, which is fundamentally based upon and incorporates the principles of Integrated Safety Management (ISM). In addition, the ORO AMS has promulgated a subordinate level Management System Description (MSD) document that provides a comprehensive high-level description of the roles and responsibilities within the AMS organization to manage its work and to manage the contracts under its responsibility. Also incorporating the foundations of ISM, the description of each management system in the AMS MSD includes an identification of the requirements associated with that system as well as reference to the processes used by the AMS to fulfill those requirements. The AMS MSD is consistent with ORO M 100, and it provides the foundation upon which the AMS organization can foster a culture of continuous improvement and effectively integrate the ORO safety philosophy into all aspects of work.

In 2005, ORO conducted a self-assessment of its principal management organizations implementation of ISM. The AMS organization was part of that assessment. The objective of this assessment was to verify that the AMS organization has mature management systems and controls for implementing the core functions and guiding principles of ISM. The review approach also included the precepts of Commitments 23 and 25 from the draft (at that time) DOE Implementation Plan for DNFSB Recommendation 2004-1. Specifically, this self-assessment included a review of the following scope elements:

(1) The work scope, organizational structure, and roles and responsibilities are defined and workers understand their specific job functions.

(2) For the assigned work scope and duties, workers are aware of the specific safety concerns that apply to them (vehicles, plant access, emergencies, etc.).

(3) For their assigned work scope and duties, workers are fully aware of the procedures that they must follow with respect to safety and general requirements of their job.

(4) The oversight processes which ensure that work is implemented in compliance with defined management controls are implemented.

(5) A system is in place and functioning for providing consistent feedback relating to safety goals and management expectations, improving performance, and providing lessons learned.

(6) DOE line management provides effective and formal oversight of their contractor ISMS programs to ensure that hazards are analyzed, controls are developed, and that feedback and improvement programs are in place and effective.

In September 2005, an external assessment was conducted of the ORO ISMS as a whole. This external assessment was an implementation review of the ORO ISMS using Phase II CRADs derived from DOE-HDBK-3027-99, *Integrated Safety Management Systems (ISMS) Verification Team Leader's Handbook*, and the DOE Implementation Plan in response to DNFSB Recommendation 2004-1. The results of the previous self-assessments and the following objectives were specifically reviewed:

- DOE procedures and mechanisms should ensure that work is formally and appropriately authorized and performed safely. DOE line managers should be involved in the review of safety issues and concerns and should have an active role in authorizing and approving work and operations.
- DOE procedures and mechanisms ensure that the hazards are analyzed, controls are developed, and feedback and improvement programs are in place and effective. DOE line managers are using these processes effectively, consistent with ORO O 411.1-1, *Manual of Functions, Responsibilities, and Authorities, Level III, for Oak Ridge Office*, requirements.
- High-reliability principles to establish effective ISM implementation are in place.

Both the self-assessment, as well as the independent assessments, determined that ORO, including AMS, continued to effectively implement ISM. The independent assessment stated, in part:

- "ORO's ISMS implementation has significantly improved since ... 2003."
- "ORO's self-assessments and contractor reviews accurately depict the state of their respective ISM programs."

In addition, in 2005, AMS performed various assessments of contractor, including a focused ISM implementation evaluation, as part of its formal integrated assessment program.

3.0 STATUS

The performance objective and relevant criteria for Commitments 23 and 25 were organized into the tables on the following pages. These tables, or matrices, describe representative evidence used to determine compliance with the criteria. If appropriate, corrective actions are noted for areas warranting some improvement. Also included after the tables is a list of reference materials used to address the specific objectives and criteria. The overall review results show that the ORO AMS program, as well as its major contractor, adequately implements the objectives and criteria established in Commitments 23 and 25.

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
WPC-1: Work Planning and Control Oversight - The DOE field element has an established process that ensures effective oversight of the contractor's work planning and control process.	1. There is documentation that delineates the roles and responsibilities for DOE field element personnel performing oversight of the contractor's work planning and control process.	Yes	A clear flow down of roles and responsibilities is present. At the ORO level, the ORO MSD defines organizational roles and responsibilities. Next, the AMS MSD further defines how the AMS organization specifically accomplishes oversight. Finally, individual AMS roles and responsibilities are defined in AMS Job Aids. Through these documents, there is clear and unambiguous definition of roles and responsibilities for oversight. Evidence • *ORO Management System Description* • AMS MSD • AMS Job Aids for Individual R2A2s Also assessed during the ORO AMS ISMS Self-Assessment 7/05 and ORO external ISM Assessment 9/05	
	2. DOE field element management has established the requirement for oversight of all stages (e.g., planning walk downs, Job Hazard Analysis (JHA) meetings, field execution, etc.) of the work planning and control process.	Yes	See above and: Within AMS, requirements are established within the AMS MSD and within the AMS procedures (ORNL Site Office Procedures [OSOPs]). Oversight is defined by providing expectations and requirements for project management, assessments, operational awareness visits, readiness reviews, review of safety analysis documents, walkthroughs, etc. Evidence • AMS MSD • Applicable OSOPs Also assessed during the ORO AMS ISMS Self Assessment 7/05 and ORO external ISM Assessment 9/05	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	3. The DOE field element management has designated appropriate personnel (e.g., safety and health, facility representatives, project, etc.) to perform oversight of the contractor's work planning and control process. Designated personnel have received adequate training or were selected based on their experience and knowledge of the work planning/ control process.	Yes	3. See 1 and 2 above. ORO M 411.1-1G, *Manual of Safety Management Functions, Responsibilities, and Authorities, Level III, for Oak Ridge Office* Within AMS, a structured organization has been defined and staffed that provides for business management, project/program management, and technical support and safety assessment. The organization is clearly defined and qualified individuals are assigned to each position. All personnel understand and carry out their functions in accordance with the AMS MSD and AMS internal procedures (OSOPs and Job Aids). All staff performing technical and project/program management functions are fully qualified for their assigned tasks or have schedules to attain these qualifications. Qualification programs used by AMS include the ORO Technical Qualification Program (TQP), Facility Representative Qualification Program, certified Project Manager program, and external professional certifying programs (numerous Professional Engineers, Certified Health Physicists, Certified Safety Professionals, etc.). Continuing training is provided routinely through the ORO Individual Development Plan Process. Evidence • AMS MSD, which contains the AMS organization chart • TQP Roster for AMS • Example IDP Also assessed during the ORO AMS ISMS Self-Assessment 7/05 and ORO external ISMS Assessment 9/05	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	4. The field element has a formal system that documents the efforts of their personnel performing oversight of the contractor's work planning and control process.	Yes	AMS documents their oversight utilizing the Oak Ridge Issues, Open Items, and Nonconformances (ORION2). Through this system, the level of staff participation can be monitored and the results of oversight activities can be viewed and reported. The AMS Technical Support and Assessment Division produces a biweekly status report for ORION2 that is sent to management. This report provides the current level of staff participation in oversight, the number and type of issues being identified, and the performance of staff with respect to corrective action verification/closure. Evidence • ORION2 Example Page • Example Biweekly Report Also assessed during the ORO AMS ISMS Self-Assessment 7/05 and ORO external ISMS Assessment 9/05	
WPC-2: Work Planning and Control Oversight - The DOE field element performs effective oversight of the contractor's work planning and control process.	1. The field element has scheduled periodic oversight activities (e.g., assessments, surveillances, observations, etc.) of the contractor's work planning and control process. These activities are of sufficient scope, detail, and quantity that the field element can ascertain the status	Yes	A comprehensive oversight program has been established that includes: (1) Routine Program Manager, Facility Representative, and subject matter expert (SME) walkthroughs; (2) Weekly Operational Awareness Visits to Oak Ridge National Laboratory (ORNL) facilities with combined ORO/UT-Battelle, LLC (UT-Battelle) teams; and (3) an AMS Integrated Assessment Program (IAP) that conducts at least 12 formal assessments of priority operations and management systems annually. Documented procedures are in place for all DOE oversight activities conducted by AMS staff. An annual schedule and a three-year forecast are in place for the AMS IAP. An annual plan and schedule are in place for the Operational Awareness Visits Program. Project Manager, Facility Representative, and SME walkthroughs are periodically	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	of the contractor's work planning and control process.		conducted; however, schedules vary depending on operational variables. Once completed, all walkthroughs, Operational Awareness Visits, and AMS IAP assessments are formally reported to the affected contractor organization with direction for corrective action. All issues noted during these assessments are entered into ORION2 Evidence • AMS Procedures • AMS Integrated Assessment Schedule • ORION2 List of FY 05-06 Walkthroughs • ORION2 List of FY 05-06 Integrated Assessment Schedule Assessments Also assessed during the ORO AMS ISMS Self-Assessment 7/05 and ORO external ISMS Assessment 9/05	
	2. The scheduled oversight activities are conducted during all stages of work planning and control process (e.g., planning walk downs, JHA meetings, field execution, etc.), and are chosen based upon the degree of risks, hazards, and complexity of the work activity.	Yes	See 1 above plus The AMS IAP includes all phases of the work planning and work control process for both operations and research activities. For example, our FY 2006 assessment of accelerator safety looked at how work is planned, how hazards are analyzed, how operations are conducted, and how feedback is provided. These assessments last from one to two weeks and include in-depth reviews of management systems; documents reviews; reviews of procedure implementation; interview with management, support, and operations staff; in-depth facility inspections; and observation of operations and work conduct. Walkthroughs and Operational Awareness Visits are focused, half-day surveillances of facility conditions and work in progress. These are more frequent than IAP assessments, with approximately three or four conducted weekly.	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			Evidence • AMS IAP Schedule • Example of IAP Assessment • Example of AMS Walkthrough • Example of AMS Also assessed during the DOE ORO ISMS Self Assessment 7/05 and OR Independent ISM Assessment 9/05	
	3. The field element tracks and trends the results of oversight activities performed on the contractor's work planning and control process and takes appropriate actions.	Yes/Partial	See 1 and 2 above, plus Formal tracking is performed for assessment activities and walkthroughs. ORION2 serves as the tool for this tracking. Tracking includes: - Assessment Schedules to assure they occur as planned - Corrective actions to assure they are closed on time - Open Findings to assure that they are reviewed for corrective action effectiveness in a timely manner - Data entry to ensure that information from completed assessments is entered into ORION2 promptly Formal trending is an area where improvement is needed. Presently, ORION2 is being modified and data are being validated to make this system more robust for use in trending. Requirements for formal trending have been specified in a new AMS procedure: OSOP-454, *Utilization of ORION2 and ESH Performance Trending*. This issue was also identified during both the FY 2005 AMS ISMS Self-Assessment and the FY 2005 ISMS Review of ORO in September 2005.	Implement Environment, Safety, and Health (ES&H) Trending Program (see AMS ISMS Self-Assessment Corrective Action Plan)

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			Evidence • ORION2 Tracking Report • ORION2 Summary Status Report to AMS • OSOP on *ORION2 Utilization and ES&H Trending* Also assessed during the ORO AMS ISMS Self-Assessment 7/05 and ORO external ISMS Assessment 9/05	
WPC-3: Work Control Program Documentation – The Contractor has developed an effective work planning and control process.	1. Contractor work control manual/procedure for initiating, analyzing, and developing work control documents, including job hazard analysis, is approved and implemented	Yes	ORNL requirements are outlined in the Work Control Subject Area within the Work/Project Planning and Control Management System. Processes are established for Research and Development (R&D) activities, Operations Maintenance and Services (OM&S) activities, proposing work in Category 2 and 3 nuclear facilities and performing work in office environments. The subject area itself outlines a graded approach for these categories of work and allows line organizations to establish supplemental procedures where additional rigor is needed. The nuclear facilities have supplemented the subject area with internal operating procedures. Evidence 1. MSD: Work/Project Planning and Control 2. Subject Area: Work Control • Procedure: *Implementing ISM in R&D* • Procedure: *Work Control for OM&S* • Procedure: *Implementing ISM in Office Environments* • Procedure: *Proposing Research Work in Category 2 and 3 Nuclear Facilities* 3. Examples of related internal operating procedures for the High Flux Isotope Reactor (HFIR): • MMP-0605, *Maintenance Instructions* • MMP-0700, *Plan of the Day*	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			• MMP-0800, *Maintenance Work Control* • MMP-0801, *Preparing and Processing a Maintenance Work Package* • MMP-0803, *Prejob Safety Review/Brief* • MMP-0804, *Post-Job Reviews* 4. Examples of related internal operating procedures for non-reactor nuclear facilities • NNFD-004, *Work Control* Miscellaneous Notes • For the purposes of maintaining clarity throughout the remainder of this document, discussions and evidence may be separated between the two primary processes within Work Control; R&D, and OM&S. They will be combined when applicable. • An attempt is made to reference previous citations, rather than duplicate references. • Because most assessments cover multiple criteria, a list of applicable assessments will follow in an additional table. • Subject areas are a collection of related procedures Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16	
	2. The contractor's work control process establishes the level of review and approval for different types of work control documents. The type of document is chosen based upon	Yes	R&D Evidence Previous related evidence, specifically calling out the following elements: 1. *Research Hazards Analysis and Control System (RHACS)* (question set provided) 2. *Guidance on Implementation of RSSs in Research* OM&S Evidence Previous related evidence, specifically calling out the following elements:	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	the degree of risks, hazards, and complexity of the work activity.		1. Work Planning Checklist 2. Reviewers Table Assessments 1, 2, 3, 4, 5, 8, 9, 11, 12, 13, 14, 15, 16	
	3. The contractor has established work planning/ control requirements for all personnel performing work at their site including subcontractors. Affected personnel are trained on these requirements.	Yes	R&D Evidence Previous related evidence, specifically calling out the following elements: 1. RHACS used to identify applicable training requirements 2. Direction within the *Implementing ISM in R&D Procedure* to include related requirements in subcontract using the method outlined in the Purchasing Supplies and Services Subject Area. 3. Annual Group Leader Training required. RHACS will not allow a Research Safety Summary (RSS) to be approved until the Group Leader has fulfilled this requirement. 4. Annual training required for Laboratory Space Managers (LSM). RHACS and SAP will not allow an LSM to be assigned to an area until this requirement has been fulfilled. 5. The RHACS Users Group continues to improve the efficiency of this process. OM&S Evidence Previous related evidence, and specifically the following elements: 1. Work Planning Checklist and Job Hazard Evaluation used to identify applicable training requirements 2. Work Control or OM&S address training in Steps 2, 7, and 11. Evidences Applicable to Both Processes 1. General Employee Training introduces all staff and	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			guests of Work Control requirements 2. R2A2s for Level 3 Managers: Group Leaders/Supervisors 3. R2A2s for Task/Project Leaders 4. MSD: Acquisition Management 5. Subject Area: Purchasing Supplies and Services 6. Procedure: Obtaining an Independent or Service Contractor Assessments 1, 2, 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16	
	4. The contractor's work control manual/procedure includes turnover requirements when line management and/or first line supervisor responsibilities are transferred.	Yes	Evidences Applicable to Both Processes 1. Requirements established in facilities with highest degree of hazard through Conduct of Operations (where required by 5480) • NNFD-011, *Conduct of Operations* • ADM-0001, *HFIR Conduct of Operations* R&D Evidence 1. RHACS is equipped to document transfers in management responsibilities and initiates review by the new supervisor when a change has been made. This approach is sufficient for the relative degrees of hazard. Assessments 2, 12, 15, 16	
	5. The contractor's work control manual/procedure includes a process for lessons learned/feedback during the execution	Yes	Evidence Applicable to Both Processes 1. Procedures titled *Identifying, Analyzing and Disseminating Lessons Learned Information* and *Reviewing Lessons Learned to Improve Work Planning and Work Activities/Tasks* exist within the Analysis, Issues Improvement, and Feedback Subject Area. These procedures establish Laboratory level processes	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	of work control activities, including incorporation of lessons learned into active and in-development work control documents.		related to lessons learned. R&D Evidence 1. Implementing ISM in R&D procedure requires annual review of RSSs, analysis of information for lessons learned, and incorporation of lessons learned. 2. Each RSS includes a project closeout reminder at the bottom of the document that encourages the Principal Investigator to provide lessons learned/feedback. OM&S Evidence 1. Collection of feedback and submission of lessons learned incorporated in final portion of process (see Step 17 of *Work Control for OM&S* procedure). Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16 (most notably 12 and 15)	
	6. The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or work control manual procedure.	Yes	See evidence provided for item 5. Additional Evidence Applicable to Both Processes 1. The Standards-Based Management System (SBMS) Documents – New and Revised Subject Area requires that all subject areas (including Work Control) be reviewed at least every three years. It also requires a development team process which includes users in the review process. 2. The Work Control Subject Area and its associated procedures are published on ORNL's Intranet. Each page of the document includes an avenue to submit questions or comments directly to the appropriate SME. Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16	
	7. The qualification requirements for	Yes	See previous comments in item 3 applicable to training.	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	Work Control Managers and Planners are established.		Personnel are assigned to positions based on their qualifications. These processes are maintained by the Training and Qualification and Human Resources Management Systems. Additional Evidence Applicable to Both Processes The Training and Qualification of Staff Subject Area establishes the requirements for identifying and managing qualification requirements for all subjects (not just Work Control). 1. MSD: Training and Qualification 2. Subject Area: Training and Qualification of Staff 3. Subject Area: Division Training Program Management 4. Procedure: *Managing Training and Qualification Requirements* 5. Procedure: *Managing Training within a Division Organization* 6. MSD: *Human Resources* OM&S Evidence 1. Personnel with implementation duties have been identified and added to distribution lists for procedural changes. 2. Web based and classroom as well as one-on-one training has been provided to project leaders, engineers, and others with Work Control for Operations Maintenance and Service implementation duties. Assessments 1, 2, 4, 5, 6, 8, 11, 12, 13, 14, 15, 16	
	8. Records that document the successful	Yes	Training records are maintained in accordance with the requirements within the Training and Qualification of Staff, Training Records and Document Control Subject Areas.	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	completion and qualification of Work Control Managers and Planners are retained and auditable.		Records of completion for the previously mentioned training requirements are retained and auditable. As training requirements change, existing training and qualification procedures sufficiently address management of these records. Evidence 1. ORNL SBMS Subject Area: Training Records 2. Procedure: *Records of Staff Participation and Performance in Training* 3. Procedure: *Records of Training Course Content* 4. Procedure: *Maintenance and Storage of Training Records* 5. Procedure: *Inventory and Disposition of Training Records* Assessments 1, 2, 4, 5, 7, 8, 11, 12, 13, 14, 15, 16	
WPC-4: Work Planning and Control Activity Definition and Hazard Identification Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.	1. Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g. line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries are understood.	Yes	R&D Evidence 1. Requirement to scope work placed on the principal investigator who would be most knowledgeable of the work. Encouraged in the subject area to include SMEs in this phase of the process. OM&S Evidence 1. Expectation is set in the Work Control for Operations and Maintenance Procedure. ORNL routinely assesses against this expectation and targets areas for improvement. Assessments 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	
	2. A team (team) comprised of the	Yes	R&D Evidence 1. Process outlined in Implementation of ISM in R&D.	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	appropriate personnel (e.g., planner, work supervisor, workers, safety and health Subject Matter Experts, etc.) is selected by line management to participate in the development of the work control document.		2. Division Work Authority (Line Manager) appoints a point of contact for the process who selects the review team. 3. LSMs are automatically added through RHACS as required reviewers. 4. Assessments indicate a diversity of personnel participate in these reviewed, including SMEs. OM&S Evidence 1. The Work Control in OM&S places this responsibility on the Work Plan Author using the "Work Package Reviewers Table" which establishes minimum team composition given the grade of work. 2. Approval of the Work Plan by line and/or facility management constitutes agreement that the appropriate personnel have been involved in the review and approval process. Assessments 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	
	3. The team performs effective walk downs and Job Hazard Analyses in order to develop work steps/techniques and identify possible hazards and their associated controls.	Yes	R&D Evidence 1. Expectation is set in the Implementation of *ISM in R&D Procedure*. 2. Various assessments point to team reviews as a strength in this process. OM&S Evidence 1. Expectation is set in the *Work Control for Operations and Maintenance Procedure*. 2. UT-Battelle routinely assesses against this expectation and targets areas for improvement. Assessments 1, 2, 3,4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16	
	4. The team considers	Yes	Expectation is set through hazard assessment processes.	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	potential upset conditions, accidents, and "what if" scenarios and their consequences during walk downs and JHAs.		This continues to be a focus area for assessment, as evidenced by its inclusion in the FY 06 performance assessment plan for the Work/Project Planning and Control Management System. Evidence Applicable to Both Processes 1. Human performance tools have been made available through the *Implementing ISM in R&D Procedure* and are being piloted in a division that primarily uses the OM&S process. 2. Elements of the *Safety Leadership Improvement Plan* designed to address this issue (specifically, the Safety Leadership Training). Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16	
	5. The team selects controls based upon the following hierarchy: (1) hazard elimination/reduction, (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.	Yes	Evidence Applicable to Both Processes 1. The Worker Safety and Health Management System uses the hierarchy in the development of subject areas that support the processes within the Work/Project Planning and Control Management System. Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16	
	6. The team ensures that the level of control established for a hazard is maintained throughout the activity or until the	Yes	R&D Evidence 1. The *Implementing ISM in R&D Procedure* requires that the Group Leader monitor the project to ensure the activity is conducted within the assigned controls. 2. RHACS requires that backup systems be identified if they are critical to controlling a hazard. 3. Expectation is set that RSSs are to be revised if controls	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	hazard has been eliminated or reduced (controls can be graded to the level of hazard reduction). [This Criteria addresses potential loss of safety function during D&D and may not be applicable to all work activities]		need to be elevated, but does not require modification when controls are no longer needed. This is appropriate for the level of hazard routinely covered in RSSs. OM&S Evidence 1. Hazard controls such as lockout/tagout, radiological work or penetration permits are determined by job grading, utilization of the "Work Planning Checklist," and use of the Job Hazard Evaluation. These permits/hazard controls set expectation for maintenance of controls throughout the process. 2. The Systems Engineering Subject Area sets requirements related to systems considered necessary for safe operation of a nuclear facility. Assessments 1, 2, 4, 5, 8, 9, 11, 12, 13, 14, 15, 16	
	7. The team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.	Yes	R&D Evidence 1. The LSM role was established, in part, to address synergistic effects. 2. Guidance provided to LSMs through the subject area and their R2A2s. OM&S Evidence 1. Opportunities for improvement identified through self-assessment and are acted upon. Individual subject areas such as Occupational Hazard Controls, Performing Radiological Work or Personal Protective Equipment emphasize this. Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16	
WPC-5: Work Planning and Control Process The	1. The work scope and associated	Yes	R&D Evidence The *Implementing ISM in R&D Procedure* provides	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.	boundaries are clearly defined.		guidance with respect to: 1. Defining the safety envelope 2. Criteria for revising RSSs 3. Bounding activities or groups of activities OM&S Evidence 1. The *Work Control for OM&S Procedure* sets this expectation. Evidence Applicable to Both Processes 1. UT-Battelle routinely assesses against this expectation and targets areas for improvement. Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16	
	2. The work control document is written in a clear, concise, and worker friendly manner.	Yes	R&D Evidence 1. RHACS was designed by a user committee which continues to meet regularly to discuss process improvements. 2. 2005 Maturity Assessment for the Work/Project Planning and Control Management System (ACTS # 7178) documents several proposed process improvements, primarily for increased ease of use of the system. OM&S Evidence See notes in item 1. Assessments 1, 2, 4, 5, 7, 8, 11, 12, 13, 14, 15, 16	
	3. The work steps for activities are properly sequenced.	Yes	R&D Evidence R&D activities do not always lend themselves to documentation of individual steps for a given activity. Guidance has been provided through the *Implementation of ISM in R&D Procedure.*	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			1. Bounding activities or groups of activities. 2. The Assessment of General Effectiveness for Guidance on Implementation of RSSs in R&D (ACTS# 8508) was completed to assess progress toward this standard. OM&S Evidence 1. See note in item 1. 2. The Work Plan System is equipped to enter steps in sequence and associate hazards and controls with each step. This function is used in the operations that require a higher degree of rigor; however, it is not required for the balance of activities. Evidence Applicable to Both Processes 1. Nuclear facilities set these expectations in their Conduct of Operations procedures (previously cited) and their "procedures on procedures." o PMP-1100, *Procedure Research and Preparation* [HFIR] o NNFD-001-R2-CN-3, *Development, Review and Control of Procedures* 2. Minimum expectations for procedure development in the remainder of the operations at ORNL are set in the Internal Operating Procedures Subject Area. Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16	
	4. Work control documents are adequately incorporate technical and administrative	Yes	R&D Evidence 1. The RHACS question set used to create RSSs provides the researcher with a list of subject areas applicable to a given hazard or risk. The subject areas provide direct links to the associated regulatory requirements, consensus standards and contract requirements. Safety	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	requirements (e.g., contract, safety basis, regulatory, consensus codes, etc.)		basis documents are referenced within the RSSs. When major changes are issued to subject areas, principal investigators and line managers are notified of these changes. RHACS is used to target those individuals who have identified the related hazard or risk in their RSSs. 2. RHACS automatically adds Safety Basis Engineers to the review team for activities in nuclear facilities. This ensures that an unreviewed safety question (USQ) screen is conducted. OM&S Evidence 1. A list of applicable requirements is maintained in the "Work Planning Checklist." 2. The "Work Planning Checklist" references requirements in the USQ Process for Nuclear and Facility Safety that USQ screens be done for activities in nuclear facilities. 3. The mandatory reviews included in the Reviewers Table assure work plans adequately incorporate technical and safety basis requirements. Assessments 1, 2, 3, 4, 5, 6, 8, 9, 11, 12, 13, 14, 15, 16	
	5. Work hazard controls identified in the JHA have been incorporated into the work control document.	Yes	R&D Evidence In most cases, the RSS is both the JHA and the work control document. When necessary, a supplemental JHA will be referenced in the RSS. See previous references. UT-Battelle routinely assesses the adequacy of implementation. OM&S Evidence See notes in item 1. Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	6. The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.	Yes	This criterion is stated such that the work control document is synonymous with procedure. At ORNL, work control documents can be a combination of hazards analysis tools and work instructions. See references in item 3. R&D Evidence 1. Assessments 13 and 14 specifically designed for this criterion. Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16	
WPC-6: Work Planning and Control Oversight - Contractor personnel perform work in accordance with approved work control documents.	1. First line supervisors and workers are knowledgeable of their work control documents and meet all applicable training and medical requirements.	Yes	R&D Evidence 1. RHACS tracks required reading of work control documents although use of this function is not required. Alternate methods are used. 2. The request for approval from the Group Leader and request for work authorization from the Division Work Authority both set the expectation that training requirements are met before work is authorized. 3. The management system routinely assesses against this criterion and looks for opportunities to continually improve. OM&S Evidence 1. Pre-Job Safety Reviews are specified in the OM&S Procedure Step 10 2. Pre-job briefs required for Grade 1-3 work. Grade 4 work is self-directed and staff perform own pre-job brief. Process is even more regimented in nuclear facilities (see previously referenced documents). Evidence Applicable to Both Processes 1. MSD: *Occupational Medicine*	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			2. Program Description: *Occupational Medicine* 3. Subject Area: Chemical Safety requires training to chemical hazards in the work place. Offers work control documentation as one method of meeting this requirement. Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16	
	2. Operations work control authority reviews and authorizes all work control documents prior to commencement of work. He/she is required to evaluate all work at a facility and/or site to ensue work activities of one scope do not adversely affect the safe work of another.	Yes	See previous notes with respect to levels of work approval, grading of work, and reviews specific to nuclear facilities. R&D Evidence 1. RHACS requires that a review be conducted against the Facility Use Agreement before the Division Work Authority approves the work. OM&S Evidence 1. Work Start Authorization is specified in OM&S Procedure Steps 3 and 11. 2. Internal Operating Procedures in ORNL nuclear facilities specify requirements operations authorization for work start. Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16	
	3. Effective pre-evolutionary briefings are performed.	Yes	See previous related evidence. The expectation has been set in both R&D and OM&S processes. ORNL routinely assesses against this criterion. R&D Evidence 1. *Human Performance Guidance for Pre-Task Reviews* OM&S Evidence 2. Pre-Job Safety Reviews are specified in the OM&S	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			procedure Step 10 3. *Pre-Job Safety Review Guide* Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16	
	4. First line supervisors and workers follow work control document instructions as written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their change control process.	Yes	R&D Evidence 1. Expectation for revising RSSs is established in the Implementation of ISM in R&D Procedure. 2. Supplemented by guidance titled *Criteria for Revising Research Safety Summary.* OM&S Evidence 1. Definitions for intent and non-intent changes are provided in the *Work Control in OM&S Procedure.* Expectations for documenting changes are provided. Evidence Applicable to Both Processes 1. The Internal Operating Procedures Subject Area sets minimal expectation for revision of procedures when used to control an activity. This subject area is supplemented by division-specific procedures in the nuclear facilities (previously cited). 2. UT-Battelle routinely assesses against this criterion and seeks opportunities for improving our implementation. Assessments 1, 2, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16	
	5. First line supervisors and workers understand their stop work authority.	Yes	Evidence Applicable to Both Processes 1. Expectation is set in both processes. 2. Expectation is re-emphasized in *R2A2 Set for Staff* Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	6. Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.	Yes	R&D Evidence 1. RHACS tracks status of major changes to RSSs (e.g., new, in review, awaiting approval) and archives previous versions of the documents. 2. Minor (non-intent) changes are documented as addition notes in the RSS. OM&S Evidence 1. Expectations set for response to unexpected conditions in the *Work Control in OM&S Procedure.* 2. Additional expectations are set for management of work packages and plan of the day meetings in nuclear facilities (documents previously cited). Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16	
	7. Lessons learned/feedback is incorporated into active and in-development work control documents in a timely manner.	Partial	Potential weakness identified during previous assessments. Action plan developed in response to Assessment #12. One remaining action exists as recorded in ACTS 6773.17.4 Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16 (most notably 12 and 16)	Action: Evaluation the effectiveness of changes made to the Lessons Learned Program in FY 05.
WPC-7: Work Planning and Control Oversight - The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in development work	1. The contractor has scheduled and performed independent and self-assessment of the work planning and control process. These activities are of sufficient scope, detail, and quantity that the contractor can ascertain the	Yes	Evidence 1. Business Plans and Assessment Plans for the Work/Project Planning and Control Management System and the sponsoring directorates document this strategy. 2. Assessments also routinely conducted by the Office of Independent Oversight. 3. A list of recent assessment follows. 4. Additional assessments are conducted by the various line organizations but are not included in this listing. Evidence of compliance to the criteria is provided as	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
control documents.	status of their work planning and control process.		attached summaries of various assessments conducted to monitor the effectiveness of ISM and Work Control implementation. Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16	
	2. Line managers periodically perform surveillances, which include the observations of job walk downs and JHA walk downs/meetings, pre-evolution briefings, and work performed to work control documents.	Yes	R&D Evidence 1. Each RSS is reviewed by two layers of line management. 2. The FY 06 Safety Leadership Initiative (previously discussed) requires ORNL line managers to conduct a minimum of two hours documented work observations each month. OM&S Evidence 1. All Managers within the Facilities Management Directorate are required to conduct STOP observations in accordance with the DuPont STOP Processes. 2. The Facilities Management Division Managers are also implementing the Access, Correct, Educate Program Self-Assessment Process in the Facilities Management Division, which requires conduct and evaluation of work observations. Assessments All are evidence of assessments at various levels.	
	3. Line managers periodically review in-development and approved work control documents.	Yes	Evidence Line managers are required to approve work control documents in both processes. Assessments 1, 2, 4, 5, 7, 8, 11, 12, 13, 14, 15, 16	
	4. The contractor tracks and trends the results of oversight	Yes	Evidence 1. Business Plans and Assessment Plans for the Work/Project Planning and Control Management	

DNFSB Recommendation 2004-1, Commitment 23 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	activities performed on their work planning and control processes and takes appropriate actions.		System and the sponsoring directorates document this strategy. Assessments 1, 2, 4, 5, 8, 11, 12, 13, 14, 15, 16 (1 and 8 are of particular note)	

Assessments Supporting Responses to CRADS

Assessment Number	Assessment Title	Scope and Summary of Results
1 ACTS 6761	Trend Analysis of Work Control Assessments and Issues Resulting in Work Planning/Work Control Implementation Deficiencies, July 2004	A trend analysis was conducted of recent work control issues to determine if common causal factors are leading to improper implementation of the SBMS procedure, *Work Control for Operations, Maintenance and Services*. The report includes the identification of eight primary trends or observations (e.g., proper identification of work scope, level of SME involvement, consistency of implementation).
2 ACTS 3276	Independent Assessment of the Quality of Maintenance Work Packages at the High Flux Isotope Reactor, November 2003	As part of the corrective action plan developed from the unplanned shut-down of HFIR, Independent Oversight was tasked with evaluating the quality of HFIR's maintenance work packages (MWP). Independent Oversight assessed work package grading practices and documentation included in the work packages to ensure the proper safety and quality assurance (QA) requirements are met. The post-job evaluation feedback forms provided in MWPs after the completion of work were reviewed for content and to determine how feedback affects change in other MWPs. The post-maintenance testing process was evaluated to ensure that post-maintenance tests confirm equipment operability. The evaluation also addressed labeling as part of maintenance activities to ensure equipment is installed or reinstalled properly. The assessment noted improvements in the quality of work packages, but noted several opportunities for improvement. In the areas of both the processes for work package development and the level of rigor with which the processes are executed.
3 ACTS 5925	Contractor Readiness Assessment for Building 7930 Cell F Nuclear Materials Storage Operations, February 2004	Reported results of the contractor readiness assessment of the Building 7930 Cell F Nuclear Material Storage Operations. The report includes deficiencies and opportunities for improvement related to the start of operations.
4 ACTS 3274	Work Planning and Control in Maintenance, Operations, and Services Activities, May 2004	ORNL began implementation of a new Work Control Procedure for Operations, Maintenance, and Services, which serves as a companion to the previously issued Work Control Procedure for R&D Activities. A systems-level review of this procedure was conducted in conjunction with the ISMS/SBMS evaluation conducted in 2002. This activity involved conducting an examination of the effectiveness of implementation of the Operations, Maintenance, and Services work control procedure. The scope of the activity included (1) development of a "smart sampling strategy" to identify a representative sample of work activities, hazards, and organizations; (2) establishment of key contacts within the Facilities and Operations Directorate (e.g., Resource Managers) to support identification of ongoing

Assessment Number	Assessment Title	Scope and Summary of Results
		work; (3) ensuring a continuous team presence on site for a several week period; and (4) compilation of a work observation report. The results pointed to (a) the increased need for clarity in guidance for grading work packages, (b) the impact of project lead staffing levels on effective planning, and (c) an overall improvement in safety accountability and culture.
5 ACTS 6487	Work Project Planning and Control Management System Maturity Evaluation, September 2004	This was the triennial maturity assessment for the management system. The purpose was to assess the degree to which the system is defined, implemented, evaluated, and continuously improved. The evaluation scope included two portions of the Work Control Subject Area: (1) implementing ISM in R&D and (2) maintaining ISM in laboratory spaces. The underlying objective was to identify the highest priority issues or barriers in field implementation of RSS-based work controls and implementation of the LSM program. The results indicated several suggestions for improvement, including availability of tools for 74 LSMs, analysis of accident scenarios, and the need for additional implementation guidance within the subject area and related tools.
6 ACTS 7422	Evaluate Work Control Corrective Actions for Adequacy in Addressing Both the Specific Issues and the Global Work Control Process Deficiencies (Trend Analysis Recommendation 5.2) Rev 1, January 2005	During the period of November 19 through 24, 2004, an analysis of corrective actions related to implementation of SBMS procedure, Work Control for Operations, Maintenance and Services (OM&S), was conducted to determine if corrective actions taken and planned are effective in resolving both the specific issue of (1) OM&S Work Control implementation has not been sufficiently effective resulting in NTS NTS-ORO--ORNL-X10BOPLANT-2004-002, *Failure to Effectively Implement Work Processes/Control for OM&S*, and (2) Weaknesses recognized during the trend analysis of recent work control issues to determine if common causal factors are leading to improper implementation of SBMS procedure *Work Control for Operations, Maintenance, and Services*.
7 ACTS 7178	Work/Project Planning and Control Management System Maturity Evaluation 2005 August 2005	This annual management system assessment was conducted as a function of the Work Control Users Group, which meets semiannually to consider changes to the WPPC Management System. Recommendations made by the group are currently being reviewed by the point of contact and Quality Assurance Manager for the Management System for significance and trending.
8 ACTS 6761	OM&S Work Control Implementation Has Not Been Sufficiently Effective	This assessment was completed to document the actions associated with two assessment activities: (1) NTS-ORO--ORNL-X10BOPLANT-2004-002, *Failure to Effectively Implement Work Processes/Control for OM&S*, and (2) the trend analysis of recent work control issues to determine if common causal factors are leading to improper implementation of SBMS procedure *Work*

Assessment Number	Assessment Title	Scope and Summary of Results
		Control for Operations, Maintenance, and Services (ATS #3274.1.4).
9 ACTS 6774.1.4	Effectiveness Review of Corrective Actions to NTS-BOPLANT-2004-002	An effectiveness review of corrective actions associated with NTS-ORO-ORNLX10BOPLANT-2004-002, *Failure to Effectively Implement Work Processes/Control for Operations, Maintenance, and Services (OM&S)*, was conducted on August 8 – 22, 2005, by a review team from Administrative and Technical Systems, Integrated Operations Support Division. This review included personnel interviews, evaluation of work packages, and limited field observation. The results of the review are that the corrective actions have been effective in improving implementation of work control in OM&S; however, continued emphasis on job grading, work planning, and communication between project leaders and resource providers is needed.
10 ACTS 8521	Internal FMD Assessment of Work Control in Utilities cal Group	This assessment examined the current work control practices within the Mechanical Group of the Utilities Complex to determine if they meet the criteria of ISM to identify the scope of the work, identify hazards, control the hazard, execute the work and provide feedback. These contractual requirements are implemented at ORNL with the SBMS procedure *Work Control for Operations, Maintenance and Services*. In addition, the assessment focused on the three rules set forth by the Facilities Management Division (first, be safe; second, be compliant; only then, do work). The ultimate purpose is to ensure that work planning is providing the necessary information and guidance that supports safe work practices.
11 ACTS 6774	ORNL Site Office Assessment, Effectiveness of Selected Corrective Actions	The purpose of this assessment was to evaluate the effectiveness of selected corrective actions taken by UT-Battelle in response to previous assessments. Results indicated effectiveness for many of the actions; however, six opportunities were identified in relation to Work Control.
12 ACTS 6773	OA-40 Independent Oversight of ES&H Management at ORNL	The Secretary of Energy's Office of Independent Oversight and Performance Assurance conducted an inspection of environment, safety, and health (ES&H) at ORNL during June and July 2004. The inspection was performed by the Office of Environment, Safety and Health Evaluations. The purpose of the ES&H inspection was to assess the effectiveness of selected activities. Corrective actions included compliance of research operations with DOE P 450.4 (specifically activity-based hazards analyses), implementation of work control processes in non-reactor nuclear facilities, and hazard analysis processes for construction subcontractors.
13 ACTS 7961	ISM Maturity Assessment – Chemical Sciences Division	Assessment conducted in part to evaluate effectiveness of select corrective actions for Assessment 12 (ACTS 6773)

Assessment Number	Assessment Title	Scope and Summary of Results
14 ACTS 8508	Internal Assessment of General Effectiveness for Guidance on Implementation of RSSs in R&D	This assessment was conducted to status the effectiveness of guidance issued to describe alternate methods of detailing hazards assessments and the role of the RSS in bounding activities (corrective action for assessment 12). The assessment indicated that acceptable progress is being made and that additional communication is needed for targeted organizations within ORNL. It was also recognized that RSSs are not well suited for documenting hazards of interim activities (e.g., laboratory clean-outs and set-ups).
15 ACTS 6773.7.5	Assessment of the Revised Work Control Tool, New Procedures and Training Developed to Ensure Effective Implementation	Assessment conducted to evaluate effectiveness of corrective actions related to work control in non-reactor nuclear facilities (actions from Assessment 12).
16 ACTS 7966	Technical Assessment of the Implementation of ISM by UT-Battelle at ORNL	Assessment conducted by ORO to assess implementation of ISM through the Work Control processes.

DNFSB Recommendation 2004-1, Commitment 25 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
F&I-1: Contractor Program Documentation - Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.	1. A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by contractor management, and forwarded to DOE for review and approval. The program description is reviewed and updated annually and forwarded to DOE for review and approval.	Partial	A requirement for a Contractor Assurance System has recently been added to the ORNL contract and a program description which specifically describes the system, risks, key activities, and accountabilities is under development. Pre-existing elements of the Contractor Assurance System are currently addressed within the QA Program Description. This document describes the manner in which Oak Ridge National Laboratory's (ORNL) Management Systems provide the integrated processes through which all work is performed. ORNL used the cross-reference between the ISM Principles and Functions and the QA Criteria provided in the DOE Guide 414.1-2, Quality Assurance Management System Guide for Use with 10 CFR 830.120 and DOE O 414.1, June 17, 1999. The role of the Quality Management System is to ensure quality related requirements are met. The Quality Management System maintains this Quality Assurance Program Description as a roadmap to describe how all the interconnected pieces work together to provide a fully integrated approach to quality. By design, where the needs/requirements of the quality program and the ISM program intersect in a common work process, the appropriate system owners have worked together to ensure that the impacted processes incorporate the	1. Issue Contractor Assurance Program Description

DNFSB Recommendation 2004-1, Commitment 25 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			needs of both programs in a rational, effective, and mutually supportive manner. Evidence 1. Quality Assurance Program Description 2. Quality MSD Quality Assurance Program Assessments 1. Independent Review of UT-Battelle's Quality Assurance Program (ACTS 7786) (Report IO-2005-08) 2. IA2005-5, Software Quality Assurance (ACTS 8021) 3. FY 2005 Audit of the Advanced Gas Reactor, Quality Assurance Program at the Oak Ridge National Laboratory (ACTS 7839) Quality Management System Assessments 4. Quality Management System Maturity Assessment, FY 2005 (ACTS 8523) Other Pertinent Assessments 5. CY 2004 Comprehensive, Internal ISO 9001:2000 Quality Assessment of the IDG (ACTS 6634) 6. 2005 Annual ISO 9000 Assessment (ACTS 8123)	
	2. The contractor's assurance system includes assessment activities (self assessments, management assessments, and internal independent assessments as defined by laws, regulations, and DOE	Partial	The Quality Management System delivers the process for managing assessments, performing effectiveness reviews, causal analysis, and extent of condition reviews. In addition, it describes the processes for analyzing assessment results, performing management system maturity evaluations, initiating lessons learned,	• Management System Effectiveness Evaluation - Worker Safety and Health Management System (ACTS 8112) • FY 2006 Post-Project Reviews (ACTS 8172)

DNFSB Recommendation 2004-1, Commitment 25 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	directives such as quality assurance program requirements) and other structured operational awareness activities; incident/event reporting processes, including occupational injury and illness and operational accident investigations; worker feedback mechanisms; issues management; lessons-learned programs; and performance indicators/measures.		and development of safety flashes. The Quality Management System's subject areas and program descriptions have been provided as evidence. Evidence 1. Quality MSD 2. Integrated Planning MSD 3. Worker Safety and Health MSD 4. Independent Oversight Program Description 5. Internal Audit Program Description 6. Performance Assurance Subject Area Description 7. Analysis, Issues Improvement, and Feedback Subject Area Description 8. Calibration Subject Area Description 9. Critiques Subject Area Description 10. Deviation Control Subject Area Description 11. Event Reporting and Follow-Up Subject Area Description 12. Managing Assessments Subject Area Description 13. Nonconformance Control Subject Area Description 14. Price-Anderson Amendments Act (PAAA) Subject Area Description 15. Suspect/Counterfeit Items and Defective Items Subject Area Description 16. Business and Performance Plan Development Subject Area Description 17. Injuries and Illnesses Subject Area Description 18. Abnormal Event Response Program Description 19. Issues Management Program Description	• Develop a program description for lessons learned to include roles, responsibilities, expectations and program elements. (ACTS 7569) • Update Lessons Learned Subject areas/procedures

DNFSB Recommendation 2004-1, Commitment 25 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			20. Operational Awareness Program (OAP) Description 21. PAAA Compliance Assurance Program Description 22. Quality Assurance Program Description 23. Supplier Evaluation Program Description 24. Suspect/Counterfeit Items and Defective Items Description Examples of Self-Assessments 1. QSSD Performance Assessment Plan 2. EPWSD Performance Assessment Plan 3. ISM Self Assessment 2004 (ACTS 6462) Examples of Management Assessments 4. Safety Management System Assessment (FMD) (ACTS 6353) 5. Work Project Planning and Control Management System Maturity Evaluation 2004 (ACTS 6487) 6. FY 2005 Self-Assessment of FDD's Status of Implementation of the UT-Battelle Environment Management System (ACTS 6527) Examples of Internal Independent Assessments (defined by laws, regulations, and DOE directives) 7. OA-40 Independent Oversight of ES&H Management at ORNL (OFIs) (ACTS 6772 and 6773) 8. Independent Oversight Performance Assessment of NNFD (ACTS 6961) 9. IO-2004-17: Effectiveness of the Environment, Safety, Health, and Quality	

DNFSB Recommendation 2004-1, Commitment 25 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			Directorate Performance Assessment Program (ACTS 6829) Examples of Other Structured Operational Awareness Assessments 10. ISM Walkthrough Inspection for RSS (ACTS 6544) 11. OAP Walk Through Assessment (ACTS 6932) (Report OAP-2004-04) 12. OAP FY 2005 Assessment of the Environmental Sciences Division (ACTS 8081) (Report OAP-2005-04) 13. Conduct Facilities Walkthroughs – Logistical Services Division (ACTS 7525) Examples of Incident/Event Reporting Assessments 14. Review of Calendar Year 2005 Skin Contamination Radiological Event Reports (ACTS 8432) 15. Evaluation of Recent Radiological Event Reports in the Nonreactor Nuclear Facilities Division (ACTS 8435) Examples of Worker Feedback Mechanisms Assessments 16. Independent Assessment of ORNL Employee Concerns Program (ACTS 7941) 17. FY04 ISM Maturity Evaluation for IOSD (ACTS 6456) 18. OA-40 Independent Oversight of ES&H Management at ORNL (OFIs) (ACTS 6772) Examples of Issues Management Assessments 19. Administrative Protocol for Resuming	

DNFSB Recommendation 2004-1, Commitment 25 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			Reactor Operations Is Not Adequately Defined (ACTS 7661) 20. Issues Management Process (ACTS 7569) Examples of Lessons Learned Program Assessments 21. Assess Critique Process (ACTS 6240) 22. Effectiveness Review of Building 2026 Corrective Actions (ACTS 8433) Examples of Performance Indicators/Measures Assessments 23. EPWSD Performance Assessment Plan 24. RTSSD Performance Assessment Plan 25. Electrical Safety Committee (ESC) Review of Assessments and Performance indicators (ACTS 6440) 26. FY 2005 Performance Assessment Goal - Increase Division Funding (ACTS 7419) Examples of Other Pertinent Assessments 27. ISO 14001 Surveillance Audit (ACTS 8050) 28. Single Supplier/Vendor Evaluation Program Implementation Plan (ACTS 4289) 29. ML-IA-2005-7: Calibration Methods (ACTS 7742)	
	3. The contractor's assurance system monitors and evaluates all work performed under their contract, including the work of subcontractors.	Yes	UT-Battelle implemented the Performance Based Management Systems as the system for measuring performance relative to the Laboratory's commitments. These management systems were transferred to the Quality Management System in November 2005. The system consists of three primary elements: self-assessment, independent oversight, and internal	

DNFSB Recommendation 2004-1, Commitment 25 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			audit. The technical representative monitors the contractor's performance to ensure that the technical and schedule requirements, including receipt of all deliverables, are met. In the closeout phase, the technical representative certifies that performance is complete in accordance with the contract. Procurement personnel ensure that all contractual administrative requirements have been met and final payment is made. Evidence 1. Quality Management System 2. Analysis, Issues Improvement, and Feedback Subject Area Description 3. Acquisition MSD 4. Independent Oversight Subject Area Description 5. Working with the Independent Oversight Assessment Process Procedure Description Examples of Assessments 1. IO-2005-01, Update Performance Assessment Effectiveness Evaluation Criteria (ACTS 6967) 2. IO-2005-08, Independent Review of UT-Battelle's Quality Assurance Program (ACTS 7786) 3. Monitor implementation of 10CFR835 (ACTS 6687) Examples of Subcontractor Assessments ML-IA-2005-4: Subcontractor Qualification	

DNFSB Recommendation 2004-1, Commitment 25 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	4. Contractor assurance system data is formally documented and available to DOE line management. Results of assurance processes are periodically analyzed, complied, and reported to DOE line management as part of formal contract performance evaluation.	Yes	The Performance Evaluation Plan (PEP) contains a comprehensive set of measures and deliverables that monitor the Lab's progress toward mutually agreed upon goals between UT-Battelle and ORO. In support of the PEP, line managers review and document the progress and results of their programmatic activities, the progress on critical outcomes and strategic investments, and the lessons learned and improvements made from self-assessed and self-disclosed activities. This information is compiled into quarterly reports and an annual self-evaluation report, based on the fiscal year. Line managers communicate with the appropriate DOE programmatic counterpart and acquire concurrence for scores and ratings, if possible, for performance evaluation plan items. Evidence 1. PEP 2. FI-1.4 FY 05 Report Presentation 3. Assessment and Commitment Tracking System 4. Quarterly PEP Reports Examples of Performance Evaluation Assessments 1. FY05 PEP Goal 1(ACTS 7930) 2. ESC Review of Assessments and Performance indicators (ACTS 6440) 3. Update Performance Assessment Effectiveness Evaluation Criteria (ACTS 6967) (IO-2005-01)	
	5. Contractors have	Yes	In addition to information provided previously,	

DNFSB Recommendation 2004-1, Commitment 25 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	established and implemented sufficient processes (e.g., self assessments, corporate audits, third-party certifications or external reviews, performance indicators) for measuring the effectiveness of the contractor assurance program.		coordinated and integrated efforts are deployed to measure functional and strategic levels of performance. The Quality Systems and Services Division performs assessments that evaluate compliance with management system requirements, performs corrective action effectiveness reviews, and works with the Independent Oversight Office to integrate assessment activities. Independent Oversight conducts independent assessments to evaluate management systems, processes related to environment, safety, health, and quality, and other functional areas requested by the ORNL Leadership Team. External reviews are requested where independent, external subject matter expertise is appropriate. Third-party assessments, such as those for the ISO 14001 certification, are also employed. The results of these assessments provide feedback to both senior management and line organizations that supports performance improvement and the Laboratory agenda. Evidence 1. Quality Management System 2. Quality Assurance Program Description 3. Performance Assurance Subject Area 4. Independent Oversight Subject Area Description 5. Independent Oversight Assessment Schedule Examples of Self-Assessments 1. 3rd Qtr. Activity-Based Self Assessments (ACTS 6934)	

DNFSB Recommendation 2004-1, Commitment 25 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			2. FMD Self-Assessment of Safety Performance (ACTS 5863) 3. ISM Self Assessment 2004 (ACTS 6462) Examples of Corporate and/or Customer Audits 4. Supplier Audit OQA-AS-05-17 of ORNL (OCRWM) (ACTS 7987) 5. Annual BSL-2 Safety Compliance Survey of ORNL Facilities (US Army) (ACTS 8129) 6. BJC/SEC RadCon Alliance Assessment of ORNL Internal Dosimetry Program (BJC)(ACTS 8171) 7. Emergency Management Capability Review (Battelle Corporate) (ACTS 7270) Examples of Third-Party Certifications/Reviews 8. ISO 14001 Surveillance Audit (ACTS 8050) 9. Third Party Review of ORNL Hoisting and Rigging Program (ATS# 6460.5) (ACTS 6510) 10. 2004 Invited PAAA Program Review, (ACTS 6891) Examples of Performance Indicators 11. FY05 NSD PEP (ACTS 6913) 12. FY05 PEP Goal 1(ACTS 7930) 13. ESC Review of Assessments and Performance indicators (ACTS 6440) Examples of Effectiveness Reviews 14. Review Effectiveness of Response to Assessment Report for Radiological Protection Program (ACTS 6476)	

DNFSB Recommendation 2004-1, Commitment 25 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			15. Effectiveness Review of Controlled Area Requirements (ACTS 7968) 16. Effectiveness Review for Corrective and Preventive Actions Associated with the 6/04 EMS Readiness Review (ACTS 7984) 17. Effectiveness Review of Building 2026 Corrective Actions (ACTS 8433) (IO-2006-02)	
	6. Requirements and formal processes have been established and implemented that ensure personnel responsible for managing and performing assurance activities possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities.	Yes	A formal process has been established and implemented. The Audit Management and Services Group maintains internal procedures for ensuring personnel possess appropriate training and experience. A procedure for lab-wide use outlining this process has been written and is currently undergoing management review and approval. Upon approval, the procedure *Qualifying Auditors and Certifying Lead Auditors* will be located in the SBMS under the Quality Management System, Subject Area: Managing Assessments. <u>Evidence</u> 1. Quality Management System 2. Quality Assurance Program Description 3. Independent Oversight Program Description 4. Internal Audit Program Description 5. Performance Assurance Subject Area 6. Human Resources Management System, Roles, Responsibilities, Accountabilities, & Authorities 7. Performance Management and Employee Development Subject Area Description 8. Training and Qualification of Staff Subject	

DNFSB Recommendation 2004-1, Commitment 25 for ORO AMS				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			Area Description 9. Audit Manual, Section 1 Examples of Personnel Requirements Assessments 1. IO-2005-04, Evaluation of the Group Leader Function (7583)	

References

ORO Documentation:
DOE ORO ISMS Review: Plan 8/05 and Report 9/05
ORO O M100, *ORO Management System Description*
ORO M 411.1-1G, *Manual of Safety Management Functions, Responsibilities, and Authorities, Level III, for Oak Ridge Office*

ORO AMS Documentation
OSOP-425, *Startup and Restart of Nuclear Facilities at ORNL*
OSOP-422, *Safety System Oversight*
OOSP 420, *Review and Approval of Nuclear Facility Authorization Basis Documents*
OSOP-421, *Review of Accelerator Safety Envelope*
OSOP-FRP-411, *Facility Representative Oversight Program*
OSOP-453, *Integrated Assessment Program*
DOE ORO AMS ISMS Self Assessment 7/05
FY05 UT-Battelle ISM Review
ORION2
ORO *Annual Integrated Assessment Schedule*
Example oversight reviews:

- Oversight Assessment of CAIRS/ORPS, 2/05
- Accelerator Assessment, 12/05
- Facility Representative Program Review

UT-Battelle Procedures

NOTE: UT-Battelle procedures are maintained through the UT-Battelle SBMS that is contained on their internal web page. The SBMS is accessible to all DOE and contractor staff with an ORNL user identification and password. SBMS procedures are defined under Subject Areas that, in turn, are defined under the SBMS Management Systems. The SBMS Management Systems, Subject Areas, and associated Procedures that are of key applicability to ISM are listed below. Program description documents for the UT-Battelle ISMS and Conduct of Operations programs are also referenced; these are located under the Worker Safety and Health and Integrated Facility Management SBMS Management Systems, respectively.

Management System: Work/Project Planning & Control
Subject Area: Work Control
Procedures:

- *Proposing Research Work in Category 2 and 3 Nuclear Facilities*
- *Implementing ISM in Research and Development*
- *Work Control for Operations, Maintenance and Services*
- *Implementing ISM in Office Environments*
- *Maintaining ISM in Laboratory Space*

Management System: Quality
Subject Area: Event Reporting and Follow-Up
Procedures:

- *Discovering, Categorizing, and Responding to an Occurrence or Non-Routine Event*
- *Reporting Security Incidents*
- *Occurrence Notification*
- *Evaluating, Reporting, and Resolving Occurrences*
- *Notifying, Evaluating, and Resolving Non-Routine Events*
- *Responding to a Notice of Violation*

Management System: Quality
Subject Area: Managing Assessments
Procedures:

- *Conducting a Specific Assessment*
- *Responding to Assessment Results*
- *Performing an Operational Awareness Assessment*

Management System: Worker Safety and Health
Program Description: *Integrated Safety Management System (ISMS) Program Description*

Management System: Integrated Facility Management
Program Description: *Conduct of Operations Program*

Attachment B– Environmental Management

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1.0 PURPOSE

The November 2005 memorandum from U.S. Department of Energy (DOE) Under Secretary David K. Garman provided criteria review and approach documents (CRADs) to be used to assess the status of field office completion of Commitments 23, "Work Planning and Control," and Commitment 25, "Feedback and Improvement," identified in the Implementation Plan for the Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1. The purpose of this report is to provide the results of the DOE Oak Ridge Office (ORO) program assessments of Commitments 23 and 25 and to provide corrective actions, as necessary, resulting from the review of the CRADs.

2.0 APPROACH

Two principal functions of an Integrated Safety Management System (ISMS) directly correlate to Commitments 23 and 25: perform work within controls and provide feedback and continuous improvement. ORO has in place ORO Manual 100, *Oak Ridge Management System Description*, which incorporates the principles of Integrated Safety Management (ISM), and the ORO Office of Environmental Management (EM) has an organization-specific Management System Description (MSD) document that incorporates the principles of ISM specifically for EM activities. ORO also has ORO Manual 411.1-1G, *Manual of Functions, Responsibilities, and Authorities, Level III, for Oak Ridge Office*.

During 2005, each ORO organization conducted a self-assessment of its continued compliance with ISMS. Specifically, this self-assessment included a review of the following scope elements:

(1) The work scope, organizational structure, and roles and responsibilities are defined, and workers understand their specific job functions.

(2) For their assigned work scope and duties, workers are aware of the specific safety concerns that apply to them (vehicles, plant access, emergencies, etc.).

(3) For their assigned work scope and duties, workers are fully aware of the procedures that they must follow with respect to safety and the general requirements of their job.

(4) Oversight processes which ensure that work is implemented in compliance with defined management controls are implemented.

(5) A system is in place and functioning to provide consistent feedback related to safety goals and management expectations, improving performance, and providing lessons learned.

(6) DOE line management organizations provide effective and formal oversight of their contractor's ISM programs to ensure that hazards are analyzed, controls are developed, and feedback and improvement programs are in place and effective.

In September 2005, an external assessment was conducted of the ORO ISMS as a whole. This external assessment was an implementation review of the ORO ISMS using Phase II CRADs derived from DOE-HDBK-3027-99, *Integrated Safety Management Systems (ISMS) Verification Team Leader's Handbook*, and the DOE Implementation Plan in response to DNFSB Recommendation 2004-1. The results of the previous ORO self-assessments and the following objectives were specifically reviewed:

- DOE's procedures and mechanisms should ensure that work is formally and appropriately authorized and performed safely. DOE line managers should be involved in the review of safety issues and concerns and should have an active role in authorizing and approving work and operations.
- DOE procedures and mechanisms ensure that the hazards are analyzed, controls are developed, and feedback and improvement programs are in place and effective. DOE line managers are using these processes effectively, consistent with ORO FRAM requirements.
- High-reliability principles to establish effective ISM implementation are in place.

In both the self-assessments and independent assessments, it was determined that ORO EM has an implemented ISM program. In addition, in October and November 2005, ORO EM conducted operational readiness reviews (ORRs) on projects to be completed by each of two prime contractors: Bechtel Jacobs Company LLC (BJC) and Foster Wheeler Environmental Corporation (FWENC). These ORRs included independent reviews of the ORO EM oversight activities.

During the course of these recent reviews, the work planning and control processes and feedback and improvement processes utilized by ORO and its contractors were thoroughly assessed. As such, in completing the assessment of the CRADs for Commitment 23 and Commitment 25, these recent reviews were referenced, as applicable, to demonstrate compliance with each criterion. Where compliance with a criterion was not as rigorous as ORO would like, corrective actions were identified. The results of the CRAD assessments for ORO EM are provided in the tables on the following pages.

3.0 STATUS

To facilitate review, the CRADs for Commitments 23 and 25 are organized into tables containing a reference to the evidence used to determine compliance with each criterion and any corrective actions that are necessary. A list of references is provided after the tables. The ORO EM program currently meets all requirements of the CRADs as determined by the recent reviews discussed in Section 2 above.

DNFSB Recommendation 2004-1, Commitment 23 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
WPC-1: Work Planning and Control Oversight - The DOE field element has an established process that ensures effective oversight of the contractor's work planning and control process.	1. There is documentation that delineates the roles and responsibilities for DOE field element personnel performing oversight of the contractor's work planning and control process.	Yes	1. ORO O M 100, *ORO Management System Description* Assessed during the DOE ORO ISMS Review: Plan 8/05 and Report 9/05	
WPC-1 Continued	2. DOE field element management has established the requirement for oversight of all stages (e.g., planning walk downs, job hazard analysis (JHA) meetings, field execution, etc.) of the work planning and control process.	Yes	2. See above and EM Procedures: EM-2.1, *Startup and Restart of EM Program Work*; EM-2.2, *EM Systems Engineering*; EM 3.1, *Review and Approval of EM Authorization Agreements*; EM 3.2, *Facility Representative Program*; EM 3.3, *Integrated Assessment Program*; EM 3.4, *USQ Procedure Review Plan*; EM 3.5, *Safety Basis Document Review*	
WPC-1 Continued	3. The DOE field element management has designated appropriate personnel (e.g., safety and health, facility representatives, project, etc.) to perform oversight of the contractor's work planning and control process. Designated personnel have	Yes/Partial	3. See 1 and 2 above. ORO M 110 and the ORO Manual of Safety Management Functions, Responsibilities, and Authorities Also assessed during the ORO EM ISMS self-assessment 7/05	From ORO EM ISM self-assessment 7/05: ISM-050715-E: A program is not in place to verify that EM staff has the required training for safe access to the EM work sites.

DNFSB Recommendation 2004-1, Commitment 23 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	received adequate training or were selected based on their experience and knowledge of the work planning/ control process.			CA: 9/20/05 Memorandum from the Assistant Manager for Environmental Management (AMEM) to staff re: "Site Access Training Policy." A training self-assessment is underway.
WPC-1 Continued	4. The field element has a formal system that documents the efforts of their personnel performing oversight of the contractor's work planning and control process.	Yes	4. EM-3.3, *Integrated Assessment Program*, and the ORO issue tracking system: Oak Ridge Issues, Open Items, and Nonconformances (ORION2); and ORO O M 100, *ORO Management System Description* Assessed during the ORO ISMS Review: Plan 8/05 and Report 9/05	
WPC-2: Work Planning and Control Oversight - The DOE field element performs effective oversight of the contractor's work planning and control process.	1. The field element has scheduled periodic oversight activities (e.g., assessments, surveillances, observations, etc.) of the contractor's work planning and control process. These activities are of sufficient scope, detail, and quantity that the field element can ascertain the status of the contractor's work planning and control process.	Yes	1. EM-3.3, *Integrated Assessment Program;* ORION2; *Integrated Assessment Schedule*; Example oversight review: Environmental Management Waste Management Facility (EMWMF) annual technical assessment 12/05 Assessed during recent K-25 ORR and FWENC ORR; Assessed during recent Facility Representative Program Review	A technical assessment of work planning and control of construction and industrial activities has been scheduled.
WPC-2 Continued	2. The scheduled oversight activities are conducted during all stages of work planning and control process	Yes	2. See 1 above	

DNFSB Recommendation 2004-1, Commitment 23 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	(e.g., planning walk downs, JHA meetings, field execution, etc.), and are chosen based upon the degree of risks, hazards, and complexity of the work activity.			
WPC-2 Continued	3. The field element tracks and trends the results of oversight activities performed on the contractor's work planning and control process and takes appropriate actions.	Yes	3. See 1 and 2 above. Also assessed during ORO EM ISMS Self Assessment 7/05 and ORO ISMS Review: Plan 8/05 and Report 9/05	
WPC-3: Work Control Program Documentation - The contractor has developed an effective work planning and control process	1. Contractor work control manual/procedure for initiating, analyzing, and developing work control documents, including job hazard analysis, is approved and implemented.	Yes	1. Described in BJC procedure BJC-FS-1001, *Work Control Process*; and FWENC Procedure T-CM-FW-P-AD-063, *Operations Procedure Development* Assessed during the FY05 BJC ISM review and the recent BJC K-25 ORR and FWENC ORR	Prestart findings regarding the work control process resulting from the ORRs were closed prior to startup. Follow-up will be conducted to assure that the corrective actions have fully addressed the issues.
WPC-3 Continued	2. The contractor's work control process establishes the level of review and approval for different types of work control documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work	Yes	2. See 1 above.	

DNFSB Recommendation 2004-1, Commitment 23 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	activity.			
WPC-3 Continued	3. The contractor has established work planning/control requirements for all personnel performing work at their site, including subcontractors. Affected personnel are trained on these requirements.	Yes	3. See 1 above.	
WPC-3 Continued	4. The contractor's work control manual/ procedure include turnover requirements when line management and/or first line supervisor responsibilities are transferred.	Yes	4. BJC-GM-2000, *Conduct of Operations*, incorporates operations turnover requirements and BJC-FS-1001, *Work Control Process*, requires individual briefings for any workers reporting after work begins. FWENC Procedures T-CM-FW-A-AD-009, *Communication Plan*, and T-CM-FW-P-OP-010, *Conduct of Operations*, contain shift turnover requirements and requirements for communicating before, during, and after operations. Assessed during recent BJC K-25 ORR and FWENC ORR	
WPC-3 Continued	5. The contractor's work control manual/procedure includes a process for lessons learned/feedback during the execution of	Yes	5. See 1 and 4 above	

DNFSB Recommendation 2004-1, Commitment 23 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	work control activities, including incorporation of lessons learned into active and in development work control documents.			
WPC-3 Continued	6. The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or work control manual/procedure.	Yes	6. BJC-FS-1001, *Work Control Process*, reviewing lessons learned is called out at various steps in the work package process. FWENC Procedure T-CM-FW-A-AD-009, *Communication Plan*, describes use of lessons learned. Assessed during the recent BJC K-25 ORR and FWENC ORR	
WPC-3 Continued	7. The qualification requirements for Work Control Managers and Planners are established.	Yes	7. BJC-FS-1001, *Work Control Process*, and FWENC T-CM-FW-P-OP-010, *Conduct of Operations* Assessed during the recent BJC K-25 ORR and FWENC ORR	
WPC-3 Continued	8. Records that document the successful completion and qualification of Work Control Managers and Planners are retained and auditable.	Yes	8. Described in records requirements of various procedures Assessed during recent K-25 and FWENC ORRs and EM Waste Management Facility Assessment 12/05	
WPC-4: Work Planning and Control Activity -	1. Initial discussion/walk down of the proposed work	Yes	1. BJC-FS-1001, *Work Control Process*; FWENC Procedures T-CM-FW-P-	

DNFSB Recommendation 2004-1, Commitment 23 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
Definition and Hazard Identification - Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.	activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries are understood.		AD-63, *Operations Procedure Development*; and T-CM-FW-OP-406, *Verification and Validation Guidance for Operations Procedures* Assessed during the recent BJC K-25 and FWENC management self-assessments (MSAs) and ORRs	
WPC-4 Continued	2. A team (team) comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health Subject Matter Experts, etc.) is selected by line management to participate in the development of the work control document.	Yes	2. See 1 above.	
WPC-4 Continued	3. The team performs effective walk downs and Job Hazard Analyses in order to develop work steps/techniques and identify possible hazards and their associated controls.	Yes	3. See 1 above and BJC-EH-2010, *Hazard Assessment* Assessed during the recent BJC K-25 and FWENC MSAs and ORRs	Prestart findings regarding hazard analysis resulting from the ORRs were closed prior to startup. Follow-up will be conducted to assure that corrective actions have fully addressed the issues.
WPC-4 Continued	4. The team considers potential upset conditions, accidents, and "what if' scenarios and their consequences during the walk downs and JHAs.	Yes	4. See 3 above.	
WPC-4 Continued	5. The team selects controls based upon the following	Yes	5. See 3 above.	

DNFSB Recommendation 2004-1, Commitment 23 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	hierarchy: (1) hazard elimination/ reduction, (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.			
WPC-4 Continued	6. The team ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction). [This Criteria addresses potential loss of safety function during D&D and may not be applicable to all work activities].	Yes	6. See 3 above.	
WPC-4 Continued	7. The team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.	Yes	7. See 3 above.	
WPC-5: Work Planning and Control Process - The contractor work planning process generates work	1. The work scope and associated boundaries are clearly defined.	Yes	BJC-FS-1001, *Work Control Process*; FWENC Procedures T-CM-FW-P-AD-63, *Operations Procedure Development*, and T-CM-FW-A-AD-009,	Prestart findings regarding work control processes resulting from the ORRs were closed prior to startup.

DNFSB Recommendation 2004-1, Commitment 23 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
control documents that lead to safe and efficient completion of work activities.			*Communications Plan* Assessed during the recent BJC K-25 and FWENC MSAs and ORRs	Follow-up will be conducted to assure that corrective actions have fully addressed the issues.
WPC-5 Continued	2. The work control document is written in a clear, concise, and worker friendly manner.	Yes	See 1 above.	
WPC-5 Continued	3. The work steps for activities are properly sequenced.	Yes	See 1 above.	
WPC-5 Continued	4. Work control documents adequately incorporate technical and administrative requirements (e.g., contract, safety basis, regulatory, consensus codes, etc.).	Yes	See 1 above.	
	5. Work hazard controls identified in the JHA have been incorporated into the work control document.	Yes	See 1 above.	
	6. The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.	Yes	See 1 above.	
WPC-6: Work Planning	1. First line supervisors and	Yes	1. BJC Procedures:	Prestart findings regarding

DNFSB Recommendation 2004-1, Commitment 23 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
and Control Oversight - Contractor personnel perform work in accordance with approved work control documents.	workers are knowledgeable of their work control documents and meet all applicable training and medical requirements.		BJC-HR-0710, *Training Position Descriptions* BJC HR-0724, *Training and Qualification Program for BJC Category 2 & 3 Nuclear Facilities* FWENC Procedure T-CM-FW-P-AD-027, *Personnel Qualification and Training,* Assessed during recent BJC K-25 and FWENC MSAs and ORRs	training and work control processes resulting from the ORRs were closed prior to startup. Follow-up will be conducted to assure that corrective actions have fully addressed the issues.
WPC-6 Continued	2. Operations work control authority reviews and authorizes all work control documents prior to commencement of work. He/she is required to evaluate all work at a facility and or site to ensure work activities of one scope do not adversely affect the safe work of another.	Yes	2. BJC-FS-1001, *Work Control Process,* FWENC T-CM-FW-P-OP-010, *Conduct of Operations* Assessed during the recent BJC K-25 and FWENC MSAs and ORRs	
WPC-6 Continued	3. Effective pre-evolutionary briefings are performed.	Yes	3. BJC-FS-1001, *Work Control Process* FWENC T-CM-FW-A-AD-009, *Communications Plan* Assessed during the recent BJC K-25 and FWENC MSAs and ORRs	
WPC-6 Continued	4. First line supervisors and workers follow work control document instructions as	Yes	4. See 3 above and T-CM-FW-P-OP-013, *Emergency/Atypical Events*	

DNFSB Recommendation 2004-1, Commitment 23 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their change control process.			
WPC-6 Continued	5. First line supervisors and workers understand their stop work authority.	Yes	5. See 1 above.	
WPC-6 Continued	6. Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.	Yes	6. See 3 and 4 above	
WPC-6 Continued	7. Lessons learned/feedback is incorporated into active and in-development work control documents in a timely manner.	Yes	BJC-FS-1001, *Work Control Process*, reviewing lessons learned is called out at various steps in the work package process. FWENC Procedure T-CM-FW-A-AD-009, *Communication Plan*, describes use of lessons learned. Assessed during the recent BJC K-25 and FWENC MSAs and ORRs	
WPC-7: Work Planning and Control Oversight - The Contractor has an established process that requires line management	1. The contractor has scheduled and performed independent and self assessment of the work planning and control	Yes	1. BJC Procedures BJC-PQ-1401, *Independent Assessment*, and BJC-GM-2005, *CPEB Project Performance Evaluation Program*; IA and CPEB Reports	

DNFSB Recommendation 2004-1, Commitment 23 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in development work control documents.	process. These activities are of sufficient scope, detail, and quantity that the contractor can ascertain the status of their work planning and control process.		FWENC Procedure T-CM-FS-P-QA-020, *Independent Assessment* Assessed during the recent BJC K-25 and FWENC MSAs and ORRs	
WPC-7 Continued	2. Line managers periodically perform surveillances, which include the observations of job walk downs and JHA walk downs/meetings, pre-evolution briefings, and work performed to work control documents.	Yes	2. BJC-PQ-1420, *Management Assessments* FWENC Procedure T-CM-FW-P-AD-060, *Management Assessment* Assessed during the recent BJC K-25 and FWENC MSAs and ORRs	Prestart findings regarding contractor line management oversight resulting from the ORRs were closed prior to startup. Follow-up will be conducted to assure that corrective actions have fully addressed the issues.
WPC-7 Continued	3. Line managers periodically review in-development and approved work control documents.	Yes	3. BJC-FS-1001, *Work Control Process* FWENC Procedure T-CM-FW-P-AD-060, *Management Assessment* Assessed during the recent BJC K-25 and FWENC MSAs and ORRs	
WPC-7 Continued	4. The contractor tracks and trends the results of oversight activities performed on their work planning and control process and takes appropriate actions.	Yes	4. BJC PQ-1210, *Issues Management*, and the BJC Issues and Corrective Action Tracking System FWENC Procedure T-CM-FS-P-AD-048, *Issues tracking and the Issues Matrix* Assessed during the recent BJC K-25 and FWENC MSAs and ORRs	

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
F&I-1: Contractor Program Documentation - Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.	1. A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by contractor management, and forwarded to DOE for review and approval. The program description is reviewed and updated annually and forwarded to DOE for review and approval.	Yes	1. BJC-OR-43, *Quality Assurance Program Plan*, BJC-GM-013, *Nuclear Safety Assurance* FWENC Procedure T-CM-FW-A-QA-001, *Quality Assurance Program Plan* Assessed during recent BJC and FWENC ORRs and ORO ISMS Review, Report 9/05	BJC Quality Assurance Program update has been submitted for review and approval.
F&I-1 Continued	2. The contractor's assurance system includes assessment activities (self assessments, management assessments, and internal independent assessments as defined by laws, regulations, and DOE directives such as quality assurance program requirements) and other structured operational awareness activities; incident/event reporting processes, including occupational injury and	Yes	2. BJC-PQ-1420, *Management Assessments*, BJC-PQ-1401, *Independent Assessment* BJC-GM-2005, *CPEB Project Performance Evaluation Program* BJC-PQ-1210, *Issues Management Program*, and the BJC Issues and Corrective Action Tracking System FWENC Procedures T-CM-FW-P-AD-060, *Management Assessment*, T-CM-FS-P-QA-020, *Independent Assessment*, T-CM-FS-P-AD-048, *Issues Tracking*	

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	illness and operational accident investigations; worker feedback mechanisms; issues management; lessons-learned programs; and performance indicators/measures.		*Program and Issues Matrix* Assessed during recent BJC and FWENC MSAs ORRs	
F&I-1 Continued	3. The contractor's assurance system monitors and evaluates all work performed under their contract, including the work of subcontractors.	Yes	3. See 1 and 2 above.	
F&I-1 Continued	4. Contractor assurance system data is formally documented and available to DOE line management. Results of assurance processes are periodically analyzed, complied, and reported to DOE line management as part of formal contract performance evaluation.	Yes	4. Assessed during DOE ORO ISMS Review, report 9/05	
F&I-1 Continued	5. Contractors have established and implemented sufficient processes (e.g., self assessments, corporate audits, third-party certifications or external reviews, performance indicators) for measuring	Yes	5. See 1 and 2 above.	

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	the effectiveness of the contractor assurance program.			
F&I-1 Continued	6. Requirements and formal processes have been established and implemented that ensure personnel responsible for managing and performing assurance activities possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities.	Yes	6. See 1 and 2 above and BJC Procedures: BJC-HR-0710, *Training Position Descriptions* BJC HR-0724, *Training and Qualification Program for BJC Category 2 & 3 Nuclear Facilities* FWENC Procedure T-CM-FW-P-AD-027, *Personnel Qualification and Training* Assessed during recent BJC and FWENC MSAs ORRs	
F&I-2: Contractor Program Implementation – **2.1 Assessments & Performance Indicators -** Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance	1. Line management has established and implemented a rigorous assessment program for performing comprehensive evaluations of all functional areas, programs, facilities, and organizational elements, including subcontractors, with a frequency, scope and rigor based on appropriate analysis of risks. The scope and frequency of assessments are defined in site plans and program documents, include	Yes	1. BJC-OR-43, *Quality Assurance Program Plan* FWENC Procedure, T-CM-FW-A-QA-001, *Quality Assurance Program Plan* BJC-PQ-1420, *Management Assessments* FWENC Procedure T-CM-FW-P-AD-060, *Management Assessment* BJC-PQ-1401, *Independent Assessment*, and BJC-GM-2005, *CPEB Project Performance Evaluation Program*; IA and CPEB Reports;	

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
and this information is effectively used as the basis for informed management decisions to improve performance.	assessments of processes and performance-based observation of activities and evaluation of cross-cutting issues and programs, and meet or exceed requirements of applicable DOE directives.		BJC ISM review; FWENC Procedure T-CM-FS-P-QA-020, *Independent Assessment* Assessed during BJC K-25 and FWENC MSAs and ORRs	
2.1 Continued	2. Rigorous self-assessments are identified, planned, and performed at all levels periodically to determine the effectiveness of policies, requirements, and standards and the implementation status.	Yes	2. See 1 above.	
2.1 Continued	3. Appropriate independent internal assessments are identified, planned and performed by contractor organizations or personnel having the authority and independence from line management, to support unbiased evaluations.	Yes	3. See 1 above.	
2.1 Continued	4. Line managers have established programs and processes to routinely identify, gather, verify, analyze, trend, disseminate, and make use of performance measures that	Yes	4. See 1 above.	

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	provide contractor and DOE management with indicators of overall performance, the effectiveness of assurance system elements, and identification of specific positive or negative trends. Approved performance measures provide information that indicates how work is being performed and are clearly linked to performance objectives and expectation established by management.			
2.1 Continued	5. Line managers effectively utilize performance measures to demonstrate performance improvement or deterioration relative to identified goals, in allocating resources and establishing performance goals, in development of timely compensatory measures and corrective actions for adverse trends, and in sharing good practices and lessons learned.	Yes	5. See 1 above.	
2.2 Operating Experience - The Contractor has developed and implemented an	1. Formal processes are in place to identify applicable lessons learned from	Yes	1. BJC-PQ-1240, *Lessons Learned Program*	

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities	external and internal sources and any necessary corrective and preventive actions, disseminate lessons learned to targeted audiences, and ensure that lessons learned are understood and applied.		FWENC T-CM-FW-A-AD-009, *Communications Plan* Assessed during recent BJC K-25 and FWENC MSAs and ORRs	
2.2 Continued	2. Line managers effectively identify, apply, and exchange lessons learned with the rest of the DOE complex. Lessons learned identified by other DOE organizations and external sources are reviewed and applied by line management to prevent similar incidents/events.	Yes	2. See 1 above.	
2.2 Continued	3. Formal programs and processes have been established and implemented to solicit feedback or suggestions from workers and work activities on the effectiveness of work definition, hazard analyses and controls, and implementation for all types of work activities, and to apply lessons learned.	Yes	3. See 1 above.	

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
2.3 Event Reporting - Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.	1. Formal programs and processes have been established to identify issues and report, analyze, and address operational events, accidents, and injuries. Events, accidents, and injuries are promptly and thoroughly reported and investigated, including the identification and resolution of root causes and management and programmatic weaknesses, and distribution of lessons learned.	Yes	1. BJC-PQ-1460, *Event Investigation and Critique*, BJC-GM-536, *Event Notification/Communication to DOE* K-25 and FWENC CORR, MSA, and ORR reports	
2.3 Continued	2. Reporting of operational events, accidents, and injuries are conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE directives, and contract terms and conditions. Trending analysis of events, accidents, and injuries are performed in accordance with structured formal processes and applicable DOE directives.	Yes	2. See 1 above.	

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
2.4 Issues Management - The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.	1. Program and performance deficiencies, regardless of their source, are captured in a system or systems that provides for effective analysis, resolution, and tracking. Issues management system elements include structured processes for determination of risk, significance, and priority of deficiencies; evaluation of scope and extent of condition; determination of reportability under applicable requirements; identification of root causes; identification and documentation of corrective actions and recurrence controls to prevent recurrence; identification of individuals/organizations responsible for corrective action implementation; establishment of milestones based on significance and risk for completion of corrective actions; tracking progress; verification of corrective action completion; and validation of corrective action implementation and	Yes	1. BJC-OR-43, *Quality Assurance Program Plan* BJC-PQ-1210, *Issues Management Program* Issues and Corrective Action Tracking System FWENC Procedures: T-CM-FW-A-QA-001, *Quality Assurance Program Plan* T-CM-FS-P-AD-048, *Issues Tracking Program and Issues Matrix* Assessed during the recent BJC K-25 and FWENC MSAs and ORRs	

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	effectiveness.			
2.4 Continued	2. Issues management processes include mechanisms to promptly identify the potential impact of a deficiency and take timely actions to address conditions of immediate concern, including stopping work, system shutdown, emergency response, reporting to management, and compensatory measures pending formal documentation and resolution of the issue.	Yes	2. See 1 above.	
2.4 Continued	3. Processes for analyzing deficiencies, individually and collectively, have been established that enable the identification of programmatic or systemic issues. Line management effectively monitors progress and optimizes the allocation of assessment resources in addressing known systemic issues.	Yes	3. See 1 above.	
2.4 Continued	4. Processes for communicating issues up the management chain to senior management have been established and based	Yes	4. See 1 above.	

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	on a graded approach that considers hazards and risks. Line management receives periodic information on the status of identified deficiencies and corrective actions and holds organizations and individuals accountable for timely and effective completion of actions. Line management has executed graded mechanisms such as independent verification and performance-based evaluation to ensure that corrective action and recurrence controls are timely, complete, and effective. Closure of corrective actions and deficiencies are based on objective, technically sound, and verified evidence. The effectiveness of corrective actions is determined on a graded basis and additional actions are completed as necessary.			
2.4 Continued	5. Results of various feedback systems are integrated and collectively analyzed to identify repeat occurrences, generic issues, trends, and vulnerabilities at a lower	Yes	5. See 1 above.	

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	level before significant problems result.			
2.4 Continued	6. Individuals or teams responsible for corrective action development are trained in analysis techniques to evaluate significant problems using a structured methodology to identify root and contributing causes and corrective actions to prevent recurrence.	Yes	6. See 1 above.	
F&I-3: DOE Line Management Oversight - DOE line management have established and implemented effective oversight processes that evaluate the adequacy and effectiveness of contractor assurance systems and DOE oversight processes	1. DOE line management has established a baseline line management oversight program that ensures that DOE line management maintains sufficient knowledge of site and contractor activities to make informed decisions concerning hazards, risks and resource allocation, provide direction to contractors, and evaluate contractor performance.	Yes	1. ORO O 450, Chapter V, *Integrated Safety Management Program* ORO O 410, Chapter III, *Quality Assurance* ORO O 220, Chapter XI, *ORO Assessment Program* Procedure EM 3.3, *Integrated Assessment Program* Assessed during the ORO EM ISMS Self-Assessment 7/05, ORO ISMS Review Report 9/05, and recent K-25 and FWENC ORRs	
F&I-3 Continued	2. DOE line oversight program includes assessments, operational awareness activities, performance monitoring and improvement, and	Yes	2. See 1 above and ORION2	

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	assessment of contractor assurance systems. Documented program plans have been established that define oversight program activities and annual schedules of planned assessments and focus areas for operational awareness. Operational awareness activities must be documented either individually or in periodic (e.g., weekly or monthly) summaries. Deficiencies in programs or performance identified during operational awareness activities are communicated to the contractor for resolution through a structured issues management process.			
F&I-3 Continued	3. DOE line management monitors contractor performance and assesses whether performance expectations are met; that contractors are assessing site activities adequately; self-identifying deficiencies; and, taking timely and effective corrective actions. Responsibilities for line oversight and self-	Yes	3. See 1 above.	

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	assessment are assigned and managers, supervisors, and workers are held accountable for performance assurance activities. Deficiencies must be brought to the attention of contractor management and addressed in a timely manner.			
F&I-3 Continued	4. DOE line management requires that findings must be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans.	Yes	4. See 1 above.	From ORO ISMS Self-Assessment: REL.1-F-1: Inconsistent use of ORION2 is not supportive of efficient reporting and analysis of assessment results, performance measurement, or timely and effective closure of deficiencies and corrective actions. CA: EM is participating in the AMESH-led Assessment Improvement Initiative which includes improvements to ORION2 and revision of ORO O 220, *ORO Assessment Program*. EM will review and update ORION2 for completeness.
F&I-3 Continued	5. DOE line management regularly assesses the effectiveness of contractor	Yes	5. See 1 above.	

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback). DOE line management must also evaluate contractor processes for communicating information, including dissenting opinions, up the management chain.			
F&I-3 Continued	6. DOE line management must verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE assessments or reviews are closed, and requires that deficiencies are analyzed both individually and collectively to identify causes and prevent recurrences.	Yes	6. See 1 above.	
F&I-3 Continued	7. DOE line management has established appropriate criteria for determining the effectiveness of site programs, management systems, and contractor assurance systems, and	Yes	7. See 1 above.	

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	includes consideration of previous assessment results, effectiveness of corrective actions and self-assessments, and evidence of sustained management support for site programs and management and assurance systems. Review criteria are based on requirements and performance objectives (e.g., laws, regulations, and DOE directives), site-specific procedures/ manuals, and other contractually mandated requirements and performance objectives.			
F&I-3 Continued	8. DOE line management has established and maintained appropriate qualification standards for personnel with oversight responsibilities, and a clear, unambiguous line of authority and responsibility for oversight.	Yes	8. DOE O M 100, *ORO Management System Description* ORO M 411.1-1G, *Manual of Safety Management Functions, Responsibilities, and Authorities, Level III, for Oak Ridge Office* ORO O 360, Chapter II, *Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities* Assessed during recent BJC K-25 and FWENC ORRs and ORO EM ISMS	From EM ISMS Self-Assessment: OBS-051715-D: EM Position Descriptions are not consistently adequate in flowdown of roles and responsibilities and training requirements. CA: Position descriptions will be reviewed and updated to incorporate ORO M 100 and ORO M 110 roles and responsibilities by 6/30/06

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			Self-Assessment 7/05 and ORO ISMS Review 9/05	
F&I-3 Continued	9. Line management periodically reviews established performance measures to ensure performance objectives and criteria are challenging and focused on improving performance in known areas of weakness.	Yes	9. See 1 and 8 above	
F&I-3 Continued	10. DOE line management has established effective processes for communicating line oversight results and other issues up the DOE line management chain, using a graded approach based on the hazards and risks. Established processes include provisions for communicating and documenting dissenting opinions. Formal structured processes for resolving disputes for oversight findings and other significant issues have been implemented, and include provisions for independent technical reviews for significant findings.	Yes	10. See 1 and 8 above	
F&I-3 Continued	11. An effective employee	Yes	11. ORO O 440, Chapter V, *Employee*	

DNFSB Recommendation 2004-1, Commitment 25 for ORO EM				
mance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	concerns program been established and implemented in accordance with DOE Directives that encourages the reporting of employee concerns and provides thorough investigations and effective corrective actions and recurrence controls.		*Concerns Management System*, and ORO M 440, *Employee Concerns System Manual* Assessed during ORO EM ISMS Self-Assessment 7/05 and ORO ISMS Review 9/05	

References

ORO Documentation:
DOE ORO ISMS Review: Plan 8/05 and Report 9/05
ORO M 100, *ORO Management System Description*
ORO M411.1-1G, *Manual of Safety Management Functions, Responsibilities, and Authorities, Level III, for Oak Ridge Office*

ORO EM Documentation:
EM-2.1, *Startup and Restart of EM Program Work*
EM-2.2, *EM Systems Engineering*
EM-3.1, *Review and Approval of EM AAs*
EM-3.2, *Facility Representative Program*
EM-3.3, *Integrated Assessment Program*
EM-3.4, *USQ Procedure Review Plan*
EM-3.5, *Safety Basis Document Review*
ORO EM ISMS Self-Assessment 7/05
FY05 BJC ISM review
Site Access Training Policy
ORION2
ORO *Annual Integrated Assessment Schedule*;
Example oversight review: EM Waste Management Facility Annual Technical Assessment 12/05
K-25 MSA and ORR
FWENC MSA and ORR
Facility Representative Program Review

FWENC Procedures:
T-CM-FW-P-AD-063, *Operations Procedure Development*
T-CM-FW-A-AD-009, *Communication Plan*
T-CM-FW-P-OP-010, *Conduct of Operations*
T-CM-FW-OP-406, *Verification and Validation Guidance for Operations Procedures*
T-CM-FW-P-AD-027, *Personnel Qualification and Training*
T-CM-FW-P-OP-013, *Emergency/Atypical Events*
T-CM-FW-P-AD-060, *Management Assessment*
T-CM-FS-P-QA-020, *Independent Assessment*
T-CM-FS-P-AD-048, *Issues tracking*

BJC Procedures:
BJC-FS-1001, *Work Control Process*
BJC-EH-2010, *Hazard Assessment*
BJC-GM-2000, *Conduct of Operations*
BJC-PQ-1420, *Management Assessments*
BJC-PQ-1401, *Independent Assessment*
BJC-GM-2005, *CPEB Project Performance Evaluation Program*
BJC PQ-1210, *Issues Management*

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Attachment C – Nuclear Fuel Supply

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1.0 PURPOSE

The November 2005 memorandum from U.S. Department of Energy (DOE) Under Secretary David K. Garman provided criteria review and approach documents (CRADs) to be used to assess the status of field office completion of Commitment 23, "Work Planning and Control," and Commitment 25, "Feedback and Improvement," as discussed in the Implementation Plan responding to Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1. The purpose of this report is to summarize the results of the U.S. Department of Energy (DOE) Oak Ridge Office (ORO) Assistant Manager for Nuclear Fuel Supply (AMNFS) program assessments of Commitments 23 and 25 and to address the corrective actions, as necessary, resulting from reviews of these CRADS.

2.0 APPROACH

Two principal functions of an Integrated Safety Management System (ISMS) directly correlate to Commitments 23 and 25: (1) to perform work within controls and (2) to provide feedback and continuous improvement. The approach used to evaluate implementation of the two cited elements significantly considered existing ORO and Nuclear Fuel Supply (NFS) policies, procedures, and relevant internal and external assessments performed in recent months.

In terms of relevant policies and operating protocols, ORO has in place ORO M100, *ORO Management System Description,* which is fundamentally based upon and incorporates the principles of ISM. Principles of ISM specifically for NFS activities are incorporated into ORO M100.

In 2005, each ORO organization conducted a self-assessment of its principal line management organizations' implementation of ISM. The NFS organization was part of that assessment. The objective of this assessment was to verify that the NFS organization has mature management systems and controls for implementing the core functions and guiding principles of ISM. The review approach also included the precepts of Commitments 23 and 25 DOE Implementation Plan for Recommendation 2004-1. Specifically, this self assessment included a review of the following scope elements:

(1) The work scope, organizational structure, and roles and responsibilities are defined and workers understand their specific job functions.

(2) For the assigned work scope and duties, workers are aware of the specific safety concerns that apply to them (vehicles, plant access, emergencies, etc.)

(3) For their assigned work scope and duties, workers are fully aware of the procedures that they must follow with respect to safety and general requirements of their job.

(4) The oversight processes which ensure that work is implemented in compliance with defined management controls are implemented.

(5) A system is in place and is functioning for providing consistent feedback relating to safety goals and management expectations, improving performance, and providing lessons learned.

(6) DOE line management provides effective and formal oversight of their contractor ISMS programs to ensure that hazards are analyzed, controls are developed, and that feedback and improvement programs are in place and effective.

In September 2005, an independent assessment was conducted of the ORO ISMS as a whole. This independent assessment was an implementation review of the ORO ISMS using Phase II CRADs derived from DOE-HDBK-3027-99, *Integrated Safety Management Systems (ISMS) Verification Team Leader's Handbook*, and the DOE Implementation Plan in response to DNFSB Recommendation 2004-1. The results of the previous self assessments, as well as the following objectives, were specifically reviewed:

- DOE procedures and mechanisms should ensure that work is formally and appropriately authorized and performed safely. DOE line managers should be involved in the review of safety issues and concerns and should have an active role in authorizing and approving work and operations.
- DOE procedures and mechanisms ensure that the hazards are analyzed, controls are developed, and feedback and improvement programs are in place and effective. DOE line managers are using these processes effectively, consistent with ORO O 411.1-1, *Manual of Functions, Responsibilities, and Authorities, Level III, for Oak Ridge Office*, requirements.
- High-reliability principles to establish effective ISM implementation are in place.

In both the self and independent assessments, it was determined that ORO and NFS have an implemented ISM program.

It should be noted that the NFS Regulatory Management Team (RMT) conducts annual functional inspections of NFS's two primary lessees, the United States Enrichment Corporation (USEC) and USEC Inc. ISM requirements for these two entities are included in the leases as a Regulatory Oversight Agreement (ROA) or Lessee Requirement Document (LRD). NFS ISM oversight approach utilized by RMT is included in the *Regulatory Oversight Manual Inspection and Enforcement Manual for the Gaseous Diffusion Plant (GDP) and Centrifuge Lead Cascade (CLC)* and in the *Centrifuge Demonstration Project Inspection Manual for the American Centrifuge Engineering and Manufacturing Project (ACEMP)*. During the course of the annual functional inspections of the GDP/CLC and ACEMP, the work planning and control processes and feedback and improvement processes utilized by ORO NFS and its lessees were assessed. As such, in completing the assessment of the CRADs for Commitment 23, "Work Planning and Control," and Commitment 25, "Feedback and Improvement," these inspections, specific lessee procedures, and NFS (and RMT) procedures were referenced to demonstrate compliance with each criterion. Where compliance with a criterion was not sufficiently rigorous, corrective actions were identified. Results of the CRAD assessments are provided in the tables in Section 3.0.

3.0 STATUS

To facilitate review, the CRADs for Commitments 23 and 25 are organized into tables containing a reference to the evidence used to determine compliance with each criterion and any corrective actions that are necessary. These tables are attached. The ORO NFS program currently meets all requirements of the CRADs as determined by the review efforts discussed in Section 2 above and the attached NFS tables. Tables 1(a) and 1(b) describe compliance of Centrifuge Deployment activities. Tables 2(a) and 2(b) describe compliance of Reindustrialization activities.

Table 1(a): DNFSB Recommendation 2004-1, Commitment 23 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
WPC-4: Work Planning and Control Activity - Definition and Hazard Identification - Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls. *RMT does not provide safety oversight of contractors. RMT does provide this oversight on leases; these CRADS were applied to RMT's lessees.*	1. Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries are understood.	Yes	1. Centrifuge Demonstration Project Procedure PLD-1642-0020, *Safety Management Program Description* Assessed during the AMNFS inspection of January 2005, Inspection Report No. CDP-05-01 Centrifuge Lead Cascade USEC Procedure XP2-GP-GP 1030, *Work Control Process*; USEC, Inc. Procedure AC2-MA-002, *Work Control Process* Assessed during the AMNFS inspection of July 2005, Inspection Report No. 70-7003-2005-06	
	2. A team (team) comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health Subject Matter Experts, etc.) is selected by line management to participate in the development of the work control document.	Yes	2. See 1 above.	
	3. The team performs effective walk downs and Job Hazard Analyses in order to develop	Yes	3. See 1 above. Centrifuge Lead Cascade Procedures	

Table 1(a): DNFSB Recommendation 2004-1, Commitment 23 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	work steps/techniques and identify possible hazards and their associated controls.		USEC XP2-SH-IS1038, *Instructions for Safety and Health Work Permits,* and USEC Inc. AC2-RG-050, *Job Hazard Analysis Program*	
	4. The team considers potential upset conditions, accidents, and "what if' scenarios and their consequences during the walk downs and JHAs.	Yes	4. See 3 above.	
	5. The team selects controls based upon the following hierarchy: (1) hazard elimination/ reduction, (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.	Yes	5. See 3 above.	
	6. The team ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction). [This Criteria addresses potential loss of safety function during D&D and may not be applicable to all work activities].	Yes	6. See 3 above.	

Table 1(a): DNFSB Recommendation 2004-1, Commitment 23 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	7. The team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.	Yes	7. See 3 above.	
WPC-5: Work Planning and Control Process - The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities. *RMT does not provide safety oversight of contractors. RMT does provide this oversight on leases; these CRADS were applied to RMT's lessees.*	1. The work scope and associated boundaries are clearly defined.	Yes	1. Centrifuge Demonstration Project Procedure PLD-1642-0020, *Safety Management Program Description* Assessed during the AMNFS inspection of January 2005, Inspection Report No. CDP-05-01 Centrifuge Lead Cascade USEC Procedure XP2-GP-GP 1030, *Work Control Process*; USEC, Inc. procedure AC2-MA-002, *Work Control Process* Assessed during the AMNFS inspection of July 2005, Inspection Report No. 70-7003-2005-06	
	2. The work control document is written in a clear, concise, and worker friendly manner.	Yes	See 1 above.	

Table 1(a): DNFSB Recommendation 2004-1, Commitment 23 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	3. The work steps for activities are properly sequenced.	Yes	See 1 above.	
	4. Work control documents adequately incorporate technical and administrative requirements (e.g., contract, safety basis, regulatory, consensus codes, etc.).	Yes	See 1 above.	
	5. Work hazard controls identified in the JHA have been incorporated into the work control document.	Yes	See 1 above.	
	6. The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.	Yes	See 1 above.	
WPC-6: Work Planning and Control Oversight - Contractor personnel perform work in accordance with approved work control documents. *RMT does not provide safety oversight of contractors. RMT does provide this*	1. First line supervisors and workers are knowledgeable of their work control documents and meet all applicable training and medical requirements.	Yes	1. Centrifuge Demonstration Project Procedures FOD-1560-0043, *K-1600 Training Program*, and FOD-1560-0041, *Roles and Responsibilities* Centrifuge Lead Cascade USEC Procedure XP2-TR-TR1030, *Conduct of Training*, and USEC Inc. procedure AC2-TP-002, *Training Program*	

Table 1(a): DNFSB Recommendation 2004-1, Commitment 23 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
oversight on leases; these CRADS were applied to RMT's lessees.	2. Operations work control authority reviews and authorizes all work control documents prior to commencement of work. He/she is required to evaluate all work at a facility and or site to ensure work activities of one scope do not adversely affect the safe work of another.	Yes	2. Centrifuge Demonstration Project Procedure PLD-1642-0020, *Safety Management Program Description* Assessed during the AMNFS inspection of January 2005, Inspection Report No. CDP-05-01 Centrifuge Lead Cascade USEC Procedure XP2-GP-GP 1030, *Work Control Process*; USEC, Inc. procedure AC2-MA-002, *Work Control Process* Assessed during the AMNFS inspection of July 2005, Inspection Report No. 70-7003-2005-06	
	3. Effective pre-evolutionary briefings are performed.	Yes	3. See 2 above.	
	4. First line supervisors and workers follow work control document instructions as written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their change control process.	Yes	4. See 2 above.	

Table 1(a): DNFSB Recommendation 2004-1, Commitment 23 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	5. First line supervisors and workers understand their stop work authority.	Yes	5. See 1 above and Centrifuge Lead Cascade Procedures USEC UE2-SF-SF0130, *Stop Work Actions;* USEC, Inc. AC2-MP-002, *Stop Work Actions*	
	6. Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.	Yes	6. See 2 above.	
	7. Lessons learned/feedback is incorporated into active and in-development work control documents in a timely manner.	Yes	7. See 2 above.	
WPC-7: Work Planning and Control Oversight - The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in development work control documents.	1. The contractor has scheduled and performed independent and self assessment of the work planning and control process. These activities are of sufficient scope, detail, and quantity that the contractor can ascertain the status of their work planning and control process.	Yes	1. Centrifuge Lead Cascade Procedures USEC UE2-QA-QA1032, *Nuclear Safety and Quality Assessments;* USEC, Inc. AC2-QM-001, *Lead Cascade Assessment Program* Centrifuge Demonstration Project Procedure PLD-1641-0033, *Management Assessments*	

Table 1(a): DNFSB Recommendation 2004-1, Commitment 23 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
RMT does not provide safety oversight of contractors. RMT does provide this oversight on leases; these CRADS were applied to RMT's lessees.	2. Line managers periodically perform surveillances, which include the observations of job walk downs and JHA walk downs/meetings, pre-evolution briefings, and work performed to work control documents.	Yes	2. See 1 above.	
	3. Line managers periodically review in-development and approved work control documents.	Yes	3. See 1 above.	
	4. The contractor tracks and trends the results of oversight activities performed on their work planning and control process and takes appropriate actions.	Yes	4. See 1 above and Centrifuge Demonstration Project Procedure PLD-1641-0031, *Trend Analysis*	

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Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
F&I-1: Contractor Program Documentation - Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation. *RMT does not provide safety oversight of contractors. RMT does provide this oversight on leases; these CRADS were applied to RMT's lessees.*	1. A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by contractor management, and forwarded to DOE for review and approval. The program description is reviewed and updated annually and forwarded to DOE for review and approval.	Yes	1. USEC Inc. Centrifuge Lead Cascade: Quality Assurance Program for Centrifuge Building Clean Up and Centrifuge Machine Removal at the Portsmouth Gaseous Diffusion Plant USEC Gas Centrifuge Quality Assurance Program Description, NR-2605-0001; 10CFR830 Exemption Decision does not require annual updates USEC Inc. Centrifuge Demonstration Project: Quality Assurance Program Description (PLD-1640-0001. Rev. 1), Rev. 2 submitted 9/05; AMNFS assessed USEC Quality Assurance (QA) Programs during recent functional inspections (10/05; 5/05)	
	2. The contractor's assurance system includes assessment activities (self assessments, management assessments, and internal independent assessments as defined by laws, regulations, and DOE directives such as quality assurance program	Yes	2. See 1 above. Centrifuge Demonstration Project Procedures: PLD-1641-0035, *Internal Audit Program*; PLD-1641-0033, *Management Assessments*; PLD-1641-0021, *Configuration Management*; PLD-1641-0028, *Corrective Actions*; PLD-1641-0029, *Occurrence Reporting*; PLD-1641-0029M, *ORPS*	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS (*Regulatory Management Team*)				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	requirements) and other structured operational awareness activities; incident/event reporting processes, including occupational injury and illness and operational accident investigations; worker feedback mechanisms; issues management; lessons-learned programs; and performance indicators/measures.		*Guide*; PLD-1641-0031, *Trend Analysis*; PLD-1641-0038, *Control of Quality Problems* Assessed during recent AMNFS functional inspections of Management Controls and Oversight (1/05) and Operations (1/05), Occupational Safety and Health – Worker Protection 6/05 Centrifuge Lead Cascade USEC Inc Procedures: AC2-MP-003, *Employee Concerns Program*; AC2-FO-001, *Conduct of Operations*; AC2-QM-001, *Lead Cascade Assessment Program*; AC3-QM-001, *Quality Assurance Internal Oversight Program*, AC3-QM-002, *Quality Assurance Auditor/Lead Auditor*; AC2-RG-004, *Corrective Action Process*; AC2-RG-007, *Lessons Learned*; AC2-RG-044, *Nuclear Regulatory Event Reporting*; AC2-RG-053, *Reporting and Investigating Occupational Accidents and Injuries*; AC2-RG-063, *Contractor Safety* Gaseous Diffusion Plant Procedures: UE2-HR-E01035, *Employee Concerns*; UE2-HR-PA1030, *Documentation and Communication for Roles, Responsibility, Authority and Accountability for Safe Operations*; UE2-OP-OP1030,	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			Conduct of Operations; UE2-OP-RA1035, *Operating Experience Review Program*; UE2-QA-QA1030, *Nuclear Safety and Quality Assessments*; UE2-QA-QI1031, *Quality Control Conduct of Operations*	
	3. The contractor's assurance system monitors and evaluates all work performed under their contract, including the work of subcontractors.	Yes	3. See 1 and 2 above and Centrifuge Demonstration Project Procedure: PLD-1641-0004, *Procurement of Items and Services* Centrifuge Lead Cascade USEC Inc Procedures: AC2-QM-005, *Supplier Control Program*; AC2-QM-006, *Contractor Monitoring Program* Gaseous Diffusion Plant Procedure: UE2-QA-QA1038, *Control of Suppliers of Services (Contractors)*	
	4. Contractor assurance system data is formally documented and available to DOE line management. Results of assurance processes are periodically analyzed, complied, and reported to DOE line management as part of formal contract performance evaluation.	Yes	4. See 1, 2, and 3 above. AMNFS assess during ongoing functional inspections in support of Centrifuge Deployment Project-Lease Agreement Between DOE and USEC Inc., Exhibit F Lessee Requirements Document and Centrifuge Lead Cascade ROA Plan	
	5. Contractors have established and implemented sufficient processes (e.g., self	Yes	5. See 1 above.	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	assessments, corporate audits, third-party certifications or external reviews, performance indicators) for measuring the effectiveness of the contractor assurance program.			
	6. Requirements and formal processes have been established and implemented that ensure personnel responsible for managing and performing assurance activities possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities.	Yes	6. USEC Inc. Centrifuge Demonstration Project Procedures: FOD-1560-0043, *K-1600 Training Program*; PLD-1641-0041, *Required Reading*; FOD-1560-0096-CL, *Balance Stand Assembly and Operation Training Checklist*; FOD-1560-0158-CL, *Gas Test Stand Assembly Training Checklist*; FOD-1560-0012-CL, *Gas Test Stand Non-Gas Operation Training Checklist*; CDP-FOD-1560-0041, *Roles and Responsibilities* Centrifuge Lead Cascade USEC Inc. procedure: AC2-TP-003, *Training Program*; AC2-TP-003, *Required Reading/On Shift Training Program*; AC3-QM-106, *QC Inspector Qualification Program* Gaseous Diffusion Plant Procedures: UE2-QA-QA1039, *Written Practice for NDT Personnel Certification*; XP2-EP-EP1045, *Emergency Management Training*; UE2-HR-PA1030, *Documentation and*	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NES *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			Communication for Roles, Responsibility, Authority and Accountability for Safe Operations; XP2-TR-TR1040, *Nuclear Materials Control and Accountability Training Program*	
F&I-2: Contractor Program Implementation – **2.1 Assessments & Performance Indicators -** Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance. *RMT does not provide safety oversight of contractors. RMT does provide this oversight on leases; these CRADS were applied to RMT's lessees.*	1. Line management has established and implemented a rigorous assessment program for performing comprehensive evaluations of all functional areas, programs, facilities, and organizational elements, including subcontractors, with a frequency, scope and rigor based on appropriate analysis of risks. The scope and frequency of assessments are defined in site plans and program documents, include assessments of processes and performance-based observation of activities and evaluation of cross-cutting issues and programs, and meet or exceed requirements of applicable DOE directives.	Yes	1. See Centrifuge Demonstration Project Procedures: PLD-1641-0035, *Internal Audit Program*; PLD-1641-0033, *Management Assessments*; PLD-1641-0021, *Configuration Management*; PLD-1641-0028, *Corrective Actions*; PLD-1641-0029, *Occurrence Reporting*; PLD-1641-0029M, *ORPS Guide*; PLD-1641-0031, *Trend Analysis*; PLD-1641-0038, *Control of Quality Problems* Assessed during recent AMNFS functional inspections of Management Controls and Oversight (1/05) and Operations (1/05), Occupational Safety and Health – Worker Protection 6/05 Centrifuge Lead Cascade USEC Inc Procedures: AC2-MP-003, *Employee Concerns Program*; AC2-FO-001, *Conduct of Operations*; AC2-QM-001, *Lead Cascade Assessment Program*; AC3-QM-001, *Quality Assurance Internal Oversight Program*, AC3-QM-002, *Quality*	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			Assurance Auditor/Lead Auditor; AC2-RG-004, *Corrective Action Process*; AC2-RG-007, *Lessons Learned*; AC2-RG-044, *Nuclear Regulatory Event Reporting*; AC2-RG-053, *Reporting and Investigating Occupational Accidents and Injuries*; AC2-RG-063, *Contractor Safety* Gaseous Diffusion Plant Procedures: UE2-HR-E01035, *Employee Concerns*; UE2-HR-PA1030, *Documentation and Communication for Roles, Responsibility, Authority and Accountability for Safe Operations*; UE2-OP-OP1030, *Conduct of Operations*; UE2-OP-RA1035, *Operating Experience Review Program*; UE2-QA-QA1030, *Nuclear Safety and Quality Assessments.*	
	2. Rigorous self-assessments are identified, planned, and performed at all levels periodically to determine the effectiveness of policies, requirements, and standards and the implementation status.	Yes	2. See 1 above. AMNFS assess this area during annual functional inspections of Management Controls and Oversight and Operations of the Centrifuge Demonstration Project and Centrifuge Lead Cascade.	
	3. Appropriate independent internal assessments are identified, planned and	Yes	3. See 1 and 2 above.	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	performed by contractor organizations or personnel having the authority and independence from line management, to support unbiased evaluations.			
	4. Line managers have established programs and processes to routinely identify, gather, verify, analyze, trend, disseminate, and make use of performance measures that provide contractor and DOE management with indicators of overall performance, the effectiveness of assurance system elements, and identification of specific positive or negative trends. Approved performance measures provide information that indicates how work is being performed and are clearly linked to performance objectives and expectation established by management.	Yes	4. See 1 and 2 above. For 1 above, Centrifuge Deployment Project-Lease Agreement Between DOE and USEC Inc., Exhibit F Lessee Requirements Document includes applicable Federal, DOE, state, and local regulations (work smart standards). For 1 above, Centrifuge Lead Cascade ROA includes applicable Federal, DOE, state, and local regulations (work smart standards).	
	5. Line managers effectively utilize performance measures to demonstrate performance improvement or deterioration relative to	Yes	5. See 1 and 2 above.	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	identified goals, in allocating resources and establishing performance goals, in development of timely compensatory measures and corrective actions for adverse trends, and in sharing good practices and lessons learned.			
2.2 Operating Experience - The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities *RMT does not provide safety oversight of contractors. RMT does provide this oversight on leases; these CRADS were applied to RMT's lessees.*	1. Formal processes are in place to identify applicable lessons learned from external and internal sources and any necessary corrective and preventive actions, disseminate lessons learned to targeted audiences, and ensure that lessons learned are understood and applied.	Yes	1. Centrifuge Demonstration Project Procedures: PLD-1641-0029, *Occurrence Reporting*; PLD-1641-0029M, *ORPS Guide*; PLD-1641-0031, *Trend Analysis*; PLD-1641-0018, *Control of Special Processes*; PLD-1641-0040, *Required Reading* Centrifuge Lead Cascade Procedures: AC2-RG-004, *Corrective Action Process*; AC2-RG-007, *Lessons Learned*; AC2-MP-001, *Facility Safety Review Committee*; AC2-MP-003, *Employee Concerns Program*; AC2-QM-001, *Lead Cascade Assessment Program* Gaseous Diffusion Plant Procedures: UE2-OP-RA1035, *Operating Experience Review Program*; UE2-PO-OR1030, *Plant Operations Review Committee*; UE2-RA-RE1030, *Nuclear Regulatory Event Reporting*; XP2-BM-CI1030, *Problem Reporting*;	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			XP2-BM-CI1033, *Organizational Self-Assessment*; XP2-SH-IS1045, *Safety Meeting Guidelines*; XP2-SH-SH6031, *Area Safety Committee*; XP2-TS-TS1031, ***MCC***Statistical Trend Analysis of Shipper – Receiver Data*	
	2. Line managers effectively identify, apply, and exchange lessons learned with the rest of the DOE complex. Lessons learned identified by other DOE organizations and external sources are reviewed and applied by line management to prevent similar incidents/events.	Yes	2. See 1 above.	
	3. Formal programs and processes have been established and implemented to solicit feedback or suggestions from workers and work activities on the effectiveness of work definition, hazard analyses and controls, and implementation for all types of work activities, and to apply lessons learned.	Yes	3. See 1 above. Centrifuge Demonstration Project Procedures: PLD-1643-0001, *Hazard Communications*; FOD-1560-0009, *Communications*; FOD-1560-0010, *Logkeeping* Centrifuge Lead Cascade USEC Inc. Procedure: AC2-RG-0050, *Job Hazard Analysis Program*; AC2-RG-063, *Contractor Safety* Gaseous Diffusion Plant Procedures:	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			UE2-EG-GE1038, *Readiness Review*; UE2-QA-QS1033, *Readiness Assessment*; UE2-SH-IS1031, *Job Hazard Analysis*	
2.3 Event Reporting - Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses. *RMT does not provide safety oversight of contractors. RMT does provide this oversight on leases; these CRADS were applied to RMT's lessees.*	1. Formal programs and processes have been established to identify issues and report, analyze, and address operational events, accidents, and injuries. Events, accidents, and injuries are promptly and thoroughly reported and investigated, including the identification and resolution of root causes and management and programmatic weaknesses, and distribution of lessons learned.	Yes	1. Centrifuge Demonstration Project (CDP) Procedures: PLD-1641-0029, *Occurrence Reporting and Processing System*; PLD-1642-0001, *Accident/Incident Reporting and Recordkeeping; PLD-1642-0003, USEC Safety & Health Plan* Centrifuge Lead Cascade (CLC) Procedure: AC2-RG-044, *Nuclear Regulatory Event Reporting*; AC2-RG-053, *Reporting and Investigating Occupational Accidents and Injuries*; AC2-RG-003, *Regulatory Communications* For the CDP and CLC, AMNFS annually performs Management Controls and Oversight inspections to confirm implementation. Gaseous Diffusion Plant Procedures: XP2-BM-CI1030, *Problem Reporting*; UE2-RA-RE1030, *Nuclear Regulatory Event Reporting* CP2-RA-RE1031, *Conducting Event Investigations* XP2-BM-CI1031, *Corrective Action Process*	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	2. Reporting of operational events, accidents, and injuries are conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE directives, and contract terms and conditions. Trending analysis of events, accidents, and injuries are performed in accordance with structured formal processes and applicable DOE directives.	Yes	2. See 1 above. Centrifuge Lead Cascade USEC Procedures: AC2-RG-003, *Regulatory Communications*; AC2-RG-053, *Reporting and Investigating Occupational Accidents and Injuries*	
2.4 Issues Management - The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions. *RMT does not provide safety oversight of contractors. RMT does provide this oversight on leases; these CRADS were applied to*	1. Program and performance deficiencies, regardless of their source, are captured in a system or systems that provides for effective analysis, resolution, and tracking. Issues management system elements include structured processes for determination of risk, significance, and priority of deficiencies; evaluation of scope and extent of condition; determination of reportability under	Partial	1. Centrifuge Demonstration Project Procedures: PLD-1641-0028, *Corrective Actions*; PLD 1641-0038, *Control Of Quality Problems* Centrifuge Lead Cascade Procedures: AC2-QM-006, *Contractor Monitoring Program*; AC2-RG-004, *Corrective Action Process*; AC2-QM-005, *Supplier Control Program*; AC2-QM-006, *Contractor Monitoring Program*; AC2-QM-100, *Quality Control Conduct of Operations.* Gaseous Diffusion Plant Procedures: XP2-BM-CI1030, *Problem Reporting*;	RMT confirmed that lessee procedures do not require application of root cause analysis for the Centrifuge Demonstration Project. Action: USEC will modify Procedure PLD-1641-0028, *Corrective Actions*, to include root cause analysis.

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
RMT's lessees.	applicable requirements; identification of root causes; identification and documentation of corrective actions and recurrence controls to prevent recurrence; identification of individuals/organizations responsible for corrective action implementation; establishment of milestones based on significance and risk for completion of corrective actions; tracking progress; verification of corrective action completion; and validation of corrective action implementation and effectiveness.		UE2-RA-RE1030, *Nuclear Regulatory Event Reporting* CP2-RA-RE1031, *Conducting Event Investigations* XP2-BM-CI1031, *Corrective Action Process*	
	2. Issues management processes include mechanisms to promptly identify the potential impact of a deficiency and take timely actions to address conditions of immediate concern, including stopping work, system shutdown, emergency response, reporting to management, and compensatory measures pending formal documentation and	Yes	2. See 1 above. Centrifuge Demonstration Project Procedures: PLD-1642-0005, *Stop Work Authority*; BFEP-K-1600, *K-1600 Building/Facility Emergency Plan* Centrifuge Lead Cascade USEC Procedure: AC2-MP-0001, *Facility Safety Review Committee*; AC2-MP-003, *Stop Work Actions*; AC2-MP-003, *Employee Concerns Program*	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	resolution of the issue.		Gaseous Diffusion Plant Procedures: UE2-HR-EO1035, *Employee Concerns*; UE2-EG-NS1030, *Unreviewed Safety Question Determination*; UE2-SF-SF1030, *Stop Work Actions*	
	3. Processes for analyzing deficiencies, individually and collectively, have been established that enable the identification of programmatic or systemic issues. Line management effectively monitors progress and optimizes the allocation of assessment resources in addressing known systemic issues.	Yes	3. See 1 and 2 above.	
	4. Processes for communicating issues up the management chain to senior management have been established and based on a graded approach that considers hazards and risks. Line management receives periodic information on the status of identified deficiencies and corrective actions and holds organizations and individuals accountable for timely and effective completion of actions. Line	Yes	4. See 1 and 2 above.	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	management has executed graded mechanisms such as independent verification and performance-based evaluation to ensure that corrective action and recurrence controls are timely, complete, and effective. Closure of corrective actions and deficiencies are based on objective, technically sound, and verified evidence. The effectiveness of corrective actions is determined on a graded basis and additional actions are completed as necessary.			
	5. Results of various feedback systems are integrated and collectively analyzed to identify repeat occurrences, generic issues, trends, and vulnerabilities at a lower level before significant problems result.	Yes	5. Centrifuge Demonstration Project Procedure: PLD-1641-0031, *Trend Analysis* Centrifuge Lead Cascade procedures: AC2-RG-004, *Corrective Action Process*; AC2-RG-007, *Lessons Learned*; AC2-MP-001, *Facility Safety Review Committee*; AC2-MP-003, *Employee Concerns Program*; AC2-QM-001, *Lead Cascade Assessment Program* Gaseous Diffusion Plant Procedures: UE2-OP-RA1035, *Operating Experience Review Program*;	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			UE2-PO-OR1030, *Plant Operations Review Committee*; UE2-RA-RE1030, *Nuclear Regulatory Event Reporting*; XP2-BM-CI1030, *Problem Reporting*; XP2-SH-SH6031, *Area Safety Committee*; XP2-TS-TS1031, ***MCC****Statistical Trend Analysis of Shipper – Receiver Data*	
	6. Individuals or teams responsible for corrective action development are trained in analysis techniques to evaluate significant problems using a structured methodology to identify root and contributing causes and corrective actions to prevent recurrence.	Yes	6. See 1 above. Centrifuge Demonstration Project Procedure: CDP-FOD-1560-0041, *Roles and Responsibilities* Centrifuge Lead Cascade USEC Procedure: AC2-RG-053, *Reporting and Investigating Occupational Accidents and Injuries* Gaseous Diffusion Plant Procedures: XP2-SH-IS1030, *Reporting and Investigating Occupational Accidents and Injuries*	
F&I-3: DOE Line Management Oversight - DOE line management have established and implemented effective oversight processes that evaluate the adequacy and effectiveness of	1. DOE line management has established a baseline line management oversight program that ensures that DOE line management maintains sufficient knowledge of site and	Yes	1. Assessed during the DOE ORO AMNFS ISMS Self Assessment 7/05, and DOE ORO ISMS Review Report 9/05 ORO AMNFS Centrifuge Demonstration Project Inspection	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
contractor assurance systems and DOE oversight processes *RMT does not provide safety oversight of contractors. RMT does provide this oversight on leases; these CRADS were applied to RMT's lessees.*	contractor activities to make informed decisions concerning hazards, risks and resource allocation, provide direction to contractors, and evaluate contractor performance.		Manual Centrifuge Deployment Project-Lease Agreement Between DOE and USEC Inc., Exhibit F Lessee Requirements Document ORO AMNFS Regulatory Oversight Manual Inspection and Enforcement Manual – Gaseous Diffusion Plant and Centrifuge Lead Cascade Centrifuge Lead Cascade ROA AMNFS Procedure 1.2, *Program Management*; AMNFS Procedure 1.5, *Assessments*; AMNFS Procedure 2.1, *Safety Oversight*; AMNFS Procedure 2.2, *Safety Basis Approval Process*; AMNFS RMT Procedure 1.1, *Review and Approval of Safety Basis Documents*; AMNFS RMT Procedure 1.2, *Inspection Follow-up, Tracking, and Trending*	
	2. DOE line oversight program includes assessments, operational awareness activities, performance monitoring and improvement, and assessment of contractor assurance systems. Documented program plans have been established that define oversight program	Yes	2. See 1 above and the Oak Ridge Issues, Open Items, and Nonconformances (ORION2)	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	activities and annual schedules of planned assessments and focus areas for operational awareness. Operational awareness activities must be documented either individually or in periodic (e.g., weekly or monthly) summaries. Deficiencies in programs or performance identified during operational awareness activities are communicated to the contractor for resolution through a structured issues management process.			
	3. DOE line management monitors contractor performance and assesses whether performance expectations are met; that contractors are assessing site activities adequately; self-identifying deficiencies; and, taking timely and effective corrective actions. Responsibilities for line oversight and self-assessment are assigned and managers, supervisors, and workers are held accountable for performance assurance activities.	Yes	3. See 1 and 2 above.	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	Deficiencies must be brought to the attention of contractor management and addressed in a timely manner.			
	4. DOE line management requires that findings must be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans.	Yes	4. See 1 and 2 above.	From DOE ORO ISMS Self assessment REL.1-F-1: Inconsistent use of ORION2 is not supportive of efficient reporting and analysis of assessment results, performance measurement, or timely and effective closure of deficiencies and corrective actions. CA: AMNFS is participating in the AMESH-led Assessment Improvement Initiative which includes improvements to ORION2 and revision of ORO O 220, *Assessments*. AMNFS will review and update ORION2 for completeness
	5. DOE line management regularly assesses the effectiveness of contractor issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker	Yes	5. See 1 and 2 above.	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	feedback). DOE line management must also evaluate contractor processes for communicating information, including dissenting opinions, up the management chain.			
	6. DOE line management must verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE assessments or reviews are closed, and requires that deficiencies are analyzed both individually and collectively to identify causes and prevent recurrences.	Yes	6. See 1 and 2 above.	
	7. DOE line management has established appropriate criteria for determining the effectiveness of site programs, management systems, and contractor assurance systems, and includes consideration of previous assessment results, effectiveness of corrective actions and self-assessments, and evidence	Yes	7. See 1 above.	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	of sustained management support for site programs and management and assurance systems. Review criteria are based on requirements and performance objectives (e.g., laws, regulations, and DOE directives), site-specific procedures/ manuals, and other contractually mandated requirements and performance objectives.			
	8. DOE line management has established and maintained appropriate qualification standards for personnel with oversight responsibilities, and a clear, unambiguous line of authority and responsibility for oversight.	Yes	8. DOE O M100, *Management System Description* ORO M110, *Manual of Safety Management Functions, Responsibilities, and Authorities* ORO O 360 Chapter II, *Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities* Assessed during recent DOE ORO AMNFS ISMS Self Assessment 7/05 and DOE ORO ISMS Review 9/05	
	9. Line management periodically reviews established performance measures to ensure performance objectives and	Yes	9. See 1 and 8 above	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	criteria are challenging and focused on improving performance in known areas of weakness.			
	10. DOE line management has established effective processes for communicating line oversight results and other issues up the DOE line management chain, using a graded approach based on the hazards and risks. Established processes include provisions for communicating and documenting dissenting opinions. Formal structured processes for resolving disputes for oversight findings and other significant issues have been implemented, and include provisions for independent technical reviews for significant findings.	Yes	10. See 1 and 2 above.	
	11. An effective employee concerns program been established and implemented in accordance with DOE Directives that encourages the reporting of employee concerns and	Yes	11. ORO O 440, *Worker Protection, Chapter V Employee Concerns Management System* and ORO M 440, *Employee Concerns System Manual* Assessed during DOE ORO	

Table 1(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Regulatory Management Team)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	provides thorough investigations and effective corrective actions and recurrence controls.		AMNFS ISMS Self assessment 7/05 and DOE ORO ISMS review 9/05	

Table (2a): DNFSB 2004-1, Commitment 23 ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
WPC-4: Work Planning and Control Activity - Definition and Hazard Identification - Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.	1. Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries are understood.	Yes	*Note: Reindustrialization does not have contractors but has lessees; these questions have been applied to the lessees. In addition, lessees do not occupy radiological or nuclear facilities.* 1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 2.1, *Safety Oversight* 3. AMNFS Procedure 5.1, *Reindustrialization & Technical Assistance Team – Change Control Board Procedure* 4. Reindustrialization ISM ES&H Program Plan 5. Reindustrialization Lessee Oversight Program 6. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plan 7. BJC Reindustrialization Business Practices.	
	2. A team (team) comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health Subject Matter Experts, etc.) is selected by line management to participate in the development of the work control document.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 2.1, *Safety Oversight* 3. Reindustrialization ISM *ES&H Program Plan*	

Table (2a): DNFSB 2004-1, Commitment 23 ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			4. Reindustrialization Lessee Oversight Program	
	3. The team performs effective walk downs and Job Hazard Analyses in order to develop work steps/techniques and identify possible hazards and their associated controls.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 2.1, *Safety Oversight* 3. AMNFS Procedure 5.1, *Reindustrialization & Technical Assistance Team – Change Control Board Procedure* 4. AMNFS Procedure 5.2, *RTAT – Guidance on Safety Representative Oversight for Lessees at ETTP* 5. Reindustrialization ISM ES&H Program Plan 6. Reindustrialization Lessee Oversight Program	
	4. The team considers potential upset conditions, accidents, and "what if' scenarios and their consequences during the walk downs and JHAs.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 2.1, *Safety Oversight* 3. Reindustrialization ISM ES&H Program Plan	
	5. The team selects controls based upon the following hierarchy: (1) hazard elimination/ reduction, (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 2.1, *Safety Oversight* 3. Reindustrialization ISM ES&H Program Plan	
	6. The team ensures that the level of control established for a hazard is maintained throughout the activity	Yes	1. AMNFS Procedure 1.2, *Program Management*	

Table (2a): DNFSB 2004-1, Commitment 23 ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction). [This Criteria addresses potential loss of safety function during D&D and may not be applicable to all work activities.]		2. AMNFS Procedure 2.1, *Safety Oversight* 3. Reindustrialization ISM ES&H Program Plan 4. Reindustrialization Lessee Oversight Program	
	7. The team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 2.1, *Safety Oversight* 3. Reindustrialization ISM ES&H Program Plan	
WPC-5: Work Planning and Control Process - The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.	1. The work scope and associated boundaries are clearly defined.	Yes	*Note: Reindustrialization does not have contractors but has lessees; these questions have been applied to the lessees. In addition, lessees do not occupy radiological or nuclear facilities.* 1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 2.1, *Safety Oversight* 3. AMNFS Procedure 5.1, *Reindustrialization & Technical Assistance Team – Change Control Board Procedure*	

Table (2a): DNFSB 2004-1, Commitment 23 ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			4. Reindustrialization ISM ES&H Program Plan 5. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans 6. BJC Reindustrialization Business Practices	
	2. The work control document is written in a clear, concise, and worker friendly manner.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 2.1, *Safety Oversight* 3. AMNFS Procedure 5.1, *Reindustrialization & Technical Assistance Team – Change Control Board Procedure* 4. Reindustrialization ISM ES&H Program Plan 5. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans	
	3. The work steps for activities are properly sequenced.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 2.1, *Safety Oversight* 3. Reindustrialization ISM ES&H Program Plan 4. Occupational Safety and Health Lease condition requiring submittal and	

Table (2a): DNFSB 2004-1, Commitment 23 ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			review of Tenant Health and Safety Plans 5. BJC Reindustrialization Business Practices	
	4. Work control documents adequately incorporate technical and administrative requirements (e.g., contract, safety basis, regulatory, consensus codes, etc.).	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 2.1, *Safety Oversight* 3. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans	
	5. Work hazard controls identified in the JHA have been incorporated into the work control document.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 2.1, *Safety Oversight* 3. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans	
	6. The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 2.1, *Safety Oversight* 3. Reindustrialization ISM ES&H Program Plan 4. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans	

Table (2a): DNFSB 2004-1, Commitment 23 ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
WPC-6: Work Planning and Control Oversight - Contractor personnel perform work in accordance with approved work control documents.	1. First line supervisors and workers are knowledgeable of their work control documents and meet all applicable training and medical requirements.	Yes	*Note: Reindustrialization does not have contractors but has lessees; these questions have been applied to the lessees. In addition, lessees do not occupy radiological or nuclear facilities.* 1. AMNFS Procedure 1.2, *Program Management* 2. Reindustrialization ISM *ES&H Program Plan* 3. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans	
	2. Operations work control authority reviews and authorizes all work control documents prior to commencement of work. He/she is required to evaluate all work at a facility and or site to ensure work activities of one scope do not adversely affect the safe work of another.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. Reindustrialization ISM ES&H Program Plan 3. Reindustrialization Lessee Oversight Program 4. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans 5. BJC Reindustrialization Business Practices – Process for Consummation of a Lease Under Reindustrialization	

Table (2a): DNFSB 2004-1, Commitment 23 ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	3. Effective pre-evolutionary briefings are performed.	Yes	1. AMNFS Procedure 1.2 *Program Management* 2. Reindustrialization ISM ES&H Program Plan 3. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans 4. BJC Reindustrialization Business Practices – Process for Consummation of a Lease Under Reindustrialization	
	4. First line supervisors and workers follow work control document instructions as written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their change control process.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. Reindustrialization ISM ES&H Program Plan 3. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans	
	5. First line supervisors and workers understand their stop work authority.	Yes	1. ORO and NNSA "Stop Work/Suspend Work Responsibilities" statement dated April 23, 2004. 2. AMNFS Procedure 1.2, *Program Management* 3. Reindustrialization ISM ES&H Program Plan 4. Reindustrialization Lessee Oversight Program 5. Occupational Safety and Health Lease condition requiring submittal and	

Table (2a): DNFSB 2004-1, Commitment 23 ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			review of Tenant Health and Safety Plans	
	6. Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. Reindustrialization ISM ES&H Program Plan 3. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans	
	7. Lessons learned/feedback is incorporated into active and in-development work control documents in a timely manner.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 1.4, *Self Assessments* 3. AMNFS Procedure 1.5, *Assessments* 4. AMNFS Procedure 2.1, *Safety Oversight* 5. AMNFS Lessons Learned Plan 6. Reindustrialization ISM ES&H Program Plan 7. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans	

Table (2a): DNFSB 2004-1, Commitment 23 ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
WPC-7: Work Planning and Control Oversight - The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in development work control documents.	1. The contractor has scheduled and performed independent and self assessment of the work planning and control process. These activities are of sufficient scope, detail, and quantity that the contractor can ascertain the status of their work planning and control process.	Yes	*Note: Reindustrialization does not have contractors but has lessees; these questions have been applied to the lessees. In addition, lessees do not occupy radiological or nuclear facilities.* 1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 1.4, *Self Assessments* 3. AMNFS Procedure 1.5, *Assessments* 4. AMNFS Procedure 2.1, *Safety Oversight* 5. Reindustrialization ISM ES&H Program Plan 6. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans 7. Reindustrialization Self Assessment July 15, 2005	
	2. Line managers periodically perform surveillances, which include the observations of job walk downs and JHA walk downs/meetings, pre-evolution briefings, and work performed to work control documents.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 1.4, *Self Assessments* 3. AMNFS Procedure 1.5, *Assessments* 4. AMNFS Procedure 2.1, *Safety Oversight* 5. Reindustrialization ISM ES&H Program Plan	

Table (2a): DNFSB 2004-1, Commitment 23 ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			6. Reindustrialization Lessee Oversight Program 7. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans	
	3. Line managers periodically review in-development and approved work control documents.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 1.4, *Self Assessments* 3. AMNFS Procedure 1.5, *Assessments* 4. AMNFS Procedure 2.1, *Safety Oversight* 5. Reindustrialization ISM ES&H Program Plan 6. Reindustrialization Lessee Oversight Program 7. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans	
	4. The contractor tracks and trends the results of oversight activities performed on their work planning and control process and takes appropriate actions.	Yes	1. ORO Integrated Assessment Program (IAP)/Schedule 2. Oak Ridge Issues, Open Items, and Nonconformances (ORION2) 3. AMNFS Procedure - 1.2 *Program Management* 4. AMNFS Procedure - 1.5 *Assessments*	

Table (2a): DNFSB 2004-1, Commitment 23 ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			5. AMNFS Procedure - 2.1 *Safety Oversight* 6. Reindustrialization ISM ES&H Program Plan 7. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans	

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Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
F&I-1: Contractor Program Documentation - Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.	1. A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by contractor management, and forwarded to DOE for review and approval. The program description is reviewed and updated annually and forwarded to DOE for review and approval.	Yes	*Note: Reindustrialization does not have contractors but has lessees; these questions have been applied to the lessees. In addition, lessees do not occupy radiological or nuclear facilities.* 1. ORO O M100, *Management System Description* 2. ORO M110, *Organization and Structure* 3. AMNFS Procedure 1.2, *Program Management* 4. AMNFS Procedure 1.5, *Assessments* 5. AMNFS Procedure 2.1, *Safety Oversight* 6. AMNFS Procedure 5.1, *Reindustrialization & Technical Assistance Team – Change Control Board Procedure* 7. Reindustrialization ISM ES&H Program Plan 8. BJC Reindustrialization Business Practices 9. Assessed during the DOE ORO ISMS Review: Plan 8/05 and Report 9/05	
	2. The contractor's assurance system includes assessment	Yes	1. ORO IAP/ Schedule 2. AMNFS Procedure 1.2, *Program Management*	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	activities (self assessments, management assessments, and internal independent assessments as defined by laws, regulations, and DOE directives such as quality assurance program requirements) and other structured operational awareness activities; incident/event reporting processes, including occupational injury and illness and operational accident investigations; worker feedback mechanisms; issues management; lessons-learned programs; and performance indicators/measures.		3. AMNFS Procedure 1.5, *Assessments* 4. AMNFS Procedure 1.4, *Self Assessments* 5. AMNFS Procedure 2.1, *Safety Oversight* 6. AMNFS Procedure 5.1, *Reindustrialization & Technical Assistance Team – Change Control Board Procedure* 7. AMNFS Lessons Learned Plan 8. Reindustrialization ISM ES&H Program 9. Reindustrialization Lessee Oversight Program 10. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans 11. BJC Reindustrialization Business Practices	
	3. The contractor's assurance system monitors and evaluates all work performed under their contract, including the work of subcontractors.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 1.5, *Assessments* 3. AMNFS Procedure 2.1, *Safety Oversight* 4. AMNFS Procedure 5.1, *Reindustrialization & Technical Assistance Team – Change Control*	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			Board Procedure 5. Reindustrialization ISM ES&H Program Plan 6. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans	
	4. Contractor assurance system data is formally documented and available to DOE line management. Results of assurance processes are periodically analyzed, complied, and reported to DOE line management as part of formal contract performance evaluation.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 1.5, *Assessments* 3. AMNFS Procedure 2.1, *Safety Oversight* 4. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans 5. Assessed during DOE ORO ISMS Review Plan 8/05 and Report 9/05	
	5. Contractors have established and implemented sufficient processes (e.g., self assessments, corporate audits, third-party certifications or external reviews, performance indicators) for measuring the effectiveness of the contractor assurance program.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 1.5, *Assessments* 3. AMNFS Procedure 2.1, *Safety Oversight*	
	6. Requirements and formal	Yes	1. AMNFS Procedure 1.2,	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	processes have been established and implemented that ensure personnel responsible for managing and performing assurance activities possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities.		*Program Management* 2. AMNFS Procedure 2.1, *Safety Oversight* 3. Reindustrialization Lessee Oversight Program 4. Reindustrialization ISM ES&H Program Plan 5. Safety Advocate Position Description	
F&I-2: Contractor Program Implementation – **2.1 Assessments & Performance Indicators -** Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.	1. Line management has established and implemented a rigorous assessment program for performing comprehensive evaluations of all functional areas, programs, facilities, and organizational elements, including subcontractors, with a frequency, scope and rigor based on appropriate analysis of risks. The scope and frequency of assessments are defined in site plans and program documents, include assessments of processes and performance-based observation of activities and evaluation of cross-cutting issues and	Yes	*Note: Reindustrialization does not have contractors but has lessees; these questions have been applied to the lessees. In addition, lessees do not occupy radiological or nuclear facilities.* 1. ORO IAP/ Schedule 2. Oak Ridge Issues, Open Items, and Nonconformances (ORION2) 3. AMNFS Procedure 1.2, *Program Management* 4. AMNFS Procedure 1.4, *Self Assessments* 5. AMNFS Procedure 1.5, *Assessments* 6. AMNFS Procedure 2.1, *Safety Oversight* 7. Reindustrialization Lessee Oversight Program	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	programs, and meet or exceed requirements of applicable DOE directives.		8. Reindustrialization ISM ES&H Program Plan	
	2. Rigorous self-assessments are identified, planned, and performed at all levels periodically to determine the effectiveness of policies, requirements, and standards and the implementation status.	Yes	1. ORO IAP/ Schedule 2. AMNFS Procedure 1.2, *Program Management* 3. AMNFS Procedure 1.4, *Self Assessments* 4. AMNFS Procedure 1.5, *Assessments* 5. AMNFS Procedure 2.1, *Safety Oversight*	
	3. Appropriate independent internal assessments are identified, planned and performed by contractor organizations or personnel having the authority and independence from line management, to support unbiased evaluations.	Yes	1. ORO IAP/Schedule 2. AMNFS Procedure 1.2, *Program Management* 3. AMNFS Procedure 1.5, *Assessments* 4. AMNFS Procedure 2.1, *Safety Oversight* 5. AMNFS Procedure 5.2, *RTAT – Guidance on Safety Representative Oversight of Lessees at ETTP* 6. Reindustrialization Lessee Oversight Program	
	4. Line managers have established programs and processes to routinely identify, gather, verify, analyze, trend, disseminate, and make	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 1.5, *Assessments* 3. AMNFS Procedure 2.1, *Safety Oversight*	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	use of performance measures that provide contractor and DOE management with indicators of overall performance, the effectiveness of assurance system elements, and identification of specific positive or negative trends. Approved performance measures provide information that indicates how work is being performed and are clearly linked to performance objectives and expectation established by management.			
	5. Line managers effectively utilize performance measures to demonstrate performance improvement or deterioration relative to identified goals, in allocating resources and establishing performance goals, in development of timely compensatory measures and corrective actions for adverse trends, and in sharing	Yes	1. ORION2 2. AMNFS Procedure 1.2, *Program Management* 3. AMNFS Lessons Learned Plan 4. Reindustrialization ISM ES&H Program Plan	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	good practices and lessons learned.			
2.2 Operating Experience - The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities	1. Formal processes are in place to identify applicable lessons learned from external and internal sources and any necessary corrective and preventive actions, disseminate lessons learned to targeted audiences, and ensure that lessons learned are understood and applied.	Yes	*Note: Reindustrialization does not have contractors but has lessees; these questions have been applied to the lessees. In addition, lessees do not occupy radiological or nuclear facilities.* 1 ORION2 2. AMNFS Procedure 1.2, *Program Management* 3. AMNFS Procedure 1.4, *Self Assessments* 4. AMNFS Procedure 1.5, *Assessments* 5. AMNFS Procedure 2.1, *Safety Oversight* 6. AMNFS Lessons Learned Plan 7. Reindustrialization ISM ES&H Program Plan 8. Reindustrialization Lessee Oversight Program	
	2. Line managers effectively identify, apply, and exchange lessons learned with the rest of the DOE complex. Lessons learned identified by other DOE organizations and	Yes	1. ORION2 2. AMNFS Procedure 1.2, *Program Management* 3. AMNFS Procedure 1.5, *Assessments* 4. AMNFS Procedure 2.1, *Safety Oversight* 5. AMNFS Lessons Learned	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	external sources are reviewed and applied by line management to prevent similar incidents/events.		Plan 6. Reindustrialization ISM ES&H Program Plan 7. Community Reuse Organization of East Tennessee (CROET) Lessons Learned Policy	
	3. Formal programs and processes have been established and implemented to solicit feedback or suggestions from workers and work activities on the effectiveness of work definition, hazard analyses and controls, and implementation for all types of work activities, and to apply lessons learned.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 1.5, *Assessments* 3. AMNFS Procedure 2.1, *Safety Oversight* 4. AMNFS Lessons Learned Plan 5. Reindustrialization ISM ES&H Program Plan 6. Reindustrialization Lessee Oversight Program 7. CROET/DOE Safety Council Meeting 8. CROET Lessons Learned Policy	
2.3 Event Reporting - Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.	1. Formal programs and processes have been established to identify issues and report, analyze, and address operational events, accidents, and injuries. Events, accidents, and injuries are promptly and thoroughly reported and investigated, including the identification and	Yes	*Note: Reindustrialization does not have contractors but has lessees; these questions have been applied to the lessees. In addition, lessees do not occupy radiological or nuclear facilities.* 1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 1.5, *Assessments*	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	resolution of root causes and management and programmatic weaknesses, and distribution of lessons learned.		3. AMNFS Procedure 2.1, *Safety Oversight* 4. AMNFS Lessons Learned Plan 5. Reindustrialization ISM ES&H Program Plan	
	2. Reporting of operational events, accidents, and injuries are conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE directives, and contract terms and conditions. Trending analysis of events, accidents, and injuries are performed in accordance with structured formal processes and applicable DOE directives.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 1.5, *Assessments* 3. AMNFS Procedure 2.1, *Safety Oversight*	
2.4 Issues Management - The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.	1. Program and performance deficiencies, regardless of their source, are captured in a system or systems that provides for effective analysis, resolution, and tracking. Issues management system elements include	Yes	*Note: Reindustrialization does not have contractors but has lessees; these questions have been applied to the lessees. In addition, lessees do not occupy radiological or nuclear facilities.* 1. ORION2	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	structured processes for determination of risk, significance, and priority of deficiencies; evaluation of scope and extent of condition; determination of reportability under applicable requirements; identification of root causes; identification and documentation of corrective actions and recurrence controls to prevent recurrence; identification of individuals/organizations responsible for corrective action implementation; establishment of milestones based on significance and risk for completion of corrective actions; tracking progress; verification of corrective action completion; and validation of corrective action implementation and effectiveness.		2. AMNFS Procedure 1.2, *Program Management* 3. AMNFS Procedure 1.5, *Assessments* 4. AMNFS Procedure 2.1, *Safety Oversight*	
	2. Issues management processes include mechanisms to promptly identify the potential impact of a deficiency	Yes	1. ORION2 2. AMNFS Procedure 1.2, *Program Management* 3. AMNFS Procedure1.5, *Assessments*	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	and take timely actions to address conditions of immediate concern, including stopping work, system shutdown, emergency response, reporting to management, and compensatory measures pending formal documentation and resolution of the issue.		4. AMNFS Procedure 2.1, *Safety Oversight* 5. Reindustrialization Lessee Oversight Program 6. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans	
	3. Processes for analyzing deficiencies, individually and collectively, have been established that enable the identification of programmatic or systemic issues. Line management effectively monitors progress and optimizes the allocation of assessment resources in addressing known systemic issues.	Yes	1. ORION2 2. AMNFS Procedure 1.2, *Program Management* 3. AMNFS Procedure 1.5, *Assessments* 4. AMNFS Procedure 2.1, *Safety Oversight* 5. Reindustrialization Lessee Oversight Program 6. Reindustrialization ISM ES&H Program Plan	
	4. Processes for communicating issues up the management chain to senior management have been established and based on a graded approach that considers hazards and risks. Line management receives periodic information on the status of identified	Yes	1. ORION2 2. AMNFS Procedure 1.2, *Program Management* 3. AMNFS Procedure 1.5, *Assessments* 4. AMNFS Procedure 2.1, *Safety Oversight* 5. Reindustrialization Lessee Oversight Program	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	deficiencies and corrective actions and holds organizations and individuals accountable for timely and effective completion of actions. Line management has executed graded mechanisms such as independent verification and performance-based evaluation to ensure that corrective action and recurrence controls are timely, complete, and effective. Closure of corrective actions and deficiencies are based on objective, technically sound, and verified evidence. The effectiveness of corrective actions is determined on a graded basis and additional actions are completed as necessary.			
	5. Results of various feedback systems are integrated and collectively analyzed to identify repeat occurrences, generic issues, trends, and vulnerabilities at a lower	Yes	1. ORION2 2. AMNFS Procedure 1.2, *Program Management* 3. AMNFS Procedure 1.5, *Assessments* 4. AMNFS Procedure 2.1, *Safety Oversight* 5. AMNFS Lessons Learned	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	level before significant problems result.		Plan 6. Reindustrialization Lessee Oversight Program 7. Reindustrialization ISM ES&H Program Plan	
	6. Individuals or teams responsible for corrective action development are trained in analysis techniques to evaluate significant problems using a structured methodology to identify root and contributing causes and corrective actions to prevent recurrence.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 1.5, *Assessments* 3. AMNFS Procedure 2.1, *Safety Oversight*	
F&I-3: DOE Line Management Oversight - DOE line management have established and implemented effective oversight processes that evaluate the adequacy and effectiveness of contractor assurance systems and DOE oversight processes	1. DOE line management has established a baseline line management oversight program that ensures that DOE line management maintains sufficient knowledge of site and contractor activities to make informed decisions concerning hazards, risks and resource allocation, provide direction to contractors, and evaluate contractor performance.	Yes	*Note: Reindustrialization does not have contractors but has lessees; these questions have been applied to the lessees. In addition, lessees do not occupy radiological or nuclear facilities.* 1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 1.5, *Assessments* 3. AMNFS Procedure 2.1, *Safety Oversight* 4. AMNFS Procedure 5.1, *Reindustrialization & Technical Assistance*	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
			Team – Change Control Board Procedure 5. AMNFS Procedure 5.2, *RTAT – Guidance on Safety Representative Oversight of Lessees at ETTP* 6. Reindustrialization ISM ES&H Program Plan 7. Reindustrialization Lessee Oversight Program	
	2. DOE line oversight program includes assessments, operational awareness activities, performance monitoring and improvement, and assessment of contractor assurance systems. Documented program plans have been established that define oversight program activities and annual schedules of planned assessments and focus areas for operational awareness. Operational awareness activities must be documented either individually or in periodic (e.g., weekly or monthly) summaries. Deficiencies in programs	Yes	1. ORO IAP/Schedule 2. ORION2 3. ORO IAP/ Schedule 4. AMNFS Procedure 1.2, *Program Management* 5. AMNFS Procedure 1.4, *Self Assessments* 6. AMNFS Procedure 1.5, *Assessments* 7. AMNFS Procedure 2.1, *Safety Oversight* 8. Reindustrialization ISM ES&H Program Plan 9. Reindustrialization Lessee Oversight Program	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	or performance identified during operational awareness activities are communicated to the contractor for resolution through a structured issues management process.			
	3. DOE line management monitors contractor performance and assesses whether performance expectations are met; that contractors are assessing site activities adequately; self-identifying deficiencies; and, taking timely and effective corrective actions. Responsibilities for line oversight and self-assessment are assigned and managers, supervisors, and workers are held accountable for performance assurance activities. Deficiencies must be brought to the attention of contractor management and addressed in a timely manner.	Yes	1. ORION2 2. AMNFS Procedure 1.2, *Program Management* 3. AMNFS Procedure 1.4, *Self Assessments* 4. AMNFS Procedure 1.5, *Assessments* 5. AMNFS Procedure 2.1, *Safety Oversight* 6. Reindustrialization ISM ES&H Program Plan 7. Reindustrialization Lessee Oversight Program 8. Occupational Safety and Health Lease condition requiring submittal and review of Tenant Health and Safety Plans	
	4. DOE line management	Yes	1. ORION2	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	requires that findings must be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans.		2. AMNFS Procedure 1.2, *Program Management* 3. AMNFS Procedure 1.5, *Assessments* 4. AMNFS Procedure 2.1, *Safety Oversight* 5. Reindustrialization ISM ES&H Program Plan 6. Reindustrialization Lessee Oversight Program	
	5. DOE line management regularly assesses the effectiveness of contractor issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback). DOE line management must also evaluate contractor processes for communicating information, including dissenting opinions, up the management chain.	Yes	1. ORO IAP/Schedule 2. ORION2 3. AMNFS Procedure 1.2, *Program Management* 4. AMNFS Procedure 1.5, *Assessments* 5. AMNFS Procedure 2.1, *Safety Oversight* 6. AMNFS Procedure 2.2, *Safety Basis Approval Process* 7. AMNFS Lessons Learned Plan 8. Reindustrialization ISM ES&H Program Plan 9. Reindustrialization Lessee Oversight Program	
	6. DOE line management must verify that corrective actions are complete and performed in accordance with requirements before	Yes	1. ORION2 2. AMNFS Procedure 1.2, *Program Management* 3. AMNFS Procedures 1.4, *Self Assessments* 4. AMNFS Procedure 1.5,	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	findings identified by DOE assessments or reviews are closed, and requires that deficiencies are analyzed both individually and collectively to identify causes and prevent recurrences.		*Assessments* 5. AMNFS Procedure 2.1, *Safety Oversight* 6. Reindustrialization ISM ES&H Program Plan 7. Reindustrialization Lessee Oversight Program	
	7. DOE line management has established appropriate criteria for determining the effectiveness of site programs, management systems, and contractor assurance systems, and includes consideration of previous assessment results, effectiveness of corrective actions and self-assessments, and evidence of sustained management support for site programs and management and assurance systems. Review criteria are based on requirements and performance objectives (e.g., laws, regulations, and DOE directives), site-specific procedures/ manuals, and other	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 1.5, *Assessments* 3. AMNFS Procedure 2.1, *Safety Oversight* 4. Reindustrialization ISM ES&H Program Plan 5. Reindustrialization Self Assessment-July 15, 2005	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	contractually mandated requirements and performance objectives.			
	8. DOE line management has established and maintained appropriate qualification standards for personnel with oversight responsibilities, and a clear, unambiguous line of authority and responsibility for oversight.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 1.5, *Assessments* 3. AMNFS Procedure 2.1, *Safety Oversight* 4. AMNFS Procedure 5.1, *Reindustrialization & Technical Assistance Team – Change Control Board Procedure* 5. AMNFS Procedure 5.2, *RTAT – Guidance on Safety Representative Oversight of Lessees at ETTP* 6. Reindustrialization ISM ES&H Program Plan 7. Reindustrialization Lessee Oversight Program	
	9. Line management periodically reviews established performance measures to ensure performance objectives and criteria are challenging and focused on improving performance in known areas of weakness.	Yes	1. AMNFS Procedure 1.2, *Program Management* 2. AMNFS Procedure 1.4, *Self Assessments* 3. AMNFS Procedure 1.5, *Assessments* 4. AMNFS Procedure 2.1, *Safety Oversight* 5. Reindustrialization ISM ES&H Program Plan	
	10. DOE line management	Yes	1. ORION2	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	has established effective processes for communicating line oversight results and other issues up the DOE line management chain, using a graded approach based on the hazards and risks. Established processes include provisions for communicating and documenting dissenting opinions. Formal structured processes for resolving disputes for oversight findings and other significant issues have been implemented, and include provisions for independent technical reviews for significant findings.		2. AMNFS Procedure 1.2, *Program Management* 3. AMNFS Procedure 1.5, *Assessments* 4. AMNFS Procedure 2.1, *Safety Oversight* 5. AMNFS Procedure 5.1, *Reindustrialization & Technical Assistance Team – Change Control Board Procedure* 6. AMNFS Procedure 5.2, *RTAT – Guidance on Safety Representative Oversight of Lessees at ETTP* 7. Reindustrialization ISM ES&H Program Plan 8. Reindustrialization Lessee Oversight Program	
	11. An effective employee concerns program been established and implemented in accordance with DOE Directives that encourages the reporting of employee concerns and provides thorough investigations and effective corrective	Yes	1. ORO O 440, *Worker Protection, Chapter V Employee Concerns Management System* and ORO M 440, *Employee Concerns System Manual* 2. AMNFS Procedure 1.2, *Program Management* 3. Assessed during DOE ORO ISMS review 9/05	

Table 2(b): DNFSB Recommendation 2004-1, Commitment 25 for ORO NFS *(Reindustrialization)*				
Performance Objective	**Criteria**	**Met Yes/No/Partial**	**Evidence**	**Action**
	actions and recurrence controls.			

SEPARATION

PAGE

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RL-675 (03/99)

United States Government **Department of Energy**

memorandum

Office of River Protection

DATE: JAN 12 2006

REPLY TO ATTN OF: WTP:MJT 06-WTP-004

SUBJECT: U.S. DEPARTMENT OF ENERGY (DOE), OFFICE OF RIVER PROTECTION (ORP) WORK PLANNING AND CONTROL ACTION PLANS FOR DEFENSE NUCLEAR FACILITIES SAFETY BOARD RECOMMENDATION 2004-1

TO: Dae Y. Chung, Acting Deputy Assistant Secretary
for Integrated Safety Management and
Operations Oversight, EM-24, HQ

Reference: DOE-HQ memorandum from I. R. Triay to Distribution, ORP, "Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 23," dated November 18, 2005.

This memorandum transmits the draft work planning and control site action plan and the completed assessments requested in the Reference (Attachments). The Plan includes actions for ORP and its contractors.

ORP has several comments which, if incorporated, will improve the effectiveness of the Work Planning and Control Criteria and Review Approach Documents (CRADs).

- The CRAD for DOE doesn't identify a criterion that focuses oversight on transition activities. (e.g. design to construction, construction to operations)

- The contractor CRAD should include reviewing how their work planning and control program addresses transition activities. (e.g. design to construction, construction to operations)

- Revise criterion 3 as follows: "Ensure effective pre-job walk downs and pre-evolution briefings are performed."

JAN 12 2006

If you have any questions, please contact me, or your staff may contact Steve Pfaff, (509) 438-0417.

for Roy J. Schepens, Manager
Office of River Protection

Attachments: (4)

cc w/attachs:
I. R. Triay, EM-3
T. T. Evans, EM-3.2
D. L. Borders, PAC

ATTACHMENT 1

Memorandum 06-WTP-004

DRAFT

Office of River Protection (ORP) Work Control and Planning Site Action Plan

ATTACHMENT 2

Memorandum 06-WTP-004

Work Planning and Control Oversight Assessment Report

December 2005

U.S. Department of Energy, Office of River Protection

Work Planning and Control Oversight Assessment Report

Waste Treatment Plant

December 2005

ORP MISSION

Retrieve and treat Hanford's tank waste and close the tank farms to protect the Columbia River.

U.S. Department of Energy
Office of River Protection
Work Planning and Control Oversight Assessment Report

Waste Treatment Plant

December 2005

Stacy Charboneau
Assessor

Ben Harp
Assessor

Table of Contents

1. EXECUTIVE SUMMARY

The U.S. Department of Energy (DOE), Office of River Protection (ORP) completed an assessment of Work Planning and Control Oversight for the Waste Treatment Plant (WTP). The evaluation was conducted December 9-14, 2005, concurrent with an integrated assessment of the contractor work planning and work control practices. The objectives and criteria used in the assessment were based on DOE Policy 450.4, Safety Management System Policy. The assessment was performed by ORP personnel, independent from the WTP project.

The assessment team performed document reviews, conducted interviews, and observed field element staff performing oversight of the contractor processes and practices. The following objectives were evaluated:

- The DOE field element has an established process that ensures effective oversight of the contractor's work planning and control process.
- The DOE field element performs effective oversight of the contractor's work planning and control process.

The following strengths and recommendations were identified:
Strengths:

The files being maintained by the Facility Representatives and on-site inspectors for occurrences, investigation reports, and events are well maintained. The files contain inspection documentation which allows anyone not directly involved in the issues to respond or follow-up on questions from others outside the group.

The Fiscal Year 2006 Assessment Plans provide an integrated schedule to provide oversight for all areas and groups of the Waste Treatment Plant, including the work control processes.

Recommendations:

1. **ORP personnel performing assessments should document their qualifications, in accordance with ORP M 220.1.**

2. **Facility Representatives assigned to the WTP project should complete cross-qualification to an approved WTP facility specific qualification card.**

3. **DOE should ensure an extent of condition review is conducted for recurring issues, and that corrective action effectiveness is verified.**

The results of the assessment were briefed to ORP management.

2. ASSESSMENT SCOPE AND METHOD

ORP personnel completed an assessment of DOE work planning and control oversight for the Waste Treatment Plant (WTP), December 9-14, 2005. The evaluation was focused on the DOE processes for and performance of oversight of the contractor's work planning and control processes.

The following criteria were used:

1. There is documentation that delineates the roles and responsibilities for DOE field element personnel performing oversight of the contractor's work planning and control process.

2. DOE field element management has established the requirement for oversight of all stages (e.g. planning walk downs, Job Hazard Analysis (JHA) meetings, field execution, etc.) of the work planning and control process.

3. The DOE field element management has designated appropriate personnel (e.g. safety and health, facility representatives, project, etc.) to perform oversight of the contractor's work planning and control process. Designated personnel have received adequate training or were selected based on their experience and knowledge of the work planning/ control process.

4. The field element has a formal system that documents the efforts of their personnel performing oversight of the contractor's work planning and control process.

5. The field element has scheduled periodic oversight activities (e.g., assessments, surveillances, observations, etc.) of the contractor's work planning and control process. These activities are of sufficient scope, detail, and quantity that the field element can ascertain the status of the contractor's work planning and control process.

6. The scheduled oversight activities are conducted during all stages of work planning and control process (e.g., planning walk downs, JHA meetings, field execution, etc.), and are chosen based upon the degree of risks, hazards, and complexity of the work activity.

7. The field element tracks and trends the results of oversight activities performed on the contractor's work planning and control process and takes appropriate actions.

Documents Reviewed:

ORP M 411.1-1, *Safety Management Functions, Responsibilities, and Authorities Manual for the U.S. Department of Energy Office of River Protection*
ORP M 450.4 R2, *Integrated Safety Management System Description*
ORP M 220.1 R3, *Integrated Assessment Program*
ORP M 420.2C, *Facility Representative Program*
Desk Instruction 1.2, "Assessment Tracking and Reporting"
Desk Instruction 1.4, "Coordination of Assessment Lessons Learned"
Facility Representative Instructions
ORP Organization Chart
Training and Qualification Records
ORP Integrated Assessment Schedule
Assessment A-05-ESQ-RPPWTP-009, Bechtel National Inc., Quality Issues
Assessment A-0-ES-RPP-WTP-002, Assessment of the Control of Documents and Records
05-WTP-227 Inspection Report Letter
05-WTP-227 Notice of Finding Report 05-003
Inspection Report A-05-AMWTP-RPPWTP-003
Inspection Note Number: A-05-AMWTP-RPPWTP-002-102
Inspection Note Number: A-05-AMWTP-RPPWTP-003-81
Inspection Note Number: A-05-AMWTP-RPPWTP-004-44

Personnel Interviewed:

Environmental Safety and Quality (ESQ) Director
Facility Representative Supervisor
Facility Representatives
Assessment Program Manager
WTP project personnel

Observations:

Observed field element staff (project personnel and Facility Representatives) performing oversight of the contractor's work planning and control process.

3. ASSESSMENT RESULTS:

1. There is documentation that delineates the roles and responsibilities for DOE field element personnel performing oversight of the contractor's work planning and control process.

   Criteria met.

   ORP M 411.1-1, *Safety Management Functions, Responsibilities, and Authorities Manual (FRAM) for the US DOE Office of River Protection,* ORP M 220.1, *Integrated Assessment Program*, and ORP M 420.2C, *Facility Representative Program* delineate the roles and responsibilities for DOE field element personnel performing oversight of the contractor's work planning and control process.

   The Director, ESQ, is responsible for the ORP Integrated Assessment Program, and appoints the Assessment Program Manager. Responsibilities for conducting assessments are listed in the ORP FRAM. The Facility Representative Program and Facility Representative Instructions define responsibilities, authorities, and duties of the Facility Representatives.

2. DOE field element management has established the requirement for oversight of all stages (e.g. planning walk downs, Job Hazard Analysis (JHA) meetings, field execution, etc.) of the work planning and control process.

   Criteria met.

   The ORP Integrated Assessment Program and ORP Facility Representative Program have established requirements for oversight of work planning and control processes. Assessments are conducted through the use of ORP M 220.1, *Integrated Assessment Program* and the annual assessment plan. ORP Assistant Managers and the ESQ Director ensure annual assessment plans are developed and implemented. The annual assessment plan covers planned assessments. Reactive assessments are also conducted to address emerging issues and concerns. A-05-ESQ-RPPWTP-009, "Bechtel National, Inc., Quality Issues" is an example of a recent reactive assessment.

   The Assessment Program Committee (APC), consisting of representatives from the ORP line organizations, ESQ, and the ORP Manager's office, reviews and approves the ORP Annual Integrated Assessment Plan. The APC meets on a periodic basis to review performance of assessments against the ORP annual assessment plan and make recommendations to improve performance or for reactive assessments.

The FY06 ORP Assessment Schedule includes planned assessments for the WTP in areas such as Configuration Management, Design Processes and Procedures, Scheduling, Work Authorization Process, Construction Work Control Process, QA Program, Lessons Learned Program, and Work Package Control. The assessments are conducted by ORP personnel in ESQ, engineering, projects, and Facility Representatives. Facility Representatives also provide day to day oversight of all contractor construction activities for the WTP and issue inspection reports quarterly.

3. The DOE field element management has designated appropriate personnel (e.g. safety and health, facility representatives, project, etc.) to perform oversight of the contractor's work planning and control process. Designated personnel have received adequate training or were selected based on their experience and knowledge of the work planning/ control process.

   Criteria met – recommendations provided.

   ORP has designated appropriate personnel to perform oversight. Assessments and oversight activities are performed by personnel from ESQ, engineering, projects, and Facility Representatives (FRs). Facility Representative Instruction (FRI) 003 also designates FR coverage and staffing, as determined by the FR Supervisor, with consideration to facility hazard and activity level. In addition to personnel designations and responsibilities delineated in the ORP FRAM and Facility Representative Program, the Assessment Program Committee ensures proper resources are allocated across ORP to successfully complete the annual assessment plan, as stated in ORP M 220.1, *Integrated Assessment Program.*

   ORP M 220.1, paragraph 6.2.1, also states Division Directors ensure personnel performing assessments possess suitable qualifications commensurate with the nature and type of assessment to be conducted. Qualification is documented on form ORP-111. The assessment team found that not all personnel performing assessments have completed the qualification documentation.

   Recommendation:

   ORP personnel performing assessments should document their qualifications, in accordance with ORP M 220.1.

   ORP M 220.1 does not apply to Facility Representatives (FRs) who perform broad-based assessments of facility operation and construction in accordance with ORP M 420.2C, *Facility Representative Program.* ORP M 420.2C states the FR Team Lead assigns FRs to WTP facilities and activities, and ensures adequate FR staffing levels are maintained to support FR coverage. Four FRs are assigned to the WTP project. ORP M 420.2C also

states FRs are to qualify and requalify in accordance with the FRIs. FRI-004, Facility Representative Qualification, states individuals entering the FR Training and Qualification Program meet the education and experience consistent with those recommended in DOE-STD-1063-2000, *Facility Representatives*. FRI-004 requires all ORP FRs to qualify through a formal program including requirements in three areas: General Technical Base, Facility Representative Functional Area, and Facility Specific Qualifications. All FRs assigned to the WTP are fully qualified FRs.

FRI-004, also states "upon re-assignment of an FR to a new facility, the FR has six months to cross qualify on the new facility." The FRs assigned to the WTP project have not completed cross-qualification, as no WTP facility specific qualification card has been approved. Three of the four FRs assigned to the WTP project have been assigned to the project for more than six months.

The assessment team discussed the FR qualifications with the FR Supervisor. He stated the FRs are qualified under the ORP M 220.1, *Integrated Assessment Program,* until the WTP facility specific qualification card is developed and approved. However, not all of the WTP FRs are qualified per ORP M 220.1.

Recommendation:

Facility Representatives assigned to the WTP project should complete cross-qualification to an approved WTP facility specific qualification card.

4. The field element has a formal system that documents the efforts of their personnel performing oversight of the contractor's work planning and control process.

   Criteria met.

   ORP has a formal system for documenting assessments and oversight. ORP develops an annual assessment plan, and performs and tracks assessment activities per ORP M 220.1, *Integrated Assessment Program.* Deficiencies identified through the assessments are tracked and closed through the Consolidated Action Reporting System (CARS) maintained by ORP.

5. The field element has scheduled periodic oversight activities (e.g., assessments, surveillances, observations, etc.) of the contractor's work planning and control process. These activities are of sufficient scope, detail, and quantity that the field element can ascertain the status of the contractor's work planning and control process.

   Criteria met.

ORP develops an annual assessment plan, per ORP M 220.1, *Integrated Assessment Program.* The FY06 ORP Assessment Schedule includes planned assessments for the WTP in areas such as Configuration Management, Design Processes and Procedures, Scheduling, Work Authorization Process, Construction Work Control Process, QA Program, Lessons Learned Program, and Work Package Control. Additionally, Facility Representatives provide day to day oversight of all contractor construction activities for the WTP and issue inspection reports quarterly. These activities are of sufficient scope, detail, and quantity to ascertain the status of the contractor's work planning and control process.

6. The scheduled oversight activities are conducted during all stages of work planning and control process (e.g., planning walk downs, JHA meetings, field execution, etc.), and are chosen based upon the degree of risks, hazards, and complexity of the work activity.

   Criteria met.

   The FRs conduct oversight activities during all stages of work planning and control processes. Their oversight activities and results are documented and transmitted to the contractor quarterly. Additionally, assessments are scheduled per the annual assessment plan. The FY06 ORP Assessment Schedule includes planned assessments for the WTP in areas such as Configuration Management, Design Processes and Procedures, Scheduling, Work Authorization Process, Construction Work Control Process, QA Program, Lessons Learned Program, and Work Package Control. The planned assessment activities are chosen based upon degree of risks, hazards, and complexity of the work activities, as well as recent events and contractor performance. Reactive assessments may also be conducted to address emerging issues and concerns. Reactive assessments are not included as part of the annual assessment plan but are reported and tracked the same as planned assessments.

7. The field element tracks and trends the results of oversight activities performed on the contractor's work planning and control process and takes appropriate actions.

   Criteria met – recommendation provided.

   Per ORP M 220.1, *Integrated Assessment Program,* the status of assessments is tracked by assigned individuals and the Assessment Program Manager. Deficiencies identified during assessments are tracked in the Consolidated Action Reporting System (CARS), maintained by ORP. The contractor develops corrective actions as specified for the level of deficiency. Division Directors distribute corrective actions received from the contractor to appropriate Subject Matter Experts (SMEs) for evaluation. The assigned SME assesses the adequacy of corrective actions taken or planned by the contractor and discusses unacceptable corrective actions with the appropriate Division Director.

Unacceptable corrective actions are discussed with and formally transmitted to the cognizant contractor manager.

On notification by the contractor that corrective actions have been completed, Division Directors ensure validation of corrective action completion, closure of deficiencies in CARS, and validation of corrective action effectiveness through future assessments. The assessment team found evidence of adequate follow-up and verification of corrective action effectiveness prior to issue closure.

Oversight results are provided to the Assessment Program Manager (APM). The APM establishes performance indicators based on oversight activities and results, as well as for the assessment program itself. Performance indicators are used for allocating assessment resources and identifying needed reactive assessments.

A review of the issues identified by the integrated assessment team reviewing the WTP contractor work planning and work control practices was completed to determine if 1) similar issues were previously identified by DOE oversight, and 2) corrective actions for issues previously identified were completed and effective.

A DOE oversight program that is well documented through assessments and inspection notes was found. Several issues identified by the Facility Representatives in the areas of work control were similar to the observations and recommendations of the integrated assessment team reviewing the contractor's program. DOE documented 92 inspections for the period July – September 2005, including issues related to drawings, the lessons learned program, Job Hazards Analyses (JHAs), and procedural violations during field implementation.

Recommendation:

DOE should ensure an extent of condition review is conducted for recurring issues, and that corrective action effectiveness is verified.

Issues classified as findings, or deviations from contractual requirements, are transmitted to the contractor for action and are entered into the corrective action system for resolution. Issues documented as an inspection note, but no finding, are briefed to the contractor. For example, Inspection note 003-59 documented the vagueness and inconsistencies of the WTP JHAs. However, no finding was written, as the issue could not be tied to a contractual requirement. The FRs briefed contractor management and agreed on resolution.

ATTACHMENT 3

Memorandum 06-WTP-004

WTP Work Control Review

24590-WTP-MAR-CON-05-0009

December 21, 2005

Washington Group International
Integrated Engineering, Construction, and Management Solutions

WSMS-SAE-05-0108

December 22, 2005

Mr. John Eschenberg, WTP Project Manager
Office of River Protection
2440 Stevens Center Place
Richland, WA 99354

Dear Mr. Eschenberg,

Please find enclosed the WTP Work Control Review Final Report, 24590-WTP-MAR-CON-05-0009 including a signature sheet representing the team members. The assessment team was comprised of personnel from Bechtel National Incorporated, Department of Energy, and Washington Safety Management Solutions. On behalf of WSMS and the team I want to extend our appreciation for the opportunity to provide assistance on this matter. If you have any questions or concerns on this subject or need any additional support please contact me at 803-502-9705.

Thank You,

for CE Armitage

Chuck E. Armitage, Principal
Washington Safety Management Solutions

CA/nw
encl

WTP Work Control Review

24590-WTP-MAR-CON-05-0009

December 21,2005

WTP Work Control Review

Team Members

WSMS Assessment Team Leader
Chuck Armitage
signature/date:

Signature

12/21/05
Date

WSMS Assessment Team Member
William Lloyd
signature/date:

Signature

12/21/05
Date

WSMS Assessment Team Member
Jeff Selvey
signature/date:

Signature

12/21/05
Date

WSMS Assessment Team Member
Mark Zagar for
signature/date:

Signature

12/21/05
Date

BNI Assessment Team Member
Hank Gorski
signature/date:

Signature

12/21/05
Date

BNI Assessment Team Member
Jesse Lewis
signature/date:

Signature

12/21/05
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DOE Assessment Team Member
Stacy Charboneau
signature/date:

Signature

12/21/05
Date

DOE Assessment Team Member
Ben Harp
signature/date:

Signature

12/21/05
Date

Acronyms

BNI	Bechtel National, Inc.
COTS	Correct on the Spot
CRAD	Criteria and Review Approach Document
CWP	Construction Work Package
DNFSB	Defense Nuclear Facilities Safety Board
DOE	Department of Energy
FEM	Field Engineering Manager
HWP	Hazardous Work Permit
ISM	Integrated Safety Management
ISMS	Integrated Safety Management System
JHA	Job Hazard Analysis
LMS	Learning Management System
NNSA	National Nuclear Security Administration
PPE	Personal Protective Equipment
PSP	Personal Safety Plan
QA	Quality Assurance
QASAR	QA Surveillance Activity Report
QC	Quality Control
RCA	Root Cause Analysis
RFE	Responsible Field Engineer
RITS	Recommendation and Issues Tracking System
RS	Responsible Superintendent
SETO	Safety Education Through Observation
STARRT	Safety Task Analysis Risk Reduction Talk
STOP	Safety Thoughts On Paper
WSMS	Washington Safety Management Solutions
WTP	Waste Treatment Plant

WTP Work Control Review

Table of Contents

WTP Work Control Review

Executive Summary

The objective of this assessment was to identify improvement areas in work planning, release, and control processes. The assessment team conducted observations of the Waste Treatment Plant (WTP) work related activities, procedures and work package reviews, and project personnel interviews. The focus areas outlined below were derived from the work control Criteria Review and Approach Document (CRADs) identified in the DOE-HDBK-3027-99, *Integrated Safety Management Systems (ISMS) Verification Team Leader's Handbook.* These CRADs were verified against National Nuclear Security Administration (NNSA) guidance and the Dr. Ines R. Triay memorandum dated November 18, 2005 (Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, Commitment 23).

Assessment Focus Areas:

- Management standards and expectations regarding control and performance of work were explicit, well communicated, and permeated the organization.
- An effective work planning and control process existed.
- Work activities adequately defined and analyzed the associated hazards and the applicable controls.
- Work planning process enabled safe and efficient completion of work activities.
- Personnel perform work in accordance with approved work control documents.
- An established process requiring line management and assessment personnel to perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents was in place.

The assessment team was comprised of personnel from Bechtel National, Incorporated (BNI), Department of Energy (DOE), and independent subject matter experts from Washington Safety Management Solutions (WSMS). The assessment team provided recommendations and observations relative to the work planning, work release, and work control practices employed currently at WTP. The work activities during the assessment period did not allow the level of field observations that were originally planned. No lockout/tagout activities or high value lifts were performed during the assessment period. However, the field activities performed were sufficient to adequately perform the assessment. The assessment reviewed the processes work performance, workforce behaviors, culture and leadership relative to implementation. This assessment did not focus on potential issues associated with design engineering, quality assurance, or procurement organizations but rather the field work release and control related activities.

Conclusion

The BNI work control process is adequate for the current state of the WTP project. However, several issues were identified by the team during this assessment. These issues included 8 Observations and 13 Recommendations which were grouped into the following areas of concern:

Work Package Quality

a. Current work package lessons learned and feedback system is informal
b. WTP-GPP-CON-1201, *Construction Work Packages,* excludes subcontractors which is inconsistent with WTP-GPP-CON-7105, *Subcontractor Submittals.*
c. Drawing size in work package was difficult to read which could lead to shortcuts and wrong assumptions/interpretations.
d. Work packages in the field were missing Job Hazards Analyses (JHA) and rigging plans.
e. JHA updates were not reflected in the appropriate work package and all pertinent JHAs were not listed on the controlled document list.

Hazard Analysis

a. The Hazardous Work Permit (HWP) procedure allows a single person to prepare and approve the HWP, which allows for a single point failure to occur.
b. Job Hazard Analysis (JHA) & HWP procedures are deficient in several areas.
c. HWP procedure does not appropriately address the hierarchy of controls.
d. Personnel had not reviewed revised JHAs prior to performing work.
e. Construction procedures do not require a walkdown prior to work start, to ensure JHA conditions have not changed.
f. Construction Work Package (CWP) procedures do not require all workers to participate in pre-job briefs.
g. Foremen participation in the JHA creation process was not always evident.

Planning & Scheduling

a. No formal training/documented process exists for the computerized turnover system.
b. Multiple work control programs exists which are not integrated.
c. CWP procedure does not require a documented job status for work that is delayed or suspended.

Management Expectations

a. Root cause analyses are not completed in a timely fashion.
b. Effectiveness shortfalls in the management assessment program.
c. Communications focus on the apparent causes and are not as effective on root causes.
d. No effective management evaluation process to ensure identification of common causes of re-occurring issues.
e. No core curricula program is identified for work control training of Responsible Field Engineers (RFEs).
f. No clearly defined and documented process for the operation of permanent plant systems prior to turnover.

WTP Work Control Review

1.0 Introduction

The Waste Treatment Plant being constructed at the Hanford site near Richland, Washington has had a number of events reflecting weakness in the control of work processes during 2004 and 2005 (e.g., hazardous energy control, welding program concerns, and lockout/tagout violations). Additionally, the need for improvement in work planning and work execution at the activity level was identified by internal self-assessments, DOE, and DNFSB oversight. As a result, BNI chartered an assessment team to identify improvement areas in work planning, release, and control process.

The assessment team was comprised of personnel from BNI, DOE, and independent subject matter experts from WSMS. The assessment team provided recommendations and observations relative to the work planning, work release, and work control practices employed currently at WTP.

2.0 Purpose

The purpose of the assessment was to identify improvement areas in work planning, release, and control processes. The assessment team conducted observations of WTP work related activities, procedure and work package reviews, and project personnel interviews. The focus of the assessment was to ensure the following:

- Management standards and expectations regarding control and performance of work were explicit, well communicated, and permeated the organization.
- An effective work planning and control process existed.
- Work activities adequately defined and analyzed the associated hazards and the applicable controls.
- Work planning process enabled safe and efficient completion of work activities.
- Personnel perform work in accordance with approved work control documents.
- An established process requiring line management and assessment personnel to perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents was in place.

Additionally, this assessment report will serve as input for the development of the Hanford Action Plan requested by Dr. Ines R. Triay in the memorandum dated November 18, 2005 (Work Planning and Work Control Assessments and Site Action Plans for DNFSB Recommendation 2004-1, Commitment 23).

3.0 Scope

The assessment team provided an integrated assessment of the current contractor BNI work planning, release, and control practices at the WTP. This included an evaluation of existing plans for improvement. The assessment reviewed the processes, workforce behaviors, culture and leadership relative to implementation. This assessment did not focus on potential issues associated with design engineering, quality assurance, or procurement organizations but rather the field work release and control related activities.

4.0 Background

BNI management utilizes a number of methods to define and communicate their standards and expectations regarding control and performance of work. This includes their organizational structure, that has been established to provide line (construction) and disciplined management presence at the construction site. These positions are the Deputy Construction Manager, General Superintendent, Field Engineering Manager, Construction Site Manager, Field Quality Control Manager, Field Safety Assurance Manager and their respective groups. The Quality Assurance and Design Engineering organizations also have construction site presence. This organizational structure allows for ready access and frequent interaction with the workforce. This interaction provides a platform for timely decision making and direct management involvement. The site Project management team is operationally divided into five sub-projects, corresponding to the five major facilities and processes (e.g., High Level Waste, Low Activity Waste). This structure results in some latitude in the implementation of operational procedures and the decision making processes. The General Superintendent, Field Engineering, and Field Quality Control span all five projects to provide continuity and integration. This vertical and horizontal organizational structure provides the ability for workforce flexibility and interaction.

Aside from on site representation, Design Engineering and Quality Assurance reside off site. The Quality Assurance organization provides concurrence and oversight responsibilities for Design Engineering and for procurement activities.

The Project management team has developed project level programmatic and implementing procedures to manage safety and the control of work. Most of these procedures are derived from established Bechtel National Standard Procedures, some of which have been adapted specifically to the WTP Project. The management team utilizes the six sigma process as a continuing improvement process.

Significant reliance is placed on craft skill for construction knowledge and quality of the installation. Additionally, the Project provides a range of training and qualification programs.

Worker Safety standards and expectations are communicated through a number of mechanisms, such as; one on one reinforcement, indicators and trending, safety lessons learned and bulletins, peer work safe and information/feedback programs such as Zero Accident, Zero Errors, Safety Education Through Observation (SETO) and Safety Thoughts On Paper (STOP). These programs emphasize Safety, Quality and Production/Success as integral components.

The Quality Assurance organization has an active program of surveillances. Management also has an annual Management Assessment program. The 2005 program consisted of one upper tiered (senior managers that report directly to the Project Manager) assessment per functional area and a number of lower tiered assessments that covered a wide range of areas. The Project maintains a

Corrective Action Reporting System for consolidating input from multiple sources and processing corrective actions. The Correct-On-The-Spot (COTS) system and the Recommendation and Issues Tracking System (RITS) are also utilized for correcting deficiencies.

The work flow process is comparatively standard for a large, mature construction project. Superintendents work from a four week look-ahead schedule. These are derived from a Project Level 3 schedule with approximately 30,000 entries. The Superintendents must coordinate with each other to achieve integration and must add work details to the schedules. Superintendents also establish work priorities.

Field Engineering has a significant role in the control of work process. They have a primary responsibility to ensure that the project is built in full compliance with drawings, procedures and specifications. Their responsibilities include specifying the content of work packages, reviewing and interpreting drawing and specifications, performing walk downs, verifying the quality of construction and performing in-process inspections, resolving technical problems, and documenting deficiencies and deviations using appropriate procedures.

As an integral part of the Projects Integrated Safety Management (ISM) program, Project procedures emphasize the use of JHA as the method to determine work risks and how to control those risks. JHAs exist for many types of work tasks that are performed with varying degrees of repetition. JHAs also are generated for more specific, unique and/or complex work tasks. All members of the work force can request the initiation or change to a JHA, however the primary responsibility rests with the Superintendents. JHAs should become part of the work package. In addition to the JHA process, Responsible Superintendents determine the need for pre-job briefings and or dry runs. The pre-job briefings and or dry runs are conducted prior to the start of the work activity. Depending on the length of the work activity the Responsible Superintendent may deem it necessary to conduct additional briefings during the course of installation.

At the start of every shift, management expects each foreman and work crew to complete a Safety Task Analysis Risk Reduction Talk (STARRT) card. The STARRT card serves as both a real time review of hazards and pre-job briefings of the conditions that exist at the time of the work and the methods to control those hazards. When a JHA is required for the work activity, it is used as the starting point to identify the job specific hazards. The work crew adds additional hazards as determined by the environment, unique work locations and other activities in the work vicinity. Management expects all members of the work crew, support personnel and work site visitors to understand the hazards and controls and to sign in on the card. At the end of the shift, the crews are asked to provide any feedback on the cards and to turn them in to supervision. This provides feedback to management and is a method to maintain quality assurance of the process.

Before each criterion was evaluated, it was necessary to first understand management's responsibility for hazard identification and analysis at WTP, and the processes currently in-place for implementing this program.

Roles and Responsibilities

Construction Procedure 24590-WTP-GPP-CON-1101, *Site Organization*, provides some overall responsibilities for WTP management relating to this objective. Some examples are:

- The Manager of Construction and associated staff are responsible for implementing an effective Integrated Safety Managment System (ISMS). This objective essentially addresses two of the five core functions of an ISM program, which is hazard identification and analysis.

- The Site Manager, reporting directly to the Manager of Construction, is responsible for ensuring inclusion of ISM principles in construction processes.
- The General Superintendent, reporting to the Site Manager, is responsible for the implementation of programs for protection of personnel and the environment. He/she is also responsible for performing walk downs with field engineering and providing input for the development of work controlling documents.
- The Field Engineering Manager, reporting directly to the Site Manager, is responsible for preparing construction work packages, guides, and procedures.
- The Field Safety Assurance Manager, reporting directly to the Manager of Construction, is responsible for site environmental, safety, and health requirements.

Construction management has been provided the responsibilities for accomplishing this objective, which is to ensure work activities are adequately defined and analyzed with respect to hazards.

Work Control Processes

At least five (5) management programs were identified for controlling work at WTP. These management programs have been established for controlling work activities rather than a single integrated work control process. The primary mechanism is with construction work packages; however, specialized processes have been implemented for temporary facilities and utilities, temporary electrical systems, operation of systems under Construction custody, and rigging operations.

Hazard Identification and Implementation of Controls

At least two (2) management programs were identified for hazard identification and control at WTP, utilizing multiple types of hazard identification and control documents. Construction Procedure 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA)/ Safety Task Analysis Risk Reduction Talk (STARRT)*, ensures potential health and safety hazards are identified and controlled, and that appropriate hazard information is communicated to each employee prior to starting a job or task. The procedure defines JHAs and a STARRT Card process. Construction Procedure 24590-WTP-GPP-SIND-013, *Hazardous Work Permit*, also can be used to plan and control hazardous work via three types of HWPs.

5.0 Assessment Results

A detailed discussion of the assessment results can be found in Attachment 1 "CRAD Summaries" of this report. The following is a summary of the assessment results which have been binned into four categories:

5.1 Work Package Quality

a. Current work package lessons learned and feedback system is informal
b. WTP-GPP-CON-1201, *Construction Work Packages,* excludes subcontractors which is inconsistent with WTP-GPP-CON-7105, *Subcontractor Submittals.*
c. Drawing size in work package was difficult to read which could lead to shortcuts and wrong assumptions/interpretations.

d. Work packages in the field were missing JHA and rigging plans.
e. JHA updates were not reflected in the appropriate work package and all pertinent JHAs were not listed on the controlled document list.

5.2 Hazard Analysis

a. The HWP procedure allows a single person to prepare and approve the HWP, which serves as a single point failure to occur.
b. JHA & HWP procedures are deficient in several areas.
c. HWP procedure does not appropriately address the hierarchy of controls.
d. Personnel had not reviewed revised JHAs prior to performing work.
e. Construction procedures do not require a walkdown prior to work start, to ensure JHA conditions have not changed.
f. CWP procedures do not require all workers to participate in pre-job briefs.
g. Foremen participation in the JHA creation process was not always evident.

5.3 Planning & Scheduling

a. No formal training/documented process exists for the computerized turnover system.
b. Multiple work control programs exists which are not integrated.
c. CWP procedure does not require a documented job status for work that is delayed or suspended.

5.4 Management Expectations

a. Root cause analyses are not completed in a timely fashion.
b. Effectiveness shortfalls in the management assessment program.
c. Communications focus on the apparent causes and are not as effective on root causes.
d. No effective management evaluation process to ensure identification of common causes of re-occurring issues.
e. No core curricula program is identified for work control training of RFEs.
f. No clearly defined and documented process for the operation of permanent plant systems prior to turnover.

6.0 Strengths

Worker safety standards and expectations are communicated through a number of mechanisms, such as; one on one reinforcement, indicators and trending, safety lessons learned and bulletins, peer work safe and information/feedback programs such as Zero Accident, Zero Errors, SETO and STOP. These programs emphasize Safety, Quality and Production/Success as integral components.

The STARRT) card program is a good process for reviewing hazards prior to the commencement of work each day. At the start of every shift, management expects each Foreman and work crew to complete a STARRT card.

The Long Range Planning Team is developing a total project (long range) schedule for the remainder of the construction work. This schedule is unique in that it is directly linked to the electronic 3-dimensional design model. This allows an enhancement of the work control process by stream lining the interfaces.

7.0 Observations and Recommendations

The numbering system associated with the observations and recommendations discussed in this section are based on the CRADS identified in Attachment 1. Each observation and recommendation has a unique number that is derived by the Objective #, Criteria #, sequential # O for Objective or R for Recommendation (e.g., WP2-3-2O equates to the 2nd objective, 3rd criteria, 2nd Observation observation/recommendation).

For the purposes of this assessment the following definitions apply:

Observation – a potential deviation from established policies, procedures and/or performance objectives and criteria.

Recommendation - a condition identified during an assessment which does not depart from established requirements, but which hinders the efficiency and cost effectiveness of a program, operation, activity, or process.

7.1 Observations

Observation M1-6-1O
The WTP Root Cause Analyses are not routinely completed within 21 days of identification as specified in Section 3.2.5 of procedure 24590-WTP-GPP-MGT-015, *Root Cause Analysis*. This also creates a challenge to comply with the 45-day timeframe specified within 24590-WTP-GPP-SIND-001, *Reporting Occurrences in Accordance with DOE M 231.1-2.*

Observation WP2-2-1O
WTP-GPP-SIND-013, *Hazardous Work Permit*, allows a single person to prepare and approve the HWP. This provides an opportunity for a single point failure to occur.

Observation WP2-3-1O
Procedures 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA)/ Safety Task Analysis Risk Reduction Talk (STARRT)*, and 24590-WTP-GPP-SIND-013, *Hazardous Work Permit*, and the implementation of JHAs/HWPs at WTP need to be upgraded. The following are examples that substantiate the observation:

- Although they are used in WTP-GPP-SIND-002, the terms "general JHA" and "specific JHA" are not defined in the procedure.
- General JHAs often provided little value/information
- General JHAs often repeat, in part, information already provided in WTP safety procedures.
- Vulnerabilities exist in the STARRT card process that could lead to hazards in the work place not being adequately identified and controlled. During the development of the STARRT card each work group prepares an assessment of the work activities related to the work being performed that day. If multiple work groups are working in the area each group is suppose to read and sign on the interfacing work groups STARRT card. The STARRT cards reviewed by the assessment team found that the areas of focus for the workers was related to the required Personnel Protective Equipment therefore not all of

the hazards identified on the specific JHA are being reviewed by the interfacing work group. It is recommended that the WTP project consider requirements for a developing composite STARRT cards when multiple activities are occurring that could introduce hazards that require additional controls being developed outside the normal personal protective equipment (PPE) requirements.

Observation WP2-3-2O
Construction Procedure 24590-WTP-GPP-CON-1201, *Construction Work Packages*, states that the procedure does not apply to subcontractor work activities. This is contrary to 24590-WTP-GPP-CON-7105, *Subcontractor Submittals*, which states that in some cases the terms and conditions of the subcontract will require the subcontractor to follow WTP procedures. WTP-GPP-CON-1201 should be revised to not exclude its use by subcontractors.

Observation WP2-4-1O
WTP-GPP-SIND-013, *Hazardous Work Permit*, does not address the desired hierarchy of hazard controls. In fact, the process focuses almost exclusively on PPE requirements.

- It is not clear when a JHA or a HWP is to be used since they both are for hazardous/ higher risk jobs. Work activities such as cutting a propane line did not include an HWP.
- WTP-GPP-SIND-013, *Hazardous Work Permit*, states that Blanket HWPs are for a wide variety of low hazard tasks, which conflicts with other information in the procedure that states HWPs are for tasks that pose an increased risk of serious injury or illness.

Observation: WP3-4-1O
Work packages were observed in the field with reduced size (11X17 inches) drawings. These drawings were not legible by crafts personnel. Develop a field drawing system that provides full size or equivalent drawings to craft personnel.

Observation WP4-6-2O
The cover sheets for work packages PPI0015 and PPI0017, reviewed on 12/8/05, list JHA 24590-WTP-JHA-CON-03-021 as required and applicable. However, the JHA was not in the work package which is implied in procedures 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA)/Safety Task Analysis Risk Reduction Talk* (STARRT) and 24590-WTP-GPP-CON-1201, *Construction Work Packages*. Additionally, all JHAs that are pertinent for the work activity should be listed on the controlled document list. This will ensure all updates to the JHA are reflected in the appropriate work package. The construction work package procedure should be revised to include the requirement that JHAs be in the work package.

Observation WP4-6-3O
Contrary to the requirements of Construction Procedure 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA)/ Safety Task Analysis Risk Reduction Talk (STARRT)*, personnel continued work without reviewing a revised JHA that impacted their work package.

7.2 Recommendations

Recommendation M1-2-1R
The management assessment program needs improvement to ensure effectiveness. The program should be evaluated and revised to add robustness and greater manager involvement to pro-actively identify issues in the field. This is particularly important for the discipline managers, such as electrical superintendents. Target assessment areas should focus on the risk areas most affected by change and greater emphasis should be placed on conducting situational assessments including the trending data utilized by the Quality Assurance.

Recommendation M1-2-2R
Workforce communications are generally prompt in providing specific issues and apparent causes. Consider increasing communications to the workforce which highlights the final outcome of the evaluation and actions being taken. For example, the results of root cause analyses and critiques are not always effectively communicated. The results of the BNI root cause analysis initiated in November concerning numerous hazardous energy events has not been issued.

Recommendation M1-4-1R
The Project team's method to recognize the similarities between multiple events/issues and to identify underlying causes needs improvement. Recommend that a management evaluation process be established to periodically review issues and identify potential similarities and extent of condition.

Recommendation M1-4-2R
Recurring issues and database reviews indicate that effectiveness in identifying appropriate corrective actions, implementation those actions and subsequent effectiveness assessments needs improvement. This was first identified as a problem in 2004 and a Root Cause Analysis on Corrective Action Effectiveness (24590-WTP-RPT-G-04-0001). Recommend a reassessment of corrective action effectiveness.

Recommendation WP1-4-1R
The WTP has a computerized turnover system. It was last utilized on May 2004. This was the last time a 2 shift schedule was in force. Ensure that training is administered prior to recommencement of a multi-shift schedule. This will ensure that the program is appropriately utilized and log entries are sufficiently detailed.

Recommendation: WP1-5-1R
The current work package lessons learned and feedback system is informal. The system is based on the close coupling of the Field Engineers to the work crews and other Field Engineers in other parts of the WTP. No objective evidence (documentation) of lessons learned was evident. Develop a more formal system to document the use of lessons learned and feedback.

Recommendation: WP1-7-1R
The current training system is based on the duties of the Field Construction Engineer. This system does not identify a core set of training curricula for work control qualification. Develop a core curriculum for work control and train each RFE to it. This system would be very useful as WTP staffs up to full capacity.

Recommendation WP2-3-3R
The process by which constructed systems are operated by Construction prior to turnover to the startup organization introduces potential concerns. These include ensuring proper checkout and testing prior to operation, configuration management of safety-related (e.g., safety class, safety significant) systems, and proper operation of the system by trained and qualified personnel. The operation of permanent systems prior to turnover needs to be clearly defined and documented. Additionally, it is recommended that a management assessment be performed to evaluate the overall process.

Recommendation WP2-3-4R
BNI has established several programs for controlling work activities rather than a single integrated work control process. The Utilities Group should evaluate the work control programs and identify the opportunities to integrate the processes and/or identify the strategic point(s) when the integration needs to occur.

Recommendation WP2-3-5R
A walk down of the work area can often be an important component in the hazard identification process and the implementation of appropriate controls. Construction Procedures should be revised to require a walk down of the work area prior to the start of work to ensure work conditions have not changed from the original JHA.

Recommendation WP4-3-1R
In-field observations indicate that effective pre-evolutionary briefings are performed. However, the procedure (24590-WTP-GPP-CON-1201, *Construction Work Packages*) is not written to ensure the personnel performing the work participate in the pre-job brief. Reviews of the CWPs indicate all personnel involved in performance of the work package participated in the pre-job brief. All personnel interviewed participated in the pre-job brief associated with the work they were performing, as verified in the documented pre-job brief record in the CWPs.

Recommendation WP4-6-1R
Construction Procedure 24590-WTP-GPP-CON-1201, *Construction Work Packages*, does not include requirements for documenting work status for delayed or suspended work. Status and unexpected conditions are generally communicated verbally to the Foremen and/or Responsible Superintendent without documentation of status in work control documents. Revise the Construction Work Package procedure to provide guidance.

Recommendation WP4-8-1R
Management should ensure that Foremen are involved in more of the work planning process, including the development and review of JHAs.

8.0 Lessons Learned

A review of documents and records during the assessment indicated BNI had identified a number of issues associated with design engineering, quality assurance, and the procurement organizations. Some of these issues had direct impacts on field work activities. The principle focus of this assessment was on field work release and control activities. Therefore, as a Lessons Learned from this assessment, it is recommended that BNI conduct a management assessment on work package input documents and procured materials supporting field work activities.

WTP Work Control Review

Attachment 1 - CRAD Summaries

Review Form – M1

Objective

M1: ***Management Standards and Expectations: Standards and expectations regarding work control are explicit; well communicated, and permeate the organization.***

Criteria

1. Management has effectively communicated their standards and expectations regarding control and performance of work.
2. Management effectively reinforces their standards and expectations including changes.
3. The management chain and workforce understand their roles and responsibilities and are working to fulfill management expectations.
4. Management assessment processes measure performance against their expectations.
5. Executive management understands how well their expectations are being fulfilled.
6. Work processes enable effective implementation of management's standards and expectations.

Documents Reviewed

- Numerous BNI WTP procedures including;

  -24590-WTP-GPP-SIND-002, *Job Hazard Analysis/Safety Task Analysis Risk Reduction Talk (STARRT)*

  - 24590-WTP-GPP-CON-3105, Special Instructions

  - 24590-WPT-GPP-CON-1201, Construction Work Packages

  - 24590-WTP-GPP-CON-7107, Field Project Document Control

  - 24590-WTP-GPP-SIND-008, System and Equipment Lockout/Tagout

  - 24590-WTP-GPP-SIND-013, Hazardous Work Permit

  - 24590-WTP-GPP-SIND-024, General Safe Work Practices

  - 24590-WTP-GPP-SIND-025, Personnel Protective Equipment

  - 24590-WTP-GPP-SIND-027, Fall Prevention and Protection

  - 24590-WTP-GPP-SIND-026, Housekeeping and Fire Protection

  - 24590-WTP-GPP-SIND-028, Tags, Signs, Rope, Warning Tape and Barricades

  - 24590-WTP-GPP-SIND-009, Safety Watches

  - 24590-WTP-GPP-CON-7104, Nonconformance Reporting & Control

  -24590-WTP-GPP-CON-3110, Construction Design Change Management

  -24590-WTP-GPP-CON-3103, Field Change Requests (FCRs)/Field Change Notices (FCNs)

-24590-WTP-3DP-G04B-00062, Disposition of Field Change Request/Field Change Notice

-24590-WTP-3DP-G04B-00005, Configuration Management

-24590-WPT-3DP-G04B-00028, Identification of Items/Services Subject to Quality Assurance Programs

-24590-WTP-G04B-00046, Engineering Drawings

-24590-WTP-GPP-SIND-021, Critiques

-24590-WTP-GPP-QA-501, Independent Assessments

-24590-WTP-GPP-MGT-002, Management Assessment

-24590-WTP-PL-CON-05-0004, 2005 Construction Management Assessment Plan and Schedule

- WTP Trend Reports
- Field Construction Engineering Responsibilities
- Manager's Expectations
- Completed Management Assessments
- SETO Program
- Personal Safety Plan (PSP) Program
- Safety Thoughts on Paper (STOP) Program
- Quality Assurance Trending Programs and Trending Data Bases
- Safety Bulletins

Interviews Conducted

- Field Safety Assurance Manager
- Field Quality Control Manager
- General Superintendent
- Field Engineering Manager
- Assistance Field Engineering Manager (Perspective Utilities Group Manager)
- Project Safety Assurance Manager
- SETO Program Administrative Assistant

Observations of Work

- Superintendent turnovers
- Plan of the Days
- Superintendent, General Foreman and Foreman Turnovers
- Foreman Crew Briefing and STARRT card briefings
- Field work activities in PT, LAW, HLW and BOP

Discussion of Results

All managers interviewed indicated confidence that the processes in place were appropriate to achieve effective control of work. They acknowledged that there were some areas that could be improved and that there were initiatives in place to achieve improvements. Following are several key initiatives that were discussed;

1. Currently near term detailed scheduling and integration occurs by Superintendents coordinating with each other looking out two to four weeks. An advanced planning and integration initiative is in progress to perform much of this function well in advance. Cross discipline teams are sequencing Project work activities in significantly greater detail and integrating those activities through Project completion. This is intended to provide the detail of a level 5 schedule. In addition to improving the control of work, this initiative can provide substantial benefit for advanced planning in areas such as procurement and budgeting. Additionally, the initiative has the potential to reduce errors of judgment, ineffective communications, and false starts.
2. Recent deficiencies related to the control of work associated with Lockout/Tagout (LO/TO) necessitated a change to the procedure. The Project Director is now responsible for the implementation of the LO/TO procedure. As an interim added measure of control the Manager of Construction is required to sign off each LO/TO request.
3. There have been several near misses over the past year involving temporary/non-permanent systems and the control of hazardous energy associated with those systems. BNI initiated a Root Cause Analysis to determine the underlying causes. Though not yet completed the effort has reinforced an initiative for the Project team to reorganize, and place those Utilities under a single organization for achieving better performance expectations and improve control and integration.
4. There have been number of welding related issues in the past year that indicated weaknesses in the Project welding program. A Root Cause Analysis was initiated to determine the underlying cause of these. Not yet completed, initial findings uncovered specific weaknesses in the level of knowledge and decision making involving welding engineers. Training was developed to address these issues, and a more senior manager put in place to oversee the day to day department operations.

Several managers also indicated other areas they felt needed continuing attention to create improvement. These included;

1. Establishing better consistency in the way work is controlled across the 5 project areas. Although focused to work within the intent of Project procedures, there is enough latitude for differences to occur, such as work planning and maintaining status.
2. Improve the communications and feedback from the craft.
3. Create greater craft involvement in work planning and in JHA development.

This assessment team evaluated management standards and expectations regarding control and performance of work to determine if they were explicit, well communicated and permeate the organization. In matters concerning personal safety, that was the case. It was apparent that there is a clear acceptance of a safe work culture throughout the workforce. From work observations and interviews, there appears to be a good understanding of the safety requirements and minimal reluctance to identify unsafe conditions and stop/pause work as appropriate. There were other areas within the control of work, that the conclusions were more mixed. These are identified in several CRADs evaluated during this assessment. The assessment team agrees with the opportunities for improvement as stated above.

Although there appears to be prompt management action to address individual issues identified as deficient, particularly related to safety, the team believes that the evaluation process to determine the underlying causes of events and initiation of appropriate corrective actions to address those issues can be improved. Although some analysis occurs for issues screened through the Price Anderson (PAAA) program, the team recommends that the Project develop a Management Evaluation process where a designated group will periodically look at the wide range of identified issues from the various Project programs and determine if there are causes not addressed in individual events. **(Recommendation M1-4-1R)**

The team also believes that the effectiveness of the corrective action process needs improvement. This is reflected in both the recurrence of events and the extended duration taken to identify root and contributing causes when performing Root Cause Analyses (RCA) **(Observation M-6-1-1O)**. Corrective action effectiveness was self-identified in 2004 and RCA, 24590-WTP-RPT-G-04-0001, Corrective Action Effectiveness was performed. Corrective action effectiveness continues to be an issue. **(Recommendation M-1-4-2R)**

The team believes there is an opportunity to improve the Management Assessment and feedback process. For example, several craft foreman indicated the challenges in working with reduced size drawings placed in the work packages that can't be read. The work around is to have their own uncontrolled full sized drawings and compare them with the drawings in the work packages for potential changes.

Another example is that a number of old STARRT cards, that hadn't been turned in at the end of the shift, were observed in work locations. This practice does not support the management expectation that cards be turned in and signed off at the close of each shift so Superintendents capture any feedback and maintain quality control of the process.

These are prime examples of issues that should have been readily identified and captured through the Management Assessment program. Coupled with a strong management work place walk through commitment and two way interaction with the craft, the team recommends increased manager participation in a more robust Management Assessment Program to better communicate expectations and identify control of work issues in the field. The team believes this is particularly important for discipline managers and executive management. Additionally, the effectiveness of the assessment program could be improved by increasing the focus on the risk areas most affected by change and the greater use of situation assessments. **(Recommendation M1-2-1R)**

Team observations also indicate that workers are informed of specific issues related to their work practices and safety (i.e., meetings, bulletins, posters), but are not well informed of the final outcome of overarching issues and actions being taken. **(Recommendation M1-2-2R)**

Conclusion

Criteria 1: Management has effectively communicated their standards and expectations regarding control and performance of work.

Criteria met.

Criteria 2: Management effectively reinforces their standards and expectations including changes.

Criteria met.

Recommendation M1-2-1R
The Management Assessment program needs improved effectiveness. Recommend a re-evaluation of the program to add robustness and added manager involvement to pro-actively identify issues in the field. This is particularly important for the discipline managers. Target assessment areas should focus on the risk areas most affected by change and greater emphasis should be placed on conducting situational assessments including the trending data utilized by the Quality Assurance.

Recommendation M1-2-2R
Workforce communications are generally prompt in providing specific issues and apparent causes. Consider increasing communications to the workforce which highlights the final outcome of the evaluation and actions being taken. For example the results of root cause analysis and critiques are not always effectively communicated.

Review Form – M1 *(continued)*

Criteria 3: The management chain and workforce understand their roles and responsibilities and are working to fulfill management's expectations.

Criteria met

Criteria 4: Management assessment processes measure performance against their expectations.

Criteria met

Recommendation M1-4-1R
The Project team's method to recognize the similarities between multiple events/issues and to identify underlying causes needs improvement. Recommend that a Management Evaluation process be established to periodically review issues and identify potential similarities and extent of condition.

Recommendation M1-4-2R
Recurring issues and database reviews indicate that effectiveness in identifying appropriate corrective actions, implementation those actions and subsequent effectiveness assessments needs improvement. This was first identified as a problem in 2004 and a Root Cause Analysis on Corrective Action Effectiveness (24590-WTP-RPT-G-04-0001). Recommend a reassessment of corrective action effectiveness.

Criteria 5: Executive management understands how well their expectations are being fulfilled.

Criteria met

Criteria 6: Work processes enable effective implementation of manager's standards and expectations

Criteria not met

Observation M1-6-1O
The WTP Root Cause Analyses' are not completed within 21 days of identification as specified in Section 3.2.5 of procedure 24590-WTP-GPP-MGT-015, Root Cause Analysis. This also creates a challenge to comply with the 45-day timeframe specified within 24590-WTP-GPP-SIND-001, Reporting Occurrences in Accordance with DOE M 231.1-2.

WTP Work Control Review

Attachment 1 - CRAD Summaries

Review Form – WP1

Objective

WP-1: Work Control Program Documentation: The contractor has developed an effective work planning and control process.

Criteria

1. Contractor work control manual/procedure for initiating, analyzing, and developing work control documents is approved and implemented.

2. The contractor's work control process establishes the level of review and approval for different types of work control documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work activity.

3. The contractor has established work planning/control requirements for all personnel performing work at their site, including sub-contractors. Affected personnel are trained on these requirements.

4. The contractor's work control manual/procedure includes turnover requirements when line management and/or first line supervisor responsibilities are transferred.

5. The contractor's work control manual/procedure includes a process for lessons learned/feedback during the execution of work control activities, including incorporation of lessons learned into active and in-development work control documents and/or the work control manual/procedure.

6. The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or the work control manual/procedure.

7. The qualification requirements for Work Control Managers and Planners are established.

8. Records that document the successful completion of Work Control Managers and Planners qualification are retained and auditable.

Documents Reviewed

- The following BNI WTP procedures:

  -24590-WTP-GPP-SIND-002, Job Hazard Analysis/Safety Task Analysis Risk Reduction Talk (STARRT)

  - 24590-WTP-GPP-CON-3105, Special Instructions

  - 24590-WPT-GPP-CON-1201, Construction Work Packages

  - 24590-WTP-GPP-SIND-008, System and Equipment Lockout/Tagout

- 24590-WTP-GPP-SIND-013, Hazardous Work Permit
- 24590-WTP-GPP-SIND-024, General Safe Work Practices
- 24590-WTP-GPP-SIND-025, Personnel Protective Equipment
- 24590-WTP-GPP-SIND-027, Fall Prevention and Protection
- 24590-WTP-GPP-SIND-026, Housekeeping and Fire Protection
- 24590-WTP-GPP-CON-7104, Nonconformance Reporting & Control
- 24590-WTP-GPP-CON-3103, Field Change Requests (FCRs)/Field Change Notices (FCNs)
- 24590-WTP-3DP-G04B-00062, Disposition of Field Change Request/Field Change Notice
- 24590-WTP-3DP-G04B-00005, Configuration Management

- Field Construction Engineering Responsibilities
- SETO Program
- PSP Program
- STOP Program
- Safety Bulletins

Interviews Conducted

- Field Engineering Manager
- Field Engineers
- Responsible Superintendents
- Field Work Superintendents
- General Foremen

Observations of Work

- Superintendent turnovers
- Plan of the Days
- Foreman Crew Briefings and STARRT card briefings
- Field work activities in PT, LAW, HLW and BOF
- Field Engineer and Work Crew Interactions

Discussion of Results

The WTP is a construction site. This site is erecting five major facilities and all of the required support buildings. The site has no nuclear material.

The Work Control program is sound. The work control procedure is approved and implemented. The procedure is specifically designed for the WTP site (24590-WPT-GPP-CON-1201, Construction Work Packages). The procedure clearly defines the roles and responsibilities for all parties. The procedure instructs the user how to build a work package.

The Responsible Superintendent initiates the process from the Schedule. The site uses a four week look ahead schedule. The four week schedule is a derivative of the master schedule. As work moves into the four week window, the DS begins the planning process. The DS contacts the RFE to begin researching the planned work in specific part of the building.

The RFE determines what approved design drawings pertain to the work at hand and the specifications that apply to the work. The specifications and applicable procedures are the set of requirements that govern the construction process. All work is performed to the design drawings. The specifications are the inspection criteria that are used to ensure the work is in fact built to the design drawings.

The process requires highly competent and motivated Field Engineers (RFE). The Field Engineers are the focal point in the work package and inspection process. The experience and training of the RFE is key to the process. BNI has a process that trains the RFE on a set of specific procedures. This is based on the discipline position that the RFE will hold. All FEs in a specific discipline position accomplish the same training regiment. This process is originated and documented in the Learning Management System (LMS). LMS is a computer based training matrix. The supervisor uses LMS to specify what training an RFE will receive. The "Learning History" documents the completed coursework for each person. It is kept up to date by LMS. The curriculum is primarily required reading of the procedures and directives.

The site has all of the hazards that would be expected of a major construction site. These hazards are industrial in nature. These include all of the slips, trips, falls, pinch points, falling hazards, etc. as well as overhead crane work. The site has analyzed the construction hazard set. These analysis are documented in Job Hazard Analysis. These JHAs are written for classes of work. For example, Cable Tray Installation (JHA-CON-03-004A), Welding Operation (JHA-CON-03-009A), Rebar and Embed Work (JHA-CON-03-027). These types of JHAs include the general hazards and controls associated with this type of work. They are applicable across the project. These JHAs are written in advance of the work and are available to the RFE/ DS in the work package planning process. Job specific JHAs are used when the work warrants it. For example, Electrical Maintenance of Tower Cranes (JHA-CON-03-001A) and Shielded Personnel and Equipment Doors and Liners (JHA-CON-03-014). These JHAs are used by the RFE/ DS in the planning process.

Review Form – WP1 *(continued)*

The WTP uses a single type if work control document to install permanent plant systems and structures. This is the work package produced using 24590-WPT-GPP-CON-1201, Construction Work Packages. The work package procedure requires that the RFE use design drawings in the work package. These drawings are approved for use by Design Engineering. The work package is assembled using the appropriate drawings, specifications and other pertinent documents. Work packages are not specifically approved by an outside authority. This system is acceptable based on the use of approved design drawings and an approved inspection process. The inspection process is performed by the RFE \ Quality Control (QC and is an integral part of the work package process.

WTP has established a set of work control and planning requirements. These are communicated in various procedures. Some of these are listed below:

- 24590-WPT-GPP-CON-1201, Construction Work Packages
- 24590-WTP-GPP-CON-7104, Nonconformance Reporting & Control
- 24590-WTP-GPP-CON-3103, Field Change Requests (FCRs)/Field Change Notices (FCNs)
- 24590-WTP-3DP-G04B-00062, Disposition of Field Change Request/Field Change Notice
- 24590-WTP-3DP-G04B-00005, Configuration Management
- 24590-WTP-GPP-SIND-008, System and Equipment Lockout/Tagout
- 24590-WTP-GPP-SIND-013, Hazardous Work Permit

These procedures form the backbone of the control system. Appropriate members of the staff are trained on these procedures. These training records are kept in LMS. Personnel are trained based on their function in the organization. This is an appropriate use of the graded approach. The majority of this training is received via required reading. WTP has not identified a core set of training for the work control process **(Recommendation: WP1-7-1R)**. This can be accomplished by designating a subset of the current training as required to produce work control documents and perform the required inspections. These records will be retained in LMS.

The WTP site uses a formal turnover process when the site is utilizing a multi-shift work schedule. This was last used in the spring of 2004. The "Bechtel Shift Turnover Log" is computer based and was in use across the project. The system communicated the status of specific jobs from shift to shift. The log is sufficiently detailed for a person with job knowledge to ascertain the current status. The WTP does not status the current state of individual jobs **(Recommendation: WP1-4-1R)**. No formal job specific status is available as you would find in an operating nuclear facility. At WTP the specific status of a particular job is informally tracked by the work crew supervisor. This supervisor is generally a Foreman or General Foreman. As this is a construction site, this type of status control is appropriate.

Procedure 24590-WPT-GPP-CON-1201, Construction Work Packages is weak with respect to formal lessons learned / feedback process mechanisms **(Recommendation: WP1-5-1R)**. The single formal mechanism is the Safety Task Risk Reduction Talk (STARRT) process. This process is documented in procedure, 24590-WTP-GPP-SIND-002, Job Hazard Analysis/Safety Task Analysis Risk Reduction Talk (STARRT). The process is performed each day prior to the start of work. This process "utilizes employees to identify and resolve environmental, safety, and health hazards associated with a task". This process also provides for direct feedback as part of the daily process. The STARRT card is a well designed form. It is used by the craft on a daily basis and is generally completed in sufficient detail. During the review, the team found many START cards that have not been reviewed by supervision. Some examples had not been reviewed for more than one month. This removes the STARRT card's value as a feedback mechanism. It is an indicator that supervision is not holding the work crew Foremen accountable for this review function. If this practice continues, the value of the STARRT process will diminish as well.

The WTP does utilize an informal system of lessons learned and feedback with regards to the work control process. This system uses a variety of mechanisms to funnel lessons learned and feedback into the process. The primary means is the link between the RFE and the work crew. The RFE is available to the work crew by radio. This enables the RFE to resolve questions in a timely manner and experience the feedback from the crews directly. This interaction was observed during this review. The RFE can then incorporate this into the subsequent work packages. RFEs also communicate with each other. For example, the Civil RFEs at LAW and HLW regularly discuss events between each other.

Based on the above discussion, the lessons learned / feedback process needs significant improvement. It is not apparent how key lessons learned are incorporated into documents including:

- Procedure 24590-WPT-GPP-CON-1201, Construction Work Packages
- Active Work Control Documents
- In-development Work Control documents

The process can be strengthened by including formal processes in the Construction Work Package procedure and ensuring the START card process is strictly adhered to.

Conclusion

Criteria 1: Contractor work control manual/procedure for initiating, analyzing, and developing work control documents is approved and implemented.

Criteria met.

Criteria 2: The contractor's work control process establishes the level of review and approval for different types of work control documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work activity.

Criteria met.

Criteria 3: The contractor has established work planning/control requirements for all personnel performing work at their site, including sub-contractors. Affected personnel are trained on these requirements.

Criteria met.

Criteria 4: The contractor's work control manual/procedure includes turnover requirements when line management and/or first line supervisor responsibilities are transferred.

Criteria met.

Recommendation WP1-4-1R
The WTP has a computerized turnover system. It was last utilized on May 2004. This was the last time a 2 shift schedule was in force. Ensure that training is administered prior to recommencement of a multi-shift schedule. This will ensure that the program is appropriately utilized and log entries are sufficiently detailed.

Criteria 5: The contractor's work control manual/procedure includes a process for lessons learned/feedback during the execution of work control activities, including incorporation of lessons learned into active and in-development work control documents and/or the work control manual/procedure.

Criteria met.

Recommendation: WP1-5-1R
The current work package Lessons Learned and Feedback system is informal. The system is based on the close coupling of the Field Engineers to the work crews and other Field Engineers in other parts of the WTP. No objective evidence (documentation) of lessons learned was evident. Develop a more formal system to document the use of lessons learned and feedback.

Criteria 6: The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or the work control manual/procedure.

Criteria met.

See Recommendation WP1-5-1R

Criteria 7: The qualification requirements for Work Control Managers and Planners are established.

Criteria met.

Recommendation: WP1-7-1R
The current training system is based on the duties of the Field Construction Engineer. This system does not identify a core set of training curricula for work control qualification. Develop a core curricula for work control and train each RFE to it. This system would be very useful as WTP staffs up to full capacity.

Criteria 8: Records that document the successful completion of Work Control Managers and Planners qualification are retained and auditable.

Criteria met.

WTP Work Control Review

Attachment 1 - CRAD Summaries

Review Form – WP2

Objective

WP-2: Work Planning and Control - Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

Criteria

1. Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries are understood.
2. A team (Team) comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health SMEs, etc.) is selected by line management to participate in the development of the work control document. Workers are involved in job planning.
3. The project performs effective walk downs and Job Hazards Analyses in order to develop work steps/techniques and identify possible hazards and their associated controls.
4. The project selects controls based upon the following hierarchy: (1) hazard elimination/reduction, (2) engineered controls, (3) administrative controls, and (4) PPE.
5. The project ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction).
6. The project evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and evaluates the possibility of negative synergistic effects of selected controls.

Documents Reviewed

- Construction Procedure 24590-WTP-GPP-CON-1101, *Site Organization*
- Construction Procedure 24590-WTP-GPP-CON-1201, *Construction Work Packages*
- Construction Procedure 24590-WTP-GPP-CON-3109, *Design and Installation of Temporary Facilities and Utilities*
- Construction Procedure 24590-WTP-GPP-CON-3311, *Control of Temporary Electrical Installations*
- Construction Procedure 24590-WTP-GPP-CON-3607, *Operation of Systems under Construction Custody*
- Construction Procedure 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA)/ Safety Task Analysis Risk Reduction Talk (STARRT)*
- Construction Procedure 24590-WTP-GPP-SIND-013, *Hazardous Work Permit*

- Construction Procedure 24590-WTP-GPP-SIND-024, *General Safe Work Practices*
- Construction Procedure 24590-WTP-GPP-SIND-025, *Personal Protective Equipment*
- Numerous completed Job Hazard Analyses

Interviews Conducted

- Field Engineers
- Responsible Superintendents successful

Observations of Work

None

Discussion of Results

Work Control Processes

At least five (5) management programs were identified for controlling work at the WTP. The primary mechanism is with construction work packages; however, specialized processes have been implemented for temporary facilities and utilities, temporary electrical systems, operation of systems under Construction custody, and rigging operations. Each will be described in the following paragraphs.

Construction Work Packages

Construction Procedure 24590-WTP-GPP-CON-1201, *Construction Work Packages*, provides the construction work package process for WTP. It is intended for construction installation and testing of structures, systems, and components. It does not apply to other work, such as activities performed by subcontractors. With respect to hazard analysis, the process uses the Safety Task Analysis Risk Reduction Talk (STARRT). This daily process uses the workers to identify and review the hazards. At the commencement of work on each shift a STARRT Card briefing is held. In this briefing, the work scope for the task to be performed is discussed, the hazards analyzed, and the controls to mitigate those hazards confirmed to be available and in-place. Any JHAs that have been developed for the type of work to be performed are also to be addressed. JHAs and STARRT Cards are prepared in accordance with 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA)/ Safety Task Analysis Risk Reduction Talk (STARRT).*

Construction Procedure 24590-WTP-GPP-CON-1201, *Construction Work Packages*, states that the procedure does not apply to subcontractor work activities. This is contrary to 24590-WTP-GPP-CON-7105, *Subcontractor Submittals*, which states that in some cases the terms and conditions of the subcontract will require the subcontractor to follow WTP procedures. The Project should revise WTP-GPP-CON-1201 to not exclude its use by subcontractors. **(Recommendation WP2-3-2R)**

Temporary Facilities and Utilities

Construction Procedure 24590-WTP-GPP-CON-3109, *Design and Installation of Temporary Facilities and Utilities*, establishes requirements for the layout, design, installation, and changes to temporary facilities and utilities and subsequent removal from WTP. It does not apply to temporary electrical systems, which are addressed in 24590-WTP-GPP-CON-3311, *Control of Temporary Electrical Installations*. Similar to WTP-GPP-CON-1201, *Construction Work Packages*, the process invokes the STARRT card and JHA preparation in accordance with WTP-GPP-SIND-002. These temporary systems, such as compressed gases, present hazardous energy sources to workers.

Temporary Electrical Systems

Construction Procedure 24590-WTP-GPP-CON-3311, *Control of Temporary Electrical Installation*, establishes requirements for the design, installation, and modification to temporary electrical systems. This process also invokes the STARRT card and JHA preparation in accordance with WTP-GPP-SIND-002. These energized temporary systems present hazardous energy sources to workers.

Operation of Systems under Construction Custody

For construction hauling and lifting activities, Construction Procedure 24590-WTP-GPP-CON-3607, *Operation of Systems under Construction Custody*, addresses activities associated with both temporary and permanent plant systems under Construction's custody prior to turnover. This process also invokes the STARRT card and JHA preparation in accordance with WTP-GPP-SIND-002. The conditions under which Construction personnel would take custody of an operating, permanent plant system are not clear. The process by which constructed systems are operated by Construction prior to turnover to the startup organization introduces several concerns. These include ensuring proper checkout and testing prior to operation, configuration management of safety-related (e.g., safety class, safety significant) systems, and proper operation of the system by trained and qualified personnel. Constructed systems should be turned over to the startup and operating authority for comprehensive testing and operational cognizance. **(Recommendation WP2-3-3R)**

Rigging Work Operations

For construction hauling and lifting activities, 24590-WTP-GPP-CON-1901, *Rigging Work Operations*, provides the standard work process for planning and executing the work. It encompasses all site hauling and lifting work operations performed by project personnel, subcontractors, vendors, vendor subcontractors, and/or third-party employees. Controls are tailored to the type of lift/haul being planned (e.g., light lift, medium lift, heavy lift or haul, and critical lift). For example, light lifts (payload weight is 10 tons or less) do not require calculations or a formal rigging plan. Heavy lifts (payload weight equal to or greater than 50 tons) require a rigging plan package containing drawings, calculations, and a lift data sheet, as needed, to convey the pertinent information necessary to perform the lifting operations and ensure a safe lift. In addition to other controls, heavy lifts are approved by the Certified Rigging Engineer, Field Engineering Manager (FEM), Rigging Superintendent, General Superintendent, and the Area Superintendent. The rigging process flow chart shows that a JHA/STARRT card is applicable.

BNI has established several programs for controlling work activities rather than a single integrated work control process. The Utilities Group should evaluate the work control programs and identify the opportunities to integrate the processes and/or identify the strategic point(s) when the integration needs to occur. (Recommendation WP2-3-4R)

Hazard Identification and Implementation of Controls

At least two (2) management programs were identified for hazard identification and control at WTP, utilizing multiple types of hazard identification and control documents. Construction Procedure 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA)/ Safety Task Analysis Risk Reduction Talk (STARRT)*, has the stated objective to ensure potential health and safety hazards are identified and controlled, and that appropriate hazard information is communicated to each employee prior to starting a job or task. The procedure defines a JHA and a STARRT Card. Construction Procedure 24590-WTP-GPP-SIND-013, *Hazardous Work Permit*, also can be used to plan and control hazardous work via three types of Hazardous Work Permits (HWPs).

JHA

A process that identifies key job steps, tools and equipment used in each step, examines each step to determine which hazards exists and/or may occur, and establishes actions to eliminate or control the hazards. It must be specific to the job being performed. The procedure states that a JHA is required for, but not limited to, the following:

- High risk jobs
- New jobs that present unspecified or unknown hazards

- Jobs involving new equipment, machinery, or procedures
- Jobs that have historically experienced a repeated or significant rate of accidents, injuries, exposures, or near misses
- Jobs involving environmental remediation of hazardous waste
- Jobs that, in the professional judgment of the responsible Safety Assurance representative, require a formal JHA
- Jobs identified by site management
- When new hazards are identified due to significant change of scope

General JHA

This type of JHA is addressed in Construction Procedure WTP-GPP-SIND-002; however, no definition is provided and the process is not described. The procedure states that before creating a new JHA; consult InfoWorks or a JHA Control Station to determine if a general JHA already exists. The concept of a "general" JHA is contrary to the requirements of Construction Procedure WTP-GPP-SIND-002, and will be discussed later.

Specific JHA

This type of JHA is addressed in Construction Procedure WTP-GPP-SIND-002; however, the only definition provided is for simply "JHA." Interviews indicate that a "Specific JHA" is synonymous with "JHA."

STARRT Card

A process that utilizes supervisors and employees to identify and resolve environmental, safety, and health hazards associated with a task prior to it being performed. The process uses the STARRT Card to assist the users in identifying hazards and control measures to communicate to personnel who might be affected by those hazards.

HWP

A document that indicates the hazardous condition(s), required protective measures, and approvals to work within controlled areas. An HWP is usually issued for a specific task in a specific location and is valid only for the duration of that task at that location. HWPs are not valid for greater than 7 days. The use of an HWP allows for a single form and process to replace other permits (e.g., radiation work permit, industrial hygiene work permit, hot work permit, and safety work permit). The procedure states that an HWP is required for tasks that pose an increased risk of serious injury or illness, and controls against those hazards must be emphasized. Examples of activities that require an HWP include:

- Chemical exposure of significant risk
- Working on energized electrical circuit
- Fire/explosion hazards, such as welding or cutting operations near quantities of combustible materials or containers of flammable liquids
- Hot work
- Any work determined to be significantly hazardous or where additional planning, direction, and authorization are necessary for safe work.

Standing HWP

The Standing HWP is issued for a series of similar tasks in a specific location and is valid until completion of that series of tasks at that location, for example an HWP authorizing hot work in a fabrication area. Standing HWPs are not valid for greater than 180 days.

Blanket HWP

An HWP issued to cover a wide variety of low-hazard task, such as facility reconnaissance, preliminary visits, surface sampling, surface water sampling, waste management activities in a 90-day storage area, and similar tasks. Blanket HWPs are a special implementation of Standing HWPs, and are not valid for greater than 1 year.

All of the work control processes address the need to have the work scope properly defined. For example, the work scope for construction installation work per WTP-GPP-CON-1201 is defined as part of the planning and scheduling process. The Responsible Field Engineer (RFE) and the Responsible Superintendent (RS) define the scope of work to be performed. The RFE and RS may determine that a construction work package is not required, with prior approval of the FEM. Therefore, criterion 1 is met.

Review Form – WP2 *(continued)*

For construction installation work per WTP-GPP-CON-1201, the RFE has primary responsibility for developing the construction work package. The RFE identifies the controlling work documents, design documents, and requirements for completing the work. This includes the design drawings, specifications, procedures, vendor data, material requirements, plans and permits. The RS, in coordination with the RFE, performs a constructability review of the work package. With respect to hazard analysis, the RS, RFE and Safety Assurance take a "first cut" at the hazard analysis. Construction Procedure 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA)/ Safety Task Analysis Risk Reduction Talk (STARRT)*, requires that input be solicited from a multi-disciplinary staff for hazard evaluation. It goes on to state that the input should include safety, environmental, industrial hygiene, field engineering, and the crafts involved. Criterion 2 is **not** met for 24590-WTP-GPP-SIND-013, *Hazardous Work Permit*, since only one person is involved in the preparation and approval of the hazard controls. **(Observation WP2-2-1O)**

Construction Procedure 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA)/ Safety Task Analysis Risk Reduction Talk (STARRT)*, does not specifically address the performance of walk downs during the preparation of the JHA. The procedure requires that input be solicited from a multi-disciplinary staff for hazard evaluation. It goes on to state that the input should include safety, environmental, industrial hygiene, field engineering, and the crafts involved. However, walk downs are not addressed. If an activity rises to the level of requiring a JHA, then the construction procedure should require that specific project personnel (e.g., field engineer, craft representative, and safety) perform a walk down as part of the JHA development process. For early construction activities, there may be no benefit to performing an area walk down; however, as buildings are enclosed and equipment installed, the benefits of the walk down increase. Construction Procedure 24590-WTP-GPP-SIND-013, *Hazardous Work Permit*, does not address walk down requirements as part of the development of an HWP. A walk down of the work area can often be an important component in the hazard identification process and the implementation of appropriate controls. Construction Procedures should require a walk down of the work area during the development of the hazard analysis document.

Approximately 50 JHAs available on the WTP Intranet were reviewed. These JHAs primarily communicate general information regarding equipment and work activities. The information provided for many of the JHAs (e.g., Conduit Installation) could be considered skill-of-the-craft items, which would not be a requirement for a JHA per Construction Procedure 24590-WTP-GPP-SIND-002. In addition, the information provided is general to the work activity and must be reinforced by Hazards identification through the STARRT card process. Much of the information provided in these "generic" JHAs could be part of one of the following safety management programs, and not in a JHA:

- Craft training programs
- Environmental, Safety, and Health procedures (e.g., Safety Manual, Rigging Manual)
- WTP Site Access Training
- Required reading program

Procedures 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA)/ Safety Task Analysis Risk Reduction Talk (STARRT)*, and 24590-WTP-GPP-SIND-013, *Hazardous Work Permit*, and the implementation of JHAs/HWPs at WTP need to be upgraded. Criterion 3 is **not** met. **(Observation WP2-3-1O)**

- Although they are used in WTP-GPP-SIND-002, the terms "general JHA" and "specific JHA" are not defined in the procedure.
- Per WTP-GPP-SIND-002, JHAs are required to be specific to the work being performed yet the term "general" or "generic" JHA is frequently used in discussions and in procedures. A significant number of general JHAs have been written.
- General JHAs often provided little value/information
- General JHAs often repeat, in part, information already provided in WTP safety procedures.
- It is not clear when a JHA or a HWP is to be used since they both are for hazardous/ higher risk jobs. Work activities such as cutting a propane line did not include an HWP.
- WTP-GPP-SIND-013, *Hazardous Work Permit*, states that Blanket HWPs are for a wide variety of low hazard tasks, which conflicts with other information in the procedure that states HWPs are for tasks that pose an increased risk of serious injury or illness.
- WTP-GPP-SIND-013, *Hazardous Work Permit*, allows a single person to prepare and approve the HWP.
- WTP-GPP-SIND-013, *Hazardous Work Permit*, does not address the desired hierarchy of hazard controls.

Construction Procedure 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA)/ Safety Task Analysis Risk Reduction Talk (STARRT)*, addresses the specified hierarchy of controls from engineering, then by administrative, and then by PPE. Construction Procedure 24590-WTP-GPP-SIND-013, *Hazardous Work Permit*, does not address the desired hierarchy of controls. In fact, the process focuses almost exclusively on PPE requirements. Criterion 4 is **not** met for 24590-WTP-GPP-SIND-013, *Hazardous Work Permit*, since the process does not address the desired hierarchy of hazard controls. **(Observation WP2-4-1O)**

Controls, once established, remain in effect until the completion of the work activity. Hazard controls could be eliminated or reduced through the revision process. Nothing was identified to indicate that the level of control is diminished throughout the activity. Criterion 5 is met.

Construction Procedure 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA)/ Safety Task Analysis Risk Reduction Talk (STARRT)*, does not specifically address this evaluation. The procedure requires that input be solicited from a multi-disciplinary staff for hazard evaluation. It goes on to state that the input should include safety, environmental, industrial hygiene, field engineering, and the crafts involved. Construction Procedure 24590-WTP-GPP-SIND-013, *Hazardous Work Permit*, also does not specifically address this evaluation. The procedure states that the HWP is prepared and approved by the Field Safety Assurance Manager. Criterion 6 is **not** met for 24590-WTP-GPP-SIND-013, *Hazardous Work Permit*, since only one person is involved in the preparation and approval of the hazard controls. **(Observation WP2-2-1O)**

Conclusion

Criterion 1: Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries are understood.

Criteria met.

Criterion 2: A team (Team) comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health SMEs, etc.) is selected by line management to participate in the development of the work control document. Workers are involved in job planning.

*Criteria **not** met.*

Observation WP2-2-1O
WTP-GPP-SIND-013, *Hazardous Work Permit*, allows a single person to prepare and approve the HWP. This provides an opportunity for a single point failure to occur.

Criterion 3: The project performs effective walk downs and Job Hazards Analyses in order to develop work steps/techniques and identify possible hazards and their associated controls.

*Criteria **not** met.*

Observation WP2-3-1O
Procedures 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA)/ Safety Task Analysis Risk Reduction Talk (STARRT)*, and 24590-WTP-GPP-SIND-013, *Hazardous Work Permit*, and the implementation of JHAs/HWPs at WTP need to be upgraded. The following are examples that substantiate the observation:

- Although they are used in WTP-GPP-SIND-002, the terms "general JHA" and "specific JHA" are not defined in the procedure.

- General JHAs often provided little value/information
- General JHAs often repeat, in part, information already provided in WTP safety procedures.
- Vulnerabilities exist in the STARRT card process that could lead to hazards in the work place not being adequately identified and controlled. During the development of the STARRT card each work group prepares an assessment of the work activities related to the work being performed that day. If multiple work groups are working in the area each group is suppose to read and sign on the interfacing work groups STARRT card. The STARRT cards reviewed by the assessment team found that the areas of focus for the workers was related to the required Personnel Protective Equipment therefore not all of the hazards identified on the specific JHA are being reviewed by the interfacing work group. It is recommended that the WTP project consider requirements for a developing composite STARRT cards when multiple activities are occurring that could introduce hazards that require additional controls being developed outside the normal PPE requirements. In addition, STARRT cards for specific work activities that include being developed by workers and does not include individuals from the safety although the job specific JHA included safety.

Observation WP2-3-2O
Construction Procedure 24590-WTP-GPP-CON-1201, *Construction Work Packages*, states that the procedure does not apply to subcontractor work activities. This is contrary to 24590-WTP-GPP-CON-7105, *Subcontractor Submittals*, which states that in some cases the terms and conditions of the subcontract will require the subcontractor to follow WTP procedures. WTP-GPP-CON-1201 should be revised to <u>not</u> exclude its use by subcontractors.

Recommendation WP2-3-3R
The process by which constructed systems are operated by Construction prior to turnover to the startup organization introduces potential concerns. These include ensuring proper checkout and testing prior to operation, configuration management of safety-related (e.g., safety class, safety significant) systems, and proper operation of the system by trained and qualified personnel. The operation of permanent systems prior to turnover needs to be clearly defined and documented. Additionally, it is recommended that a management assessment be performed to evaluate the overall process.

Recommendation WP2-3-4R
BNI has established several programs for controlling work activities rather than a single integrated work control process. The Utilities Group should evaluate the work control programs and identify the opportunities to integrate the processes and/or identify the strategic point(s) when the integration needs to occur.

Recommendation WP2-3-5R
A walk down of the work area can often be an important component in the hazard identification process and the implementation of appropriate controls. Construction Procedures should be revised to require a walk down of the work area prior to the start of work to ensure work conditions have not changed from the original JHA.

Criterion 4: The project selects controls based upon the following hierarchy: (1) hazard elimination/reduction, (2) engineered controls, (3) administrative controls, and (4) PPE.

*Criteria **not** met.*

Observation WP2-4-1O
WTP-GPP-SIND-013, *Hazardous Work Permit*, does not address the desired hierarchy of hazard controls. In fact, the process focuses almost exclusively on PPE requirements.

- It is not clear when a JHA or a HWP is to be used since they both are for hazardous/ higher risk jobs. Work activities such as cutting a propane line did not include an HWP.
- WTP-GPP-SIND-013, *Hazardous Work Permit*, states that Blanket HWPs are for a wide variety of low hazard tasks, which conflicts with other information in the procedure that states HWPs are for tasks that pose an increased risk of serious injury or illness.

Criterion 5: The project ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction).

Criteria met.

Criterion 6: The project evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and evaluates the possibility of negative synergistic effects of selected controls.

*Criteria **not** met.*

See Observation WP2-2-1O

WTP Work Control Review

Attachment 1 - CRAD Summaries

Review Form – WP3

Objective

WP-3: Work Planning and Control: The contractor work planning process results in work control documents that enable safe and efficient completion of work activities.

Criteria

1. The work scope and associated boundaries are clearly defined.
2. A defined process is used to prioritize work, and integrated schedules are developed. The rigor of scheduling matches the complexity of the work.
3. Work plans identify the resource needed to perform the work and schedules are resource loaded.
4. The work control document is written in a clear, concise, and worker friendly manner.
5. The work steps for activities are properly sequenced.
6. Work control documents adequately incorporate technical and administrative requirements (e.g., safety basis, regulatory, consensus codes, etc.,)

Documents Reviewed

- The following BNI WTP procedures:

  -24590-WTP-GPP-SIND-002, Job Hazard Analysis/Safety Task Analysis Risk Reduction Talk (STARRT)

  - 24590-WTP-GPP-CON-3105, Special Instructions

  - 24590-WPT-GPP-CON-1201, Construction Work Packages

  - 24590-WTP-GPP-SIND-008, System and Equipment Lockout/Tagout

  - 24590-WTP-GPP-SIND-013, Hazardous Work Permit

  - 24590-WTP-GPP-SIND-024, General Safe Work Practices

  - 24590-WTP-GPP-SIND-025, Personnel Protective Equipment

  - 24590-WTP-GPP-SIND-027, Fall Prevention and Protection

  - 24590-WTP-GPP-SIND-026, Housekeeping and Fire Protection

  - 24590-WTP-GPP-CON-7104, Nonconformance Reporting & Control

  -24590-WTP-GPP-CON-3103, Field Change Requests (FCRs)/Field Change Notices (FCNs)

  -24590-WTP-3DP-G04B-00062, Disposition of Field Change Request/Field Change Notice

  -24590-WTP-3DP-G04B-00005, Configuration Management

- Field Construction Engineering Responsibilities
- SETO Program
- Personal Safety Plan (PSP) Program
- Safety Thoughts on Paper (STOP) Program
- Safety Bulletins

Interviews Conducted

- Field Engineering Manager
- Several Field Engineers
- Environmental Engineer
- Responsible Superintendents
- Field Work Superintendents
- General Foremen

Observations of Work

- Superintendent turnovers
- Plan of the Days
- Foreman Crew Briefing and STARRT card briefings
- Field work activities in PT, LAW, HLW and BOF
- Field Engineer and Work Crew Interactions

Discussion of Results

The work planning process is appropriate for a construction site. Each work package has a clearly defined scope and work boundaries. The scope is based on the disciplines (electrical, structural, mechanical, etc.) involved and the area the work is planned in. The work package is based on the design drawings and the specifications for the installation. The design drawings specify the scope and boundaries of the installation. The work package contains all pertinent drawings and inspections records.

Review Form – WP3 *(continued)*

The scheduling process is based on the use of a Master Schedule (Level 3). This schedule is resource loaded and logic tied. The schedule matches the current complexity of the construction process. BNI is currently working on the production of a level 5 master schedule. This effort will provide management with a better ability to deal day to day perturbations. The Responsible Superintendent initiates the work planning process from the Schedule. The site uses a four week look ahead schedule. The four week schedule is a derivative of the master schedule. As work moves into the four week window, the RS begins the planning process. The RS contacts the RFE to begin researching the planned work in a specific part of the building.

Resources (Personnel and Material) are managed as part of the work control process. The RS controls the personnel and material. As the scheduled work becomes actively planned, the RS ensures that the personnel and material are available. Work can commence without all job materials onsite "as long as the materials required for the start of work are onsite and available". This allows work to proceed to the extent that it can, without disruption.

The work packages produced from procedure 24590-WPT-GPP-CON-1201, Construction Work Packages are generally clear and concise. The design drawings are the heart of the work package. The drawings are the basis for construction. The current drawings used in the work packages are not full size. They are reduced to 11"x17". This facilitates inclusion in the work package in a reasonable format. During this review, the crafts personnel stated that they "did not know why they included these in the package, they are not readable". Additionally, it was apparent that Foremen and General Foremen were working from full size uncontrolled prints. Based on these statements from the field, management should provide fully readable drawings in the work package (**Recommendation: WP3-4-1**).

WTP work packages are based on the design drawings and specifications. In addition to these, WTP uses Special Instructions. Procedure 24590-WTP-GPP-CON-3105, Special Instructions lists the requirements. Special Instructions are used to communicate special requirements, inspections or processes to the work package user. These special instructions are designed to be used in a step by step fashion. The team reviewed work packages with Special Instructions. The Special Instructions were found to clear, concise, useable and properly sequenced.

WTP does not have an active nuclear safety basis. WTP has many environmental permits. These permits are incorporated into work packages by the RFE and Environmental Engineer. This process starts with the material requisition. At that point, the Environmental function must approve the purchase of materials. This gives the environmental function an opportunity to question the use of the material. This triggers an awareness of the potential use of the material and thereby an opportunity to include Hold Points or Special Instructions in the work package.

Conclusion

Criteria 1: The work scope and associated boundaries are clearly defined.

Criteria met.

Review Form – WP3 *(continued)*

Criteria 2: A defined process is used to prioritize work, and integrated schedules are developed. The rigor of scheduling matches the complexity of the work.

Criteria met.

Criteria 3: Work plans identify the resource needed to perform the work and schedules are resource loaded.

Criteria met.

Criteria 4: The work control document is written in a clear, concise, and worker friendly manner.

*Criteria **not** met.*

Observation: WP3-4-1O
Work packages were observed in the field with reduced size (11X17) drawings. These drawings were not legible by crafts personnel. Develop a field drawing system that provides full size or equivalent drawings to crafts personnel.

Criteria 5: The work steps for activities are properly sequenced.

Criteria met.

Criteria 6: Work control documents adequately incorporate technical and administrative requirements (e.g., safety basis, regulatory, consensus codes, etc.,).

Criteria met.

WTP Work Control Review

Attachment 1 - CRAD Summaries

Review Form – WP4

Objective

WP4: Work Planning and Control Oversight: Contractor personnel perform work in accordance with approved work control document.

Criteria

1. First line supervisors and workers are knowledgeable of their work control documents.
2. Work control authority reviews and authorizes all work control documents prior to commencement of work.
3. Effective pre-evolution briefings are performed.
4. First line supervisors and workers follow work control documents as written.
5. First line supervisors and workers understand their stop work authority. Workers at any level can stop unsafe work or work during unexpected conditions. Individuals understand and demonstrate responsibility for safety. Safety and its ownership are apparent in everyone's actions and deeds.
6. Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions and configuration management of temporary systems.
7. Acceptance/performance criteria are used to verify completion of work. Work packages are closed in accordance with approved records management procedures.
8. Lessons learned/feedback is incorporated into active and in-development work control documents and/or the work control manual/procedure in a timely manner. Workers are actively involved in identification, planning, and improvement of work and work practices.

Documents Reviewed

- Construction Procedure 24590-WTP-GPP-CON-1201, *Construction Work Packages*
- Construction Procedure 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA)/ Safety Task Analysis Risk Reduction Talk (STARRT)*
- Construction Procedure 24590-WTP-GPP-SIND-024, *General Safe Work Practices*
- Various Construction Work Packages and Associated Job Hazards Analyses
  - LEE0005, LAW BUS Duct Support, Melter #1, (24590-WTP-JHA-CON-03-005A, Electrical Equipment Installation)
  - LEE0006, LAW BUS Duct Support, Melter #2, (24590-WTP-JHA-CON-03-005A, Electrical Equipment Installation)

- LEL0005, +3 Lighting and Receptacles, (24590-WTP-JHA-CON-03-003B, Conduit Installation)
- LEL0002, Unscheduled Raceway for Lighting and Receptacles, (24590-WTP-JHA-CON-03-003B, Conduit Installation)
- PPI0015, South Tunnel Wall Sleeve Pipe, (24590-WTP-JHA-CON-03-021, Above Ground Piping Installation)
- PPI0017, South Tunnel Leak Pot Drain Pipe, (24590-WTP-JHA-CON-03-021, Above Ground Piping Installation)

Interviews Conducted

- LAW Electrical SUPT
- LAW Electrical General Foreman
- 2 LAW Foreman
- 3 LAW electrical workers
- HLW/PT Piping SUPT
- PT Piping Foreman
- 4 PT pipe fitters
- HLW/PT piping field engineer
- Document Specialist
- Document Specialist Supervisor

Observations of Work

- Attended WTP orientation
- Attended plan of the day (POD) meetings for the Low Activity Waste (LAW), High Level Waste (HLW), Pretreatment (PT) and Lab Facilities.
- Observed Electrical Superintendent (SUPT) and Piping Superintendent morning briefs to General Foremen, Foremen, and work crews.
- Observed Foremen review and retrieve appropriate work documents for the day's work [Construction Work Packages (CWPs)] and make work assignments and brief work crews.
- Observed work crews discuss and complete STARRT cards.
- Observed work crews perform work per work packages and work instructions from Foremen.
- Attended the LAW EPC (schedule and cost status) meeting.

- Attended LAW three-week look-ahead scheduling meeting between electrical superintendent, general foreman, and foreman.

Discussion of Results

Interviews were conducted with a superintendent, general foreman, foreman, and workers during preparation and performance of work activities. The personnel demonstrated an adequate knowledge of the work package.

Interviews were conducted with superintendents, field engineers, and document control specialists. In addition, observations of work authorization and work activities were performed. The work control authority reviews and authorizes work prior to its start.

Pre-evolution briefs using STARRT Cards were observed. The STARRT card process consists of a review of the work to be performed and the job hazards/controls. Plan-of-the-Day meetings were attended, as well as observing the superintendent briefings to foremen. Pre-job Brief documentation in work packages was also reviewed.

In-field observations support the assessment conclusion that effective pre-evolution briefs are performed. However, the procedure is not written to ensure the personnel performing the work participate in the pre-job brief. Construction Procedure 24590-WTP-GPP-CON-1201, *Construction Work Packages*, paragraph 3.3.1.5, states the following:

> *Once the work package is ready to be worked, the craft supervisor will conduct a pre-job briefing. Attendees shall include craft foremen and/or craft general foremen, superintendents and the responsible field engineer. If multiple disciplines are involved (piping, electrical, civil, mechanical, etc.), representatives of those disciplines shall be present including supervision, field engineering, quality control, and craft representatives as applicable.*

In-field observations indicate that effective pre-evolutionary briefings are performed. However, the procedure (24590-WTP-GPP-CON-1201, *Construction Work Packages*) is not written to ensure the personnel performing the work participate in the pre-job brief. Reviews of the CWPs indicate all personnel involved in performance of the work package participated in the pre-job brief. All personnel interviewed participated in the pre-job brief associated with the work they were performing, as verified in the documented pre-job brief record in the CWPs. **(Recommendation WP4-3-1R)**

Through the observation of work activities and interviews with foreman and workers, it was determined that personnel understand their stop work authority and responsibility. Personnel demonstrated appropriate concern for their safety and the safety of others during work observations.

The CWP process does not address documented work status requirements. Review of work control documents and interviews indicate no formal documentation of work status at the work package level. Some foreman or superintendent used their own system for maintaining work status such as marking or color-coding "information only" drawings or on a pocket notepad. Other foremen kept no written documentation. A manner of work completion status is kept through earned value reporting (i.e. feet of piping installed), however, this does not encompass daily in-field conditions. Additionally, unexpected conditions are generally communicated verbally to the foreman and/or field engineer for resolution, without documentation of status in work control documents. (Recommendation WP4-6-1R)

The cover sheets for work packages PPI0015 and PPI0017, reviewed on 12/8/05, list JHA 24590-WTP-JHA-CON-03-021 as required and applicable. However, the JHA was not in the work package. **(Observation WP4-6-2O)** When the foreman was questioned, he stated the JHA should be in the work package, but also referred to a separate book of JHAs he maintained, which did contain the JHA. The JHA had been recently revised, with an effective date of 11/28/05. When asked if the workers were aware of the revision, the foreman stated they review JHAs monthly and within a couple of days of when a new revision is issued. He pointed out the review record sheet for the JHA in question, which had not been signed by any of the workers. A crew was actively working PPI0015 and PPI0017, without indication they had reviewed the newly revised JHA applicable to those work packages. This is contrary to the requirements of Construction Procedure 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA)/ Safety Task Analysis Risk Reduction Talk (STARRT).* **(Observation WP4-6-3O)**

The document control specialist was questioned why the JHA was not in the work packages. The specialist pointed out it was not in the work packages because it was not on the controlled document lists for the work packages. Therefore, the foreman and workers would not be alerted to any updates to the JHA via the daily work package verification. **(Recommendation WP4-6-1R)**

The RFE determines what approved design drawings pertain to the work at hand and the specifications that apply to the work. The specifications and applicable procedures are the set of requirements that govern the construction process. All work is performed to the design drawings. The specifications are the inspection criteria that are used to ensure the work is in fact built to the design drawings.

When the work is complete, the RFE/QC completes the inspection process. This process produces various inspection records. Some of them are:

- Field Welding Checklist (WR-25)
- Grout request / Placement Card
- Structural or Miscellaneous Steel Inspection Report
- Structural Steel On-Site Fabrication Inspection Report
- Non-Conformance Report
- Above ground Piping Inspection Report

- Drainage/Sewer Pipe Test Report

Work packages are closed in accordance with approved records management procedures. The inspection records are retained in the formal document control system. These records are the permanent record of the installation and serve as the objective evidence of properly constructed permanent plant systems and structures.

Workers and Foremen were very complementary of the timeliness of response to the majority of questions, suggestions, and/or issues raised. Workers stated the foremen and field engineers are responsive to the workers and in changing work control documents as appropriate. Workers stated work activity improvement suggestions are often incorporated into the work planning and control documents. However, workers, foremen, and general foremen stated changes requiring work to be completed downtown, by central engineering, were not always timely.

Formen and below are not always actively involved in much of the work planning. Additionally, craft were not involved in the development of some JHAs reviewed. These JHAs should be updated, as the recent JHAs include review by the general foreman or foreman. **(Recommendation WP4-8-1R)**

Conclusion

Criterion 1: First line supervisors and workers are knowledgeable of their work control documents.

Criteria met.

Criterion 2 Work control authority reviews and authorizes all work control documents prior to commencement of work.

Criteria met.

Criterion 3 Effective pre-evolution briefings are performed

Criteria met

Recommendation WP4-3-1R
In-field observations indicate that effective pre-evolutionary briefings are performed. However the procedure (24590-WTP-GPP-CON-1201, *Construction Work Packages*) is not written to ensure the personnel performing the work participate in the pre-job brief. Reviews of the CWPs indicate all personnel involved in performance of the work package participated in the pre-job brief. All personnel interviewed participated in the pre-job brief associated with the work they were performing, as verified in the documented pre-job brief record in the CWPs.

Criterion 4 First line supervisors and workers follow work control documents as written.

Criteria met.

Criterion 5 First line supervisors and workers understand their stop work authority. Workers at any level can stop unsafe work or work during unexpected conditions. Individuals understand and demonstrate responsibility for safety. Safety and its ownership are apparent in everyone's actions and deeds.

Criteria met.

Criterion 6 Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.

*Criteria **not** met.*

Recommendation WP4-6-1R
Construction Procedure 24590-WTP-GPP-CON-1201, *Construction Work Packages*, does not include requirements for documenting work status for delayed or suspended work. Status and unexpected conditions are generally communicated verbally to the Foremen and/or Responsible Superintendent without documentation of status in work control documents. Revise the Construction Work Package procedure to provide guidance.

Observation WP4-6-2O
The cover sheets for work packages PPI0015 and PPI0017, reviewed on 12/8/05, list JHA 24590-WTP-JHA-CON-03-021 as required and applicable. However, the JHA was not in the work package which is implied in procedures 24590-WTP-GPP-SIND-002, Job Hazard Analysis (JHA)/Safety Task Analysis Risk Reduction Talk (STARRT) and 24590-WTP-GPP-CON-1201, Construction Work Packages. Additionally, all JHAs that are pertinent for the work activity should be listed on the controlled document list. This will ensure all updates to the JHA are reflected in the appropriate work package. The Construction Work Package procedure should be revised to include the requirement that JHAs be in the Construction Work Package.

Observation WP4-6-3O
Contrary to the requirements of Construction Procedure 24590-WTP-GPP-SIND-002, *Job Hazard Analysis (JHA)/ Safety Task Analysis Risk Reduction Talk (STARRT)*, personnel continued work without reviewing a revised JHA that impacted their work package.

Criterion 7 Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.

Criteria met.

Criterion 8 Lessons learned/feedback are incorporated into active and in-development work control documents and/or the work control manual/procedure in a timely manner. Workers are actively involved in identification, planning, and improvement of work and work practices.

Criteria met.

Recommendation WP4-8-1R
Management should ensure that Foremen are involved in more of the work planning process, including the development and review of JHAs.

WTP Work Control Review

Attachment 1 - CRAD Summaries

Review Form – WP5

Objective

WP-5: Work Planning and Control Oversight: The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews active and in-development work control documents.

Criteria

1. The contractor has scheduled and performed independent and self-assessment of the work planning and control process. These activities are of sufficient scope, detail, and quantity that the contractor can ascertain the status of their work planning and control process.
2. Line Managers periodically perform surveillances which include the observations of job walk downs and JHA walk downs/meetings, pre-evolution briefings, and work performed to work control documents.
3. Line Managers periodically review in-development and approved work control documents.
4. The contractor tracks and trends the results of oversight activities performed on their work planning and control process and takes appropriate actions.

Documents Reviewed

- Training records – Pipe fitter, Field Engineer, Foreman
- WTP Trend Report – Third Quarter CY2005
- Management Assessment template
- CCN 130923 list of WTP management assessments scheduled for 2005
- Procedure 24950-WTP-GPP-MGT-002, Rev 5, Management Assessment
- Procedure 24590-WTP-GPP-QA-501, Independent Assessment
- Three completed assessments
- Two completed surveillances related to work control processes

Interviews Conducted

- Management Assessment Coordinator
- Training Department Coordinator
- QA manager
- QA assessment coordinator

- QA trending coordinator
- Project Manager for LAW/LAB/BOF
- Field Quality Assurance
- Construction assessment coordinator
- Deputy Construction Manager
- Two Superintendents

Observations of Work (if applicable)

- N/A

Discussion of Results

The assessment program comprises of management and Independent assessments. Management assessments are the responsibility of functional managers such as construction, procurement, training, engineering, etc.. Each functional manager has a year long schedule developed that consists of Upper Tier, Lower Tier, and Special assessments. Upper Tier assessments are yearly and have specific required areas of review which include resources, adequacy and implementation of procedures, and Corrective Action Report follow-up). Lower Tier assessments are defined by the functional area manager and scheduled on the yearly schedule. Review of the 2004 and 2005 management assessment show that review areas were not accomplished in the areas that would have identified the recommendations or observations of this assessment. The management assessments performed by construction in the topical area of work control focused on procedural compliance and did not evaluate adequacy of work documents or the STAART cards/JHA process. It is recommended that the WTP project consider expanding the assessment areas of work control to include the topics identified in Appendix 1 of the management assessment procedure. These topics include effectiveness of implementing work processes in accordance with ISM core functions and guiding principles, and effectiveness of involving workers in planning and feedback processes.

Independent Assessments/Audits and surveillances are performed by the Quality Assurance organization and a methodology exists for the areas to perform a surveillance/assessments based on work being performed. The QA organization has developed a QA Surveillance Activity Report (QASAR) process within the last three months which charts surveillances/audits performed by work process, and identifies the date performed and the results. If a work process has a negative trend in the results of the surveillance the frequency of surveillance activity increases. The review team sees this as a positive improvement in the method of tracking and trending surveillances recently employed at WTP. One of the subtopic review areas under the construction functional area in the QASAR system is work controls. Surveillances performed by QA were reviewed during the assessment and determined to be adequate with regard to scope, and complexity.

Review Form – WP5 *(continued)*

Results of the surveillances were documented in the Corrective Action Report system or the Corrected On the Spot (COTS) and Recommendations Issues Tracking System (RITS) as appropriate. Deficient items are trended by the QA organization and opportunities for improvements are identified for areas such as engineering and construction. Also contained in the report is the QASAR process which identifies areas of focus in specific functional areas such as work controls.

An overall review of all assessments and surveillances performed on the WTP project within the last two years shows that there were several surveillances performed on the work control process but no audits/assessments specific to work controls was performed. Surveillances performed were narrow in scope (e.g., Inconsistency in Quality Levels – Pipe supports vs. Spools) and specific to a work activity and did not evaluate the process as a whole. Therefore it is recommended as a result of the recent events with welding, and electrical incidences that identified some deficiencies in the work control process that an overall work controls assessment should be scheduled and performed. **(Recommendation M1-2-1R)** In addition the QASAR chart is being used by the Quality Assurance organization to establish the frequency of surveillances in a certain area. It is recommended that the functional managers performing management assessments also review these results and modify their assessment plans to include Special Assessments in the areas showing a negative trend.

Superintendents and construction line managers were interviewed and it was determined that job walk downs are routinely performed. Superintendents are actively involved in the development of the JHA, pre-job briefings, and development and review of work control documents. In addition to the daily oversite of field work line managers participate in dry-runs and readiness reviews. Dry-runs are a good practice for evaluating first of a kind and complex activities. Readiness reviews are used to evaluate the readiness of sub-contractors prior to the start of work on-site.

Conclusion

Criterion 1: The contractor has scheduled and performed independent and self-assessment of the work planning and control process. These activities are of sufficient scope, detail, and quantity that the contractor can ascertain the status of their work planning and control process.

Criteria met.

See Recommendation M1-2-1R

Criterion 2: Line Managers periodically perform surveillances which include the observations of job walk downs and JHA walk downs/meetings, pre-evolution briefings, and work performed to work control documents.

Criteria met.

Review Form – WP5 *(continued)*

Criterion 3: Line Managers periodically review in-development and approved work control documents.

Criteria met.

Criterion 4: The contractor tracks and trends the results of oversight activities performed on their work planning and control process and takes appropriate actions.

Criteria met.

Attachment 2 – Team Member Biographical Summaries

Team Member	Organization	Team Position	Team Assignment (CRADs)
Chuck Armitage	Washington Safety Management Solutions	Team Leader	M-1 (oversight all)
Bill LLoyd	Washington Safety Management Solutions	Team Member	WP-1 & WP-3
Jeff Selvey	Washington Safety Management Solutions	Team Member	WP-2 & WP-4
Mark Zagar	Washington Safety Management Solutions	Team Member	WP-2
Stacy Charboneau	Department of Energy	Team Member	WP-4
Ben Harp	Department of Energy	Team Member	WP-5
Hank Gorski	Bechtel National, Inc.	Team Member	M-1
Jesse Lewis	Bechtel National, Inc.	Team Member	WP-1 & WP-3
Frank McCoy	Washington Safety Management Solutions	Senior Advisor	N/A

Attachment 2 – Team Member Biographical Summaries

Charles E. Armitage has over thirty-five years of experience in the operation, management, technical oversight and regulation of operational naval reactors, nuclear and chemical processing facilities and laboratories within the U.S. DOE Nuclear Weapons Complex. His experience includes positions of increasing responsibility with the Navy Nuclear Power Program including command of two U.S. Naval Nuclear submarines. Additionally, he served in multiple assignments as Deputy Squadron Commander for Readiness and Training, responsible for the oversight of nuclear propulsion plant operation and training for squadron submarines. Mr. Armitage also served as the Director of the Arctic Submarine Laboratory, providing subject matter expertise to the U.S. Submarine Fleets and planning, coordinating, and directing multi-national submarine related research and development projects in the Arctic. Mr. Armitage joined Westinghouse Savannah River Company in 1993. He served in a wide variety of assignments including Area Radiological Controls Manager, Facility/Project Manager for the startup and subsequent operation of a plutonium chemical processing facility, and the Quality Assurance and Support Manager for Nuclear Materials Stabilization and Storage (NMS&S) Division. Mr. Armitage had subsequent assignments as Chief Engineer of the NMS&S Division, including the SRS chemical separations and spent nuclear fuel storage facilities, and Chief Engineer and Engineering Manager of the SRS Closure Business Unit. In the latter assignment, he had technical responsibility for SRS operations of the Chemical Separations Facilities, Liquid Waste/Tank Farm Facilities, Waste Solidification Facilities, Site D&D activities and Environmental Restoration. Currently, Mr. Armitage is the Principal for Regulatory Programs and Services with Washington Safety Management Solutions (WSMS), where he is responsible for managing all WSMS regulatory programs activities across the DOE Weapons Complex. Mr. Armitage has participated in and chaired multiple PAAA associated investigation teams at SRS as well as ISM related assessments and conduct of operations improvement initiatives across the DOE complex. He earned a Bachelor of Science degree in Chemical Engineering from the University of Maine.

Bill Lloyd brings over 20 year of experience in the operation of nuclear facilities. He is degreed in Chemical Engineering from Illinois Institute of Technology. Mr. Lloyd began his career as an operator in the nuclear power industry. This experience includes initial startup of both Boiling Water Reactor (GE) and Pressurized Water Reactor (W) operations. In addition to qualification as a nuclear operator, he also qualified as a radiation- chemistry technician. These positions allowed Mr. Lloyd to become intimately familiar with all facets of power plant operation. These include reactor power operations, radwaste operations, health physics, radiation safety and reactor and secondary water chemistry.

Mr. Lloyd has also worked in the Nuclear Weapons Complex. He has extensive experience in Nuclear Materials processing. Mr. Lloyd was integral to implementing the restart (after a six-year shutdown) and continuous safe operation of this plutonium manufacturing, stabilization, packaging and storage facilities. These facilities converted Plutonium nitrate solution into a Plutonium Metal product. This product is then processed into a weapon useable form. In this capacity, Mr. Lloyd had fully authority and accountability for all operations and for all materials. Mr. Lloyd also has extensive experience in the area of Material Protection Control and Accountability (MPCA) as well as Safeguards and Security (S&S).

Attachment 2 – Team Member Biographical Summaries

Mr. Lloyd has demonstrated a keen sense of scheduling, planning, budget management, Authorization Basis management and the effects of plutonium, highly enriched uranium, americium and other special nuclear material. He has a proven ability to get things safely done within budget caps and with imagination, leadership and intelligence.

Mr. Lloyd has also acted as a Senior Advisor in the area of operations at Los Alamos National Laboratory. In the capacity, he advised the Associate Director for Weapons Engineering and Manufacturing (ADWEM) in the area of operations improvement. These duties included the areas of Plutonium processing and Tritium processing for weapons development and life extension issues.

Mr. Selvey has over 20 years of experience in Operations, Operational Readiness Reviews, Conduct of Operations, project management, regulatory compliance, and start-up at commercial nuclear, DOD, and DOE facilities. His recent background includes: managing facility operations at FB-Line to complete Plutonium de-inventory and safeguards downgrade, developing/implementing nuclear safety programs for the first Hazard Category 2 facility at Nevada Test Site (NTS), managing all aspects of the NTS Operational Readiness Review development and compliance review, authoring the DSA for the Waste Treatment Facility at Los Almos National Laboratory (LANL), managing and assisting in the development of the Savannah River Site (SRS) Tank Farm DSA, and managing and maintaining the Defense Waste Processing Facility (DWPF) and Saltstone Processing Facility (SPF) DSA. Mr. Selvey has served in a wide variety of assignments including SRS Tank Farm Waste Regulatory Programs Lead, Closure Business Unit Regulatory Programs Manager, FB-Line Operations Manager, and Deputy Manger for Regulatory programs for the Savannah River Site. Currently, Mr. Selvey is the Principal for Operations and Startup Services for Washington Safety Management Solutions (WSMS), where he is responsible for managing all WSMS Operations and Startup programs activities across the DOE Weapons Complex.

Mark Zagar has an extensive technical management background in commercial and government nuclear facility startup, operations, engineering, and management. His broad base of experience includes serving as a Navy nuclear submarine officer, a startup and test engineer in commercial nuclear power plants, and a project manager for the restart of a major weapons program. As a technical consultant to DOE and various DOE contractors throughout the country, Mr. Zagar has worked at every major DOE site in various engineering, operations, and safety management roles. As an operations, engineering, and safety basis expert, he has served on numerous investigation and readiness review teams throughout the country, including the following facilities: Savannah River Site's K-Reactor, F-Canyon Separations, FB-Line Plutonium facility, HB-Line Plutonium facility, and Replacement Tritium Facility; Rocky Flats Buildings 559 and 707; Oak Ridge Y-12 Oxide Conversion Facility and Special Material Purification Facility; Sandia National Laboratory Pulsed Reactor and Annular Core Research Reactor; and the Nevada Test Site's TRU waste facility. Mr. Zagar has served on several high-level event investigation teams, such as the FB-Line radiation overexposure event, West Valley Vitrification Cell exposure event, and the Defense Waste Processing Facility melter flooding event. As project manager, Mr. Zagar was responsible for the successful startup and testing; development of procedures, criticality safety analyses, and engineering drawings; and management of the restart of Y-12's metal casting, machining, and dimensional inspection processes in support of a Department of Defense weapons program. He has served as an integral part of the startup of numerous DOE and commercial nuclear facilities, has

provided technical expert testimony regarding commercial nuclear power plant prudence hearings, has served as a safety consultant to the Nuclear Regulatory Commission, and implemented an Integrated Safety Management System at several DOE sites, such as the Idaho National Engineering and Environmental Laboratory.

Stacy Charboneau has over 15 years experience in engineering, operations, and project management. She has worked for the Department of Energy on Hanford projects for the last 11 years, including work as a qualified Facility Representative, Engineering and Construction Project Manager for the Spent Nuclear Fuels Project, Federal Project Director for the Plutonium Finishing Plant Closure Project, and the Tank Farms Operations Director. Prior to working for DOE, Mrs. Charboneau was an engineer working on weapons systems for the Naval Undersea Warfare Center at Bangor Submarine Base. Mrs. Charboneau has lead or participated in many assessments and readiness reviews and is a certified NQA-1 Lead Auditor.

Ben J. Harp has over 18 years of experience in the nuclear industry. He has been a Facility Representative for the ORP for the last seven years and provides on-site DOE presence for oversight of the operating contractors. Responsibilities include: 1) direct technical knowledge of facility systems, operating principles, and safety analyses. 2) Conduct of performance based evaluations of facility operations from the standpoint of nuclear and industrial safety, radiological and environmental protection, and formality of operations and maintenance. Prior to being a facility representative Mr. Harp spent five years as a project engineer for the DOE Richland Operations Office managing various projects from initial planning and conceptual design, through validation and definitive design and into construction. Prior to working for DOE, Mr. Harp was an engineer in the Fluid and Mechanical Systems Engineer Division at Puget Sound Naval Shipyard. Responsibilities include development of work procedures on nuclear and non-nuclear equipment and overseeing implementation of the procedures.

Mr. Harp has participated in many assessments and reviews as a certified NQA-1 Lead Auditor. In addition to assessments, Mr. Harp has participated in Operational Readiness Review (ORR) and Readiness Assessment (RA) that include: 1) ORR for Hanford Spent Nuclear Fuels Project – Cold Vacuum Drying Facility and Canister Storage Building 2) ORR for Resolution of Safety Issue Related Crust Growth in Tank SY-101 3) Line Management oversight of process test in Tank AZ-101 4) AY/AZ Tank Farm Ventilation Upgrade line management assessment and, 5) Replacement Cross-Site Transfer System line management assessment.

Henry D. Gorski has over thirty-five years of experience in the construction, start-up, and management of commercial and industrial facilities, including petrochemical facilities both onshore and offshore, co-generation plants, gas plants, and mining facilities. This experience encompasses positions from discipline to site management in both public and private sectors. From February 2001 to the present, Mr. Gorski has been part of the Bechtel National, Inc. construction team working on the WTP for the DOE, Office of River Protection. Currently he is a part of the Long Range Planning Team fulfilling the role of subject matter expert for the Electrical, Controls and Instrumentation, portion of the team. Additionally, Mr. Gorski participated in the WTP Construction Readiness Review and ISMS Verification Assessment.

Attachment 2 – Team Member Biographical Summaries

Jesse F. Lewis has over 23 years of experience as a Civil Field Engineer in the construction industry, working on heavy industrial facilities. Of those 20 years, Mr. Lewis has approximately 7 years of working on Operating Nuclear Power Generation Facilities performing Field Engineering and Quality Control Inspection duties supporting installations of modifications during re-fueling outages. In addition, Mr. Lewis was a Construction Manager for approximately 2 years during the construction and start-up activities of two natural gas compressor stations. Mr. Lewis joined the WTP Project in July of 2001 as a Civil Field Engineer. In October of 2001, Mr. Lewis was assigned to be the Subcontract Coordinator for the On-Site Material Testing Laboratory at the start of Construction on the WTP Project where he remained until the fall of 2003, where he was assigned back to Civil Field Engineering duties in the HLW Building.

ATTACHMENT 4

Memorandum 06-WTP-004

Integrated Safety Management System (ISMS)

Review of the Tank Farm Contractor (TFC)

FINAL REPORT

October 2005

U.S. Department of Energy — Office of River Protection

Integrated Safety Management System (ISMS)

Review of the Tank Farm Contractor (TFC)

FINAL REPORT

October 2005

Shirley J. Olinger
Team Leader

Report Approval

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Susan Coleman, Coordinator/Technical Editor
Innovations Group, Inc.

Keith Smith, Observer
Hanford Advisory Board

Table of Contents

Attachments

List of Acronyms

ALARACT	As Low As Reasonably Achievable Control Technology
AMS	Articulated Mast System
CFR	Code of Federal Regulations
CRAD	Criteria Review and Approach Document
DNFSB	Defense Nuclear Facilities Safety Board
DOE	U.S. Department of Energy
DOE-HQ	DOE Headquarters
DSA	Documented Safety Analysis
ECN	Engineering Change Notice
ESRB	Executive Safety Review Board
ESTARS	Electronic Suspense Tracking and Routing System
FY	Fiscal Year
HAB	Hanford Advisory Board
HAMTC	Hanford Atomic Metal Trades Council
HDBK	Handbook
HRT	Hazard Review Template
IH	Industrial Hygiene
ISM	Integrated Safety Management
ISMS	Integrated Safety Management System
JHA	Job Hazard Analysis
MOP	Management Observation Program
OA	DOE Office of Independent Oversight and Performance Assurance
OEL	Occupational Exposure Limit
ORP	DOE Office of River Protection
PER	Problem Evaluation Request
PISA	Potential Inadequacy in the Documented Safety Analysis
SAR	Supplied Air Respirator
SBCRB	Safety Basis Change Review Board
SER	Safety Evaluation Report
SJHA	Standing Job Hazard Analysis
SME	Subject Matter Expert
TFC	Tank Farm Contractor
TSR	Technical Safety Requirements
USQ	Unreviewed Safety Question
USQD	Unreviewed Safety Question Determination
WFO	Waste Feed Operations

Executive Summary

The objective of this Integrated Safety Management System (ISMS) annual review was to provide a U.S. Department of Energy (DOE) Office of River Protection (ORP) evaluation of the Tank Farm Contractor's (TFC) ISM program and processes. This review will be used to support the line management annual ISMS declaration to DOE Headquarters (DOE-HQ). The ISMS Team evaluated improvements made to ISM since the ISMS Improvement Validation Reviews (conducted in October 2004 and March 2005), determined the effectiveness of corrective actions (including actions taken in response to the October 2004 and March 2005 reviews), reviewed the TFC work planning/control process, evaluated the TFC ISM self-assessment program, evaluated feedback and improvement processes, and evaluated progress towards resolving the Tank Farm vapor issues. The review was performed on October 10-14, 2005.

The ISMS Team performed and implementation review of the TFC ISMS using criteria developed from a variety of sources, including DOE-HDBK-3027-99, *Integrated Safety Management Systems (ISMS) Verification Team Leader's Handbook*, the DOE Implementation Plan in response to Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, and draft work planning/control Criteria Review and Approach Documents (CRAD) developed as part of the aforementioned Implementation Plan.

The review was led by the ORP Deputy Manager, assisted by four independent senior technical personnel, one senior ORP Facility Representative, a member of the Hanford Atomic Trades Council (HAMTC), and an experienced technical editor, and observed by a member of the Hanford Advisory Board (HAB). The review resulted in the identification of 4 Strengths, 4 Findings, and 6 Observations which are summarized as follows:

Strengths

- The use of the Executive Safety Review Board (ESRB) is an excellent forum for senior management to understand the health of their safety management programs and communicate expectations regarding those programs. (FI-2-S-1)

- The Tank Farm Industrial Hygiene (IH) database provides an excellent tool to make data-driven IH hazard control determinations. (HAZ-1-S-1)

- The Safety Basis Change Review Board (SBCRB) provides an effective forum for integrated analysis and preparation of Documented Safety Analysis (DSA) changes. (SB-1-S-1)

- Lead craft personnel in Waste Feed Operations (WFO) took an active role in work execution, significantly improving efficiency. (WP-4-S-1)

Findings

- Hazards analysis and work control processes associated with the C-200 Series Tank Retrieval Project were less than adequate. (WP-1-F-1)

- A vulnerability exists in that some Unreviewed Safety Question (USQ) evaluations are prepared without consideration of ORP-approved safety basis amendments that have not yet been implemented by the TFC. (SB-2-F-1)

- Several organizations were not conducting final pre-job walkdowns with the work team, contrary to the work control procedure. (WP-4-F-1)

- Workers performing insulation removal during performance of work order CLO-WO-05-001346 did not follow Job Hazard Analysis (JHA) controls for the use of sharp objects. (WP-4-F-2)

Observations

- The bases for excluding TFC work packages from the Unreviewed Safety Question (USQ) screening process should be documented by Categorical Exclusion. (SB-2-O-1)

- The Job Hazard Analysis (JHA) process does not require the evaluation of upset conditions and "what-if" scenarios. (WP-2-O-1)

- Corrective actions of some recent events to prevent reoccurrence appear weak. (FI-2-O-1)

- The Lessons Learned Program and work control feedback process require improvement. (WP-4-O-1)

- Some work instructions and operating procedures reviewed did not adhere to Conduct of Operations principles for ensuring clear, unambiguous direction. (WP-3-O-1)

- Some closure packages were documented as closed when, in some cases, evidence in the work package or field suggested otherwise. (FI-2-O-2)

Conclusion

The ISMS Team determined that the TFC ISMS is implemented and, with some exceptions, is effective. Although the TFC has made significant progress since the October 2004 ISM Improvement Validation Review, additional improvements are warranted to address deficiencies identified in this report and to fully address previously identified Findings from the October 2004 and March 2005 reviews. Of particular note, the ISMS Team identified hazard analysis and work control process deficiencies associated with the C-200 Series Tank Retrieval Project. In this case, the TFC failed to conduct a detailed project hazard analysis that included all phases of the project in an integrated manner, including the hazards involved in system disconnect/reconnect when moving the retrieval system from tank-to-tank.

1.0 INTRODUCTION

This is the U.S. Department of Energy (DOE) Office of River Protection (ORP) annual review of the Tank Farm Contractor's (TFC) Integrated Safety Management System (ISMS). The review was conducted on October 10-14, 2005.

2.0 PURPOSE AND SCOPE

The purpose of this review was to conduct an annual line management evaluation of the TFC ISMS to support the DOE line management annual ISMS declaration to DOE Headquarters (DOE-HQ). The ISMS Team evaluated improvements made to Integrated Safety Management (ISM) since the ISMS Improvement Validation Reviews (conducted in October 2004 and March 2005), determined the effectiveness of corrective actions (including actions taken in response to the October 2004 and March 2005 reviews), reviewed the TFC work planning/control process, evaluate the TFC ISM self-assessment program, evaluated feedback and improvement processes, and evaluated progress towards resolving the Tank Farm vapor issues.

The objectives of this review of the TFC ISMS were to:

1) Identify the progress and improvements in the TFC ISMS since the March 2005 ISMS Improvement Validation Review;

2) Evaluate the TFC's work control/planning processes to determine the effectiveness of work planning and work control processes at the activity level. This was accomplished through the use of draft criteria being considered by DOE-HQ for complex-wide implementation of Commitment 5.3.2 of the DOE *Implementation Plan to Improve Oversight of Nuclear Operations*, June 2005, developed in response to the Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1; and

3) Evaluate the TFC's ISM performance relative to High Reliability Principles and attributes provided in Appendix F ("Requisite Environment for Effective Implementation of Integrated Safety Management (ISM) Systems") to the DOE *Implementation Plan to Improve Oversight of Nuclear Operations*, June 2005, developed in response to the DNFSB Recommendation 2004-1.

3.0 TFC ISMS BACKGROUND

In August 2004, ORP performed a focused review of the TFC ISMS as part of the annual ISM declaration. As a result of that review, the team recommended that an ISM Improvement Validation Review be performed to examine the effectiveness of corrective actions taken in response to recent radiological and operational incidents.

In October 2004 (report issued in November 2004), the pre-implementation portion of the ISM Improvement Validation Review was performed. The pre-implementation effort identified eight Findings. The ISMS Team concluded that the TFC had identified required improvements for ISM and had established a path forward that could be successful provided that significant management team in-field presence and involvement and worker buy-in were in place to achieve improvements.

In March 2005, the post-implementation portion of the ISM Improvement Validation Review was performed. The post-implementation review identified no Findings and concluded that a year or more of continued deliberate management attention will be required to assure sustained improvement and culture change. The team recommended deliberate management attention to continuing improvement in the following areas: implementing task specific job hazard analysis (JHA); improving assurance of readiness to proceed with work; improving

implementation of Conduct of Operations expectation; improving Problem Evaluation Request (PER) closure effectiveness, timeliness, and feedback; and increasing sufficiency of engineering and management oversight of work performance.

4.0 APPROACH AND DELIVERABLES

This review was performed consistent with the guidance of DOE Handbook (HDBK) 3027-99, *Integrated Safety Management Systems (ISMS) Verification Team Leader's Handbook*, and the draft work planning/control criteria being considered by DOE-HQ for complex-wide implementation of Commitment 5.3.2 in DOE Implementation Plan for DNFSB Recommendation 2004-1, DOE *Implementation Plan to Improve Oversight of Nuclear Operations*.

Major elements of the review, consistent with the guidance of DOE-HDBK-3027-99 and the DOE Implementation Plan for DNFSB Recommendation 2004-1, included the following:

- Preparation of a Review Plan, including the review scope, schedule, and Criteria Review and Approach Documents (CRADs)
- Selection of the team
- Pre-review activities
- Fieldwork activities
- Development of a Final Report (including the CRADs as Attachment A)

4.1 Development of the Review Plan and CRADs

The team member qualifications, protocols, review plan, and other aspects of the task were prepared and implemented in accordance with the appropriate guidance of DOE-HDBK-3027-99. CRADs were developed using various sources, including a tailored set of objectives and criteria from those established in DOE-HDBK-3027-99 and using DOE *Implementation Plan to Improve Oversight of Nuclear Operations*. The approach established within each CRAD was tailored to specific focus areas, based on the special considerations for the review.

4.2 Selection of the Team

An experienced and capable team was assembled to perform this review. The ISMS Team was comprised of senior ORP management and staff, and personnel from outside the ORP organization. These personnel provided an experienced perspective on the effectiveness of TFC ISM improvements, effectiveness of completed corrective actions, and overall ISMS performance. The team members were selected based on a number of criteria, including the following:

- Prior ISMS verification experience;
- Prior assessment experience;
- Knowledge of and experience with DOE nuclear facility operations;
- Independence; and
- ORP management recommendations.

Biographical summaries for each of the ISMS Team members are included in Attachment B.

4.3 Pre-Review Activities

The following activities were conducted prior to the review:

- Finalized the CRADs and Review Plan
- Identified interview candidates and activities to observe during the fieldwork portion of the review
- Determined which team members will support the various CRAD lines of inquiry
- Performed preliminary document reviews

4.4 Fieldwork Activities

Fieldwork activities began on October 10, 2005, and lasted one week. The ISMS Team observed field activities, attended various meetings and review boards, interviewed selected personnel, and reviewed documents.

The ISMS Team held an entrance meeting with TFC management on October 10, 2005, where the TFC provided a briefing on the programs relative to the CRADs in the review plan. During the period of on-site work, the ISMS Team held daily meetings to review and discuss observations from the day's activities and identify areas requiring follow-up. In addition, the Team Leader provided daily status briefings to senior TFC management on the Team's activities, observations, and emerging issues. Both strengths and weaknesses were noted. Potential issues and weaknesses were verified and validated with the TFC as they were identified throughout the course of the assessment. A formal closeout meeting was held on October 14, 2005, with the senior TFC management and ORP line management.

5.0 REVIEW RESULTS

The on-site review was led by the ORP Deputy Manager, assisted by four independent senior technical personnel, one senior ORP Facility Representative, a member of the Hanford Atomic Trades Council (HAMTC), an experienced technical editor, and observed by a member of the Hanford Advisory Board (HAB). During the review, 213 interviews were conducted, 197 documents were reviewed, and 29 facility visits were made to observe work activities and work planning meetings.

The Strengths, Findings, and Observations identified by the Team are listed in Sections 5.1, 5.2, and 5.3.

The following provides a summary of each objective and criteria reviewed by the Team. Detailed information for each objective can be found in Attachment A to this Report.

Objective: Safety Basis SB-1

The TFC has established policies and procedures to identify, analyze, and categorize nuclear and non-nuclear safety and health hazards. A comprehensive set of Environment, Safety and Health (ES&H) standards has been identified and is incorporated into the TFC contract. A procedure is in place for the TFC to periodically review new and revised DOE directives, standards, laws, and regulations for applicability to the work conducted under the contract and to flow down the requirements to the appropriate procedures. The Safety Basis Change Review Board (SBCRB) was determined to be an effective forum for integrated analysis and preparations of Documented Safety Analysis (DSA) changes (**Strength SB-1-S-1**).

Objective: Safety Basis SB-2

Nuclear safety procedures satisfactorily implement DOE expectations for nuclear safety management, facility safety and categorization, and DSAs. The TFC has established an integrated process to develop and establish nuclear safety basis controls to mitigate the identified hazards for the facility and process activities. This process includes the preparation, review, approval, implementation, and maintenance of safety basis documentation for Hazard Category 2 and 3 nuclear facilities managed by the TFC and it adequately implements Title 10 *Code of Federal Regulations* Part 830 and Subpart B. The TFC process for management of DSA changes has been effectively implemented but does exhibit some weaknesses. In a number of instances the ISMS Team observed that the lag between ORP approval of a DSA amendment and TFC implementation was excessive, sometimes exceeding several months. As a result, a vulnerability exists in that some Unreviewed Safety Question (USQ) evaluations are prepared without consideration of ORP-approved safety basis amendments that have not yet been implemented by the TFC (**Finding SB-2-F-1**). Additionally, the ISMS Team found that the TFC does not conduct USQ screens of work packages; however, Engineering Change Notices (ECN) are USQ screened. The ISMS Team believes that the basis for excluding TFC work packages from the USQ screening process should be documented by Categorical Exclusion (**Observation SB-2-O-1**). Hazards and accident analysis are provided in the DSA, and the controls to mitigate the hazards are identified in the Technical Safety Requirements (TSR). Once approved, operations authorization for TFC nuclear facilities is established through the Authorization Agreement with DOE.

Objective: Safety Basis SB-3

The TFC has established procedures to ensure that subject matter experts conducting identification of hazards and controls are trained and qualified commensurate with their responsibilities. The ISMS Team found environmental, safety and health professionals, nuclear safety analysts, field work supervisors, and Tank Farm workers properly trained, knowledgeable, and qualified.

Objective: Work Planning WP-1

The TFC work control procedure provides adequate instruction to line management, work planners, subject matter experts, and workers for the development of work instructions. A vulnerability was identified in the TFC's work control process in that the work control procedure did not include formal turnover requirements for field work supervisors during work activities; the contractor agreed and planned to add this requirement to the procedure. The ISMS Team determined that the C-200 Series Tank Retrieval Projects' hazard analysis focus on initial equipment installation and operation, and did not thoroughly evaluate hazards during equipment disconnect, movement to other tanks, reconnect and restart (**Finding WP-1-F-1**). Specifically, the TFC project hazard analysis did not evaluate hazards throughout the project life-cycle, including detailed analysis of the hazards associated with equipment disconnect/reconnect when moving the retrieval system from tank-to-tank. In addition, the TFC identified and the ISMS Team noted that turnover between the different operating and field crews from phase-to-phase was not completed, the work crew performing retrieval operations operated the system outside of normal parameters, work instructions were unclear, and the crews performing the connection and disconnection work did not have an adequate understanding of system operation. The TFC had previously identified a vulnerability in the significant number of Standing Job Hazard Analyses (SJHA); the ISMS Team agreed with the TFC approach to reduce this number and focus more on the use of job-specific JHAs.

Objective: Work Planning WP-2

The TFC has established work planning and JHA processes that include worker involvement that evaluates common hazards to the worker. However, upset conditions and "what-if" scenarios that may be associated with specific work activities are not evaluated (**Observation WP-2-O-1**). Coupled with the decision to exclude work packages not including ECNs from the USQ screening process, this weakness may result in non-conservative hazard analysis and control identification (**Observation SB-2-O-1**).

Objective: Work Planning WP-3

The ISMS Team determined that work control documents and operating procedures were developed in a manner to enable safe and efficient completion of work activities. Work steps were properly sequenced, contained appropriate technical and administrative requirements, and were generally written in a clear and concise manner. Some deficiencies were identified with work documents related to vague or ambiguous notes and work steps, and one deficiency was found in relation to incorporation of JHA control placement in the work instructions (**Observation WP-3-O-1**).

Objective: Work Planning WP-4

Workers and supervisors performed work in accordance with approved work control documents. In the Waste Feed Operations (WFO) organization, lead craft personnel took an active role in work planning and work execution, significantly improving efficiency (**Strength WP-4-S-1**). Some workers were involved in work planning. The ISMS Team determined that the final walkdown by the work team, prior to the pre-job brief, was not being conducted by some of the TFC organizations, contrary to the work control procedure (**Finding WP-4-F-1**). This was considered by TFC management to be a crucial element of the work control process. Additionally, one instance was identified where a control identified in the JHA was not implemented in the field (**Finding WP-4-F-2**). This indicated that more attention is needed in the implementation of JHA controls. The ISMS Team observed good feedback between participants during post-job reviews. However, the TFC needs to ensure that these valuable improvement mechanisms are consistently applied (**Observation WP-4-O-1**).

Objective: Work Planning WP-5

The TFC has established and implemented procedures to ensure line management and assessment personnel perform timely oversight of the work planning and control process and resulting work packages.

Objective: Hazards Identification HAZ-1

The TFC has made much progress in developing an industrial hygiene (IH) technical basis and a comprehensive program to support final resolution of the tank vapor issues. The technical basis is being updated to reflect some recent sampling and monitoring data. The Tank Farm IH database provides an excellent tool to make data-driven IH hazard control determinations (**Strength HAZ-1-S-1**). The TFC has a project management plan to incrementally (by A-prefix Tank Farms first, then S, and finally C Tank Farms) move away from the default, mandatory use of supplied-air respirators for entry into any tank farm. The project plan will allow IH controls to be tailored to the actual hazards present in the work activity. The TFC project management plan should be updated, as necessary, to reflect actual status of accomplishing the plan milestones, and include the plan/milestones as part of the ISMS fiscal year (FY) 2006 annual performance objectives, measures, and commitments. This is an important safety and health initiative that can reduce the increase in injuries resulting from the use of supplied-air respirators and provide long-term resolution of the tank vapor issue; the TFC should continue to place emphasis on this important initiative.

Objective: Feedback and Improvement FI-1

The TFC has developed procedures for the conduct of formal self-assessment activities. The TFC conducted over 60 formal management assessments and hundreds of Management Observation Program (MOP) surveillances during FY05 in order to evaluate their performance at all levels, including the determination of TFC ISMS effectiveness. A FY06 assessment schedule has been developed showing approximately 10-12 management assessments. While there are fewer scheduled formal management assessments, they will cut across and more fully evaluate all line and support organizations, provide cross-training opportunities between organizational lines, and promote a more consistent application of TFC policies and procedures.

Objective: Feedback and Improvement FI-2

Through interviews and review of procedures and assessment documentation, the TFC was observed to actively and systematically monitor performance through multiple means, including management field observations, performance indicators and trend data, self-assessments, and independent assessments. The ISMS Team observed the Executive Safety Review Board (ESRB) and determined that it is an excellent forum for senior management to understand the health of their safety management programs (**Strength FI-2-S-1**). Assessment planning was observed to be comprehensive and implemented. Also, assessment findings and key observations from assessments were, in most cases, identified to be carried through into the Corrective Action Program as PERs. The Team did find that some closure packages contained inadequate documentation for PER/issue closure (**Observation FI-2-O-2**). Additionally, the ISMS Team determined that corrective actions for some recent events to prevent recurrence appeared weak (**Observation FI-2-O-1**).

All levels of the organization were observed to be aware of the various means available to report problems. Management encouraged workers to identify problems, regardless of their severity, and actively sought such feedback from the workforce. Management was observed to use lessons learned from both inside and outside their facility and organization to continuously improve performance and safety (including communication of results of external oversight reviews). However, some deficiencies were identified with the use of Lessons Learned Program and worker feedback in the work control process.

5.1 Strengths

- The use of the Executive Safety Review Board (ESRB) is an excellent forum for senior management to understand the health of their safety management programs and communicate expectations regarding those programs. (FI-2-S-1)
- The Tank Farm Industrial Hygiene (IH) database provides an excellent tool to make data-driven IH hazard control determinations. (HAZ-1-S-1)
- The Safety Basis Change Review Board (SBCRB) provides an effective forum for integrated analysis and preparation of Documented Safety Analysis (DSA) changes. (SB-1-S-1)
- Lead craft personnel in Waste Feed Operations (WFO) took an active role in work execution, significantly improving efficiency. (WP-4-S-1)

5.2 Findings

- Hazards analysis and work control processes associated with the C-200 Series Tank Retrieval Project were less than adequate. (WP-1-F-1)
- A vulnerability exists in that some Unreviewed Safety Question (USQ) evaluations are prepared without consideration of ORP approved safety basis amendments that have not yet been implemented by the TFC. (SB-2-F-1)
- Several organizations were not conducting final pre-job walkdowns with the work team, contrary to the work control procedure. (WP-4-F-1)
- Workers performing insulation removal during performance of work order CLO-WO-05-001346 did not follow Job Hazard Analysis (JHA) controls for the use of sharp objects. (WP-4-F-2)

5.3 Observations

- The bases for excluding TFC work packages from the Unreviewed Safety Question (USQ) screening process should be documented by Categorical Exclusion. (SB-2-O-1)
- The Job Hazard Analysis (JHA) process does not require the evaluation of upset conditions and "what-if" scenarios. (WP-2-O-1)
- Corrective actions of some recent events to prevent reoccurrence appear weak. (FI-2-O-1)
- The Lessons Learned Program and work control feedback process require improvement. (WP-4-O-1)
- Some work instructions and operating procedures reviewed did not adhere to Conduct of Operations principles for ensuring clear, unambiguous direction. (WP-3-O-1)
- Some closure packages were documented as closed when, in some cases, evidence in the work package or field suggested otherwise. (FI-2-O-2)

6.0 OVERALL RESULTS OF THE GENERAL REVIEW OBJECTIVES

The ISMS Team determined that the TFC ISMS is implemented and, with some exceptions, is effective. Although the TFC has made significant progress since the October 2004 ISM Improvement Validation Review, additional improvements are warranted to address deficiencies identified in this report and to fully address previously identified findings from the October 2004 and March 2005 reviews. Of particular note, the ISMS Team identified hazard analysis and work control process deficiencies associated with the C-200 Series Tank Retrieval Project. In this case, the TFC failed to conduct a detailed project hazard analysis that included all phases of the project in an integrated manner, including the hazards involved in system disconnect/reconnect when moving the retrieval system from tank-to-tank. The following summary is provided for the review objectives:

ISM Improvements: As previously mentioned, the TFC has made substantial improvements to ISM over the past year. Based on the results of this review, additional improvements are needed to strengthen existing programs and to reinforce existing management expectations for ISMS implementation and improvement. Safety basis processes and procedures satisfactorily implement DOE expectations for nuclear safety management, facility safety and categorization, and DSAs. Some opportunities for improvement were noted by the Team.

Work Control/Planning Processes: The TFC has a well-defined work control and planning process. Over the past year, significant changes have been made to the work control procedure. Continued emphasis of existing requirements, routine self-assessments of implementation, and program improvements indicated in this Report will ensure a consistent and effective work control program. Contractor management should continue their effort to improve worker involvement, including in the area of work planning and control.

High Reliability Principles: The ISMS Team used some of the attributes contained in the "High Reliability Principles for Effective Safety Management System Implementation," contained in Appendix F to the DOE Implementation Plan for DNFSB Recommendation 2004-1, in the development of the criteria for this Review. Clearly, the TFC exhibited a number of these highly reliable organizational attributes. Specific examples of those attributes observed (on a limited basis due to the short period of this review) are provided below (objective numbers from this Report are provided for each attribute):

- Operational anomalies, even small ones, get prompt attention and evaluation, which allows early detection of problems so necessary action is taken before problems grow. (FI-2)
- Workers are systematic and rigorous in making decisions that support safe, reliable operations. Workers are expected and authorized to take conservative actions when faced with unexpected or uncertain conditions. Leaders support and reinforce conservative decisions. (WP-4)
- Candid dialogue, debate, and healthy skepticism are encouraged when safety issues are being evaluated. Differing professional opinions are welcomed and respected. Robust discussion and constructive conflict are recognized as a natural result of diversity in expertise and experience. (FI-2)
- Workers are involved in job planning. Workers follow approved procedures. Workers at any level can stop unsafe work or work during unexpected conditions. (WP-4)
- Workers are actively involved in identification, planning, and improvement of work and work practices. (WP-4)
- Workers promptly report errors and incidents. Workers feel safe from reprisal in reporting errors and incidents; workers offer suggestions for improvement and innovative solutions. (WP-4)
- Performance Assurance includes a diversity of independent "fresh looks" to ensure completeness and to avoid complacency. A mix of internal and external oversight reviews reflects an integrated and balanced approach. This balance is periodically reviewed and adjusted as needed. (FI-2)
- Linkages with other performance monitoring inputs are examined, high-quality causal analyses are conducted, as needed, and corrective actions are tracked to closure with effectiveness verified to prevent future occurrences. (FI-2)
- Senior executives are periodically briefed on results of oversight group activities to gain insight into organizational performance and to direct needed corrective actions. (FI-2)
- The organization actively and systematically monitors performance through multiple means, including leader walkarounds, issue reporting, performance indicators, trend analysis, benchmarking, industry experience reviews, self-assessments, and performance assessments. Feedback from various means is integrated to create a full understanding. (FI-2)

Attachment A – Criteria and Review Approach Documents

Review Form – SB-1

Objective

SB-1: The full spectrum of hazards associated with the work are 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.

Criteria

1. Contractor procedures require identification, analysis, and categorization of all hazards associated with the site. The resulting hazards are utilized in selection of standards included in the contract as requirements of applicable Federal, State, and local regulations and the requirements of DOE directives (List B). Hazards that are considered include nuclear, chemical, industrial or others applicable to the work being considered. Contractor procedures for analysis of hazards reflect accepted rigor and methodology.

2. 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 ensures that 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. These mechanisms ensure direction and approval from line management and integration of the requirements.

3. 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.

Documents Reviewed

- RPP-13033, *Tank Farms Documented Safety Analysis*
- HNF-SD-WM-TSR-006, *Tank Farm Facility Technical Safety Requirements*
- HNF-15279, 242A, *Evaporator Technical safety Requirements*
- HNF-12125 222-S, *Laboratory Technical Safety Requirements*
- DE-AC27-99RL14047, *Tank Farm Contract*
- RPP-15194, *River Protection Project Authorization Agreement between the U.S. Department of Energy, Office of River Protection and CH2M HILL Hanford Group, Inc.*
- TFC-PLN-32, *Safety Management Programs*
- RPP-MP-003, *ISMS System Description*
- HNF-SD-MP-SRID-001, *Tank Farm Contractor Standards/Requirements Identification Document*
- HNF-IP-1266, *Tank Farms Operations Administrative Controls*
- TFC-CHARTER-33, *Safety Basis Change review Board Charter,*
- TFC-ENG-SB-C-03, *Unreviewed Safety Question Process*
- TFC-BSM-TQ-STD-09, *Unreviewed Safety Question Qualification Process*
- TFC-OPS-OPER-C-24, *Occurrence Reporting and Processing of Operations Information*
- 03-TED-110, *DOE Safety Evaluation Report for the Tank Farms Unreviewed Safety Question Process Categorical Exclusions for the Documented Safety Analysis*
- FY-2003-CH2M-I-0155, *CH2M HILL Hanford Group, Inc. Assessment report for Executive-Level Independent Assessment of the Implementation of the Documented Safety Analysis,* dated August/September 2003

- DOE G 424.1-1, *Implementation Guide for Use in Addressing Unreviewed Safety Question Requirements*
- Review Report, *Review of tank Farms Technical Safety Requirement Implementation,* dated June 2005
- FY2005-CHM2-1-0009, *Independent Assessment of CH2M Hill Integrated Safety Management System, Final Report*
- TFC-ENG-SB-C-01, *Safety Basis Documents Change and Maintenance*
- TFC-OPS-OPER-C-02, *Safety Basis Implementation Checklist Preparation, Review, and Approval*
- TFC-03-3850-D, *Categorical Exclusion for Specific Types of Engineering Change Notice Changes to Drawing and Supporting Documents*
- TFC-03-3851-D, *Categorical Exclusion for to Allow Procedures to be Revised to Incorporate the U.S. Department of Energy-Approved Safety Basis Changes*
- TFC-03-3852-D, *Categorical Exclusion for Labeling Activities and Corresponding Changes to Non-Safety basis Documents to Update Structures, Systems of Components Identification Information*
- PER-2005-1934, Problem Evaluation Request
- PER-2005-2037, Problem Evaluation Request
- PER-2005-2039, Problem Evaluation Request
- PER-2005-2049, Problem Evaluation Request
- PER-2005-2058, Problem Evaluation Request
- Tank Farm USQ Evaluator Qualification Records (4)

Interviews Conducted

- TFC Vice President, Nuclear Operations
- TFC Director, Nuclear Safety and Licensing
- TFC USQ Coordinator
- TFC USQ Reviewers (4)
- TFC System Engineers (4)
- TFC Safety Specialists (2)
- TFC Director for Safe Work Environment
- ORP Director, Tank Farms Engineering Division
- ORP Nuclear Safety Analysts (2)

Observations of Work

- Safety Basis Change Review Board (SBCRB) Meeting
- Executive Safety Review Board (ESRB) Meeting
- Safety Basis Change Docketing Meeting

Discussion

The requirements associated with hazards identification and analysis are based on 10 Code of Federal Regulations (CFR) Part 830, Subpart B, "Nuclear Safety Management"; DOE Order 420.1A, *Facility Safety;* DOE-STD-1027-94, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports;* and DOE-STD-3009-94, *Preparation Guide for U.S. DOE Nonreactor Nuclear Facility Safety Analysis Reports.* These requirements flow down through TFC documents, such as DOE Contract DE-AC27-99RL14047, the *Tank Farm Contractor Standards/Requirements Identification Document* (S/RID), *Tank Farms Documented Safety Analysis* (DSA), *Technical Safety Requirements* (TSR), Safety Management Programs, and the ISMS System Description for hazards identification and analysis. The ISMS Team reviewed these documents and found them to be consistent with the Nuclear Safety Rule and DOE standards.

In 2003, the TFC prepared and submitted a new DSA for Tank Farm operations detailing hazards, safety-related structures, systems and components, and implementation of safety related controls. The DSA addresses the continuing management of highly radioactive tank waste; retrieval, pretreatment, immobilization, interim storage, and disposal of tank waste; and performance of operations necessary for closure of the tanks after removal of the waste. The principle focus of the DSA is activities related to the continued safe storage of tank waste, and the transfer of liquid wastes between tanks and transition or operating facilities. While a number of retrieval and closure activities are addressed, the retrieval mission was added late in the DSA development process. As a consequence, a significant number of safety basis amendments have been generated to support retrieval or closure activities not originally bounded by the DSA. The final hazard categorization of the tank farm facilities was determined based on the requirements of 10 CFR 830 and the methodology of DOE-STD-1027-92. The final hazard categorization of tank farms, including single-shell tanks, double-shell tanks, the associated waste-transfer systems, 204-AR Waste Unloading Facility, 244-AR Vault, 244-CR Vault, and a number of other inactive facilities, is Hazard Category 2.

Safety Limits described in the TSRs include Limiting Conditions for Operation (LCOs) for transfer leak detection systems, backflow prevention systems, double-shell tank primary ventilation systems and single-shell tank passive ventilation systems. Administrative Controls (ACs) are prescribed for organization, safety management programs, emergency preparedness, source term controls, flammable gas controls, transfer controls, administrative lock controls, bulk chemical addition controls, tank farm installed instrumentation, a corrosion mitigation program, and vacuum retrieval controls. In addition, a number of design features are specified.

The ISMS Team conducted interviews to discuss the DSA development and implementation process, applicable safety management programs, safety bases flow down to implementing procedures, and the change control processes. Interviews included Nuclear Safety and Licensing personnel, system engineers, safety specialists, operations personnel, and ORP Engineering Division personnel. Each of the individuals interviewed was personally involved in the DSA development or approval processes and provided valuable insight on the process utilized for identification and characterization of Tank Farm hazards and associated controls. The DSA was implemented in October 2003 and implementation was validated by an executive-level independent assessment. Since implementation, the DSA has been amended 24 times to incorporate changes in mission, technological approach, and annual updates. In addition, some 700 Unreviewed Safety Questions Determinations (USQD) have been documented. Based on the review of several amendments and a number of USQDs, the ISMS Team concluded that addition of a "Retrieval Mission" late in the DSA development process was a significant contributor to the number of changes observed. The influence of these changes is further discussed in "Review Form – SB-2" of this Report.

The ISMS Team found that requirements defined in safety basis documents have been appropriately translated into TFC implementing procedures and work control documents for activities such as Conduct of Operations, routine maintenance, and surveillance activities. TFC procedures and mechanisms are in place and implemented to ensure that contractor hazards analysis are comprehensive, tailored to risk, and sufficient to control identified hazards. TFC procedures are also in place to ensure that safety and health inspections or assessments are conducted to assist in the identification of additional hazards (e.g., external or interfacing hazards that are not necessarily tied to a work activity or task that is typically identified in the Hazard Review Template (HRT) or Job Hazard Analysis (JHA) process). The TFC maintains a comprehensive program to identify and analyze non-nuclear worker safety and health hazards for all its work. TFC ISMS procedures reflect acceptable rigor. The resulting standards in the TFC contract and associated Standards/Requirements Identification Documents (S/RIDs) set appear sufficient to address the recognized hazards associated with the scope of work. The TFC Nuclear Safety and Licensing organization maintains a process to formally identify new DOE directives, DOE technical standards, consensus standards, and new Federal, state, and local laws and regulations that have potential applicability to the contracted work. This process emphasizes those standards related to safety and health, and it provides a mechanism to formally identify new standards, evaluate the applicability of the new or

revised requirement by subject matter experts (SMEs), negotiate with ORP, and document any new requirements in the TFC S/RIDs set.

Procedures are in place to describe the responsibilities for safety basis development, maintenance, implementation, and oversight. The Nuclear Safety and Licensing organization: 1) provides direction on nuclear safety-related matters, 2) develops and maintains nuclear safety (including criticality safety) policies, procedures, guides, and instructions, and 3) interfaces with ORP on nuclear safety documents (including DSAs, TSRs, positive USQs, etc.). Nuclear Safety and Licensing personnel and USQ Evaluators are matrixed or deployed to various projects to provide the appropriate oversight and direction with respect to hazard identification and requirements. Additional discussion of the experience, knowledge and skills of TFC personnel responsible for hazards analysis is provided in "Review Form – SB-3".

Knowledge of activity hazards and associated TSR controls was also evident during interviews with work force supervision and work crews. Personnel interviewed discussed their participation in the development of work scope, pre-job walk downs, review of hazards analysis, preparation of work packages, and post-job critiques and lessons learned.

The ISMS Team observed a Safety Basis Change Review Board (SBCRB) meeting. This committee was chartered by the TFC Vice President of Nuclear Operations to review safety basis changes and their effects on the end users with particular emphasis on proposed amendments to the TSRs. Other review responsibilities include: proposed amendments to DSAs for the Tank Farm, Evaporator, and 222-S Analytical Laboratory, requests for Justification for Continued Operation, proposed new safety basis documents that require field implementation, and changes directed by ORP. SBCRB membership is appointed by the Vice President of Nuclear Operations and is augmented by the Authorization Agreement Authorization Basis compliance leads for the affected DSA. The ISMS Team reviewed the SBCRB draft Charter and observed a SBCRB meeting involving the review of a proposed change to DSA AC 5.16, *Corrosion Mitigation Control.* During the meeting, board members and attendees were technically inquisitive, and key issues were addressed. The appropriate personnel were in attendance, and included safety analysts, operations personnel, engineering, and the safety basis implementation lead. The ISMS Team concluded that the SBCRB provides an effective forum for integrated analysis and preparations of DSA changes **(Strength SB-1-S-1)**.

The USQ process is defined in TFC-ENG-SB-C-03 which describes requirements for conducting USQ applicability assessments, screening, and determinations for changes or conditions at all TFC nuclear facilities in accordance with 10 CFR 830.203.

Conclusion

The criteria for this objective were met.

Strengths

SB-1-S-1 The Safety Basis Change Review Board (SBCRB) provides an effective forum for integrated analysis and preparation of Documented Safety Analysis changes.

Findings

None

Observations

None

Review Form – SB-2

Objective

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

Criteria

1. Contractor procedures utilize acceptable methodologies to identify adequate hazard control standards at both the site and facility level to protect the public, worker, and environment. Controls at the site level appear in the contract while those at the facility level are reflected in the authorization basis documentation.

2. Contractor procedures ensure controls are tailored to the hazards associated with the work or operations to be authorized.

3. Contractor procedures ensure that the identified controls, standards, and requirements are agreed upon and approved prior to the commencement of the operations or the work being authorized.

4. Contractor procedures utilize accepted and structured methods and processes to identify, select, gain approval for, periodically review, and maintain safety standards and requirements.

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

6. 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.

Documents Reviewed

- RPP-13033, *Tank Farms Documented Safety Analysis*
- HNF-SD-WM-TSR-006, *Tank Farm Facility Technical Safety Requirements*
- HNF-15279, *242A Evaporator Technical safety Requirements*
- HNF-12125, *222-S Laboratory Technical Safety Requirements*
- DE-AC27-99RL14047, *Tank Farm Contract*
- RPP-15194, *River Protection Project Authorization Agreement between the U.S. Department of Energy, Office of River Protection and CH2M HILL Hanford Group, Inc.*
- TFC-PLN-32, *Safety Management Programs*
- RPP-MP-003, *ISMS System Description*
- HNF-SD-MP-SRID-001, *Tank Farm Contractor Standards/Requirements Identification Document*
- HNF-IP-1266, *Tank Farms Operations Administrative Controls*
- TFC-CHARTER-33, *Safety Basis Change review Board Charter*
- TFC-ENG-SB-C-03, *Unreviewed Safety Question Process*
- TFC-BSM-TQ-STD-09, *Unreviewed Safety Question Qualification Process*
- TFC-OPS-OPER-C-24, *Occurrence Reporting and Processing of Operations Information*

- FY-2003-CH2M-I-0155, *CH2M HILL Hanford Group, Inc. Assessment report for Executive-Level Independent Assessment of the Implementation of the Documented Safety Analysis*, dated August/September 2003
- DOE G 424.1-1, *Implementation Guide for Use in Addressing Unreviewed Safety Question Requirements*
- Review Report, *Review of tank Farms Technical Safety Requirement Implementation*, dated June 2005
- FY2005-CHM2-1-0009, *Independent Assessment of CH2M HILL Integrated Safety Management System, Final Report*
- TFC-ENG-SB-C-01, *Safety Basis Documents Change and Maintenance*
- TFC-OPS-OPER-C-02, *Safety Basis Implementation Checklist Preparation, Review, and Approval*
- TFC-03-3850-D, *Categorical Exclusion for Specific Types of Engineering Change Notice Changes to Drawing and Supporting Documents*
- TFC-03-3851-D, *Categorical Exclusion for to Allow Procedures to be Revised to Incorporate the U.S. Department of Energy-Approved Safety Basis Changes*
- TFC-03-3852-D, *Categorical Exclusion for Labeling Activities and Corresponding Changes to Non-Safety basis Documents to Update Structures, Systems of Components Identification Information*
- 03-TED-110, DOE Memorandum, *Contract No. DE-AC27-99RL14047 – Safety Evaluation Report (SER) for approval of Categorical Exclusions for the Documented Safety Analysis*
- PER-2005-2058, Problem Evaluation Request
- PER-2005-1934, Problem Evaluation Request
- PER-2005-2037, Problem Evaluation Request
- PER-2005-2039, Problem Evaluation Request
- PER-2005-2049, Problem Evaluation Request
- Tank Farm USQ Evaluator Qualification Records (4)
- TF-05-1237-AA, USQ Process Applicability Assessment
- TF-05-092-AA, USQ Process Applicability Assessment
- TF-05-1240-AA, USQ Process Applicability Assessment
- TF-03-3447-D, USQ Determination
- TF-03-3257-D, USQ Determination
- TF-05-1262-D, USQ Determination

Interviews Conducted

- TFC Director, Nuclear Safety and Licensing
- TFC USQ Coordinator
- TFC USQ Reviewers (4)
- TFC System Engineers (4)
- TFC Safety Specialists (2)
- TFC Director, for Safe Work Environment
- ORP Director, Tank Farms Engineering Division
- ORP Nuclear Safety Analysts (2)

Observations of Work

- Safety Basis Change Review Board (SBCRB) Meeting
- Executive Safety Review Board (ESRB) Meeting
- Safety Basis Change Docketing Meeting
- Table top walkdown for C-103 breather filter replacement
- Job Hazard Analysis for C-103 breather filter replacement

Discussion of Results

The TFC utilizes an integrated process to develop and disseminate controls designed to mitigate identified hazards for facility and process activities. Nuclear Safety and Licensing personnel, as part of the hazard evaluation safety analysis process, identify controls to prevent or mitigate potential hazardous conditions and postulated accidents at the Tank Farms. Radiological and toxicological risk bins are used for identifying safety-significant structures, systems, and components (SSCs) and Technical Safety Requirements (TSRs). These controls are also considered for significant facility worker hazards, and other non-safety SSC and TSRs design features and administrative features are identified for defense-in-depth. At the contract level, the TFC complies with the standards and requirements identified in its prime contract with DOE. These include a set of S/RIDs for Conduct of Operations, engineering, maintenance, and work activities. These requirements are captured in TFC implementing procedures providing direct control of tank farm work activities.

The ISMS Team reviewed the TFC process to validate control set implementation. This included review of the implementation of safety basis documents through a readiness checklist process. This process consists of a multidisciplinary team of specialists that conduct a formal review with the following objectives:

- Verify that flowdown of safety basis requirements to implementing procedures is complete.
- Verify that safety basis controls and requirements are incorporated into appropriate command media.
- Verify that facility personnel are knowledgeable of the safety basis controls.
- Verify that the safety basis controls and requirements have been implemented.

To accomplish these objectives, the TFC process prescribes the use of checklist and formal lines of inquiry. Review of example checklist and lines of inquiry provided to the ISMS Team suggests that the TFC has outlined a comprehensive and generally thorough approach for determining the status of safety basis implementation within its nuclear facilities.

The TFC procedures provide direction on the hazard control hierarchy for worker safety and health hazards identified through the hazard assessment process. These procedures implement the control hierarchy of engineering controls, then administrative controls, and finally the use of personal protective clothing as required by DOE worker safety and health directives. The Hazard Review Templates (HRTs) or Job Hazard Analyses (JHA) reviewed by the ISMS Team, as well as work observed during the review, effectively confirmed the implementation of controls for the hazards identified at the activity or task level. With one noted exception in "Review Form – WP-4" of this Report, the workers observed by the ISMS Team were following the appropriate hazard controls in the HRT and work procedures, and effectively demonstrated the flowdown of standards agreed to by DOE for the work and hazards applicable to the contract.

TFC procedures governing work activities are subject to a rigorous change control process designed to ensure that the contractor carefully evaluate any proposed change to ensure that it will not affect the safety basis for the facility. Title 10 Code of Federal Regulations (CFR) Part 830, Section 203, *Unreviewed Safety Question Process*, requires the TFC to establish, implement, and take actions consistent with an Unreviewed Safety Question (USQ) process that meets the requirements of this section. DOE Guide 424.1-1, *Implementation Guide for Use in Addressing Unreviewed Safety Questions Requirements,* provides information to assist in the implementation and interpretation of 10 CFR 830.203. ORP approval of the TFC procedure to implement the USQ process is required by the CFR.

ORP approved the TFC USQ procedure in August 2002, and approved changes to address Defense Nuclear Facilities Safety Board (DNFSB) comments in February 2003. In June 2003, ORP approved additional procedural changes that modified documentation requirements for using categorical exclusions and applicability assessment criteria. The TFC maintains the process for USQ applicability assessments, screening and determinations for changes or conditions at all TFC nuclear facilities in accordance with 10 CFR 830.203. The governing procedure TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* applies to changes within TFC nuclear facilities and changes outside TFC nuclear facilities when those changes have the potential to affect the safety of TFC nuclear facility operations. The procedure applies to implementing documents for the following situations:

- Temporary or permanent change in the facility, as described in the existing DSA;
- Temporary or permanent change in the procedures, as described in the existing DSA; or
- Test of experiment not described in the existing DSA.

The procedure defines responsibilities, training and qualification, and applicability requirements for all USQ activities. Attachments provide formal questions and considerations for USQ screening and for the USQ determination (USQD). The procedure also specifies that screening and determination questions cannot be changed without prior ORP approval. The current TFC USQ process includes an applicability assessment that is used to determine if the USQ process is applicable to a proposed change or conditions. If the USQ process is determined to be applicable, the USQ applicability assessment is exited and a USQ screening or determination is initiated. Two broad categories of questions are addressed by the applicability assessment. Section 1 questions are designed to screen out exempted activities from the USQ process, and Section 2 questions are designed to screen out activities that require ORP review and approval from the USQ process. The ISMS Team reviewed a selection of USQ process applicability assessments, and completed USQDs. Applicability assessments included retrieval activities in the C-200 area (TF-05-0952-AA and TF-05-1237-AA) and removal of the Central Water Distribution Device (TF-05-1240-AA). USQDs reviewed included: evaluation of equipment removal; modification and installation activities for retrieval of wastes in tanks 241-S-102 and 241-S-102 (TF-03-3257-D), review of an engineering change notice for the Remote Water Lance Installation (TF-05-1262-D); and evaluation of removal, modification, and installation activities for retrieval of wastes in C-200 Series tanks (TF-03-3447-D). The ISMS Team concluded that these reviews were technically adequate and conducted in accordance with the TFC procedure. Common USQ process implementation problems, such as nonconservative screening criteria, a too-narrow margin of safety definition, personnel qualification requirements, and inadequate reviewer independence, were not observed.

In July 2003, ORP approved the Tank Farms Documented Safety Analysis (DSA) and implementation was completed in late October of the same year. Since that time, all USQs have been performed against the DSA. Since implementation, the DSA has been amended 24 times to incorporate changes in mission, technological approach, and annual updates. In addition, some 700 USQDs have been documented. As indicated in "Review Form – SB.1," the ISMS Team review of several amendments and a number of USQDs, suggests that the addition of a "retrieval mission" late in the DSA development process was a significant contributor to the number of changes observed. Effective management of this large number of changes represents a significant effort on the part of the TFC and the ORP. For example, approximately 5000 applicability assessments, screenings, and USQ evaluations were performed in Calendar Year 2003 alone. To ensure that the quality of USQ process is not compromised, the TFC has conducted quarterly assessments to verify that evaluations meet management expectations. The ISMS Team reviewed several of the assessment reports and determined that appropriate rigor had been applied in assessing process compliance and that identified performance issues were formally addressed in the TFC Problem Evaluation Requests (PER) program. However, the ISMS Team identified a potential problem with respect to the timing of the approval and implementation of safety basis amendments. In a number of instances, the ISMS Team observed that the lag between ORP approval of a DSA amendment and TFC implementation was excessive, sometimes exceeding several months. As a result, a vulnerability exists in that

some USQ evaluations are prepared without consideration of ORP-approved safety basis amendments that have not yet been implemented by the TFC **(Finding SB-2-F-1)**.

In 2004, the TFC conducted a management assessment to review and evaluate the USQ process to ensure that all aspects of the process are compliant and being implemented correctly, efficiently, and effectively, and to identify potential process weaknesses and opportunities for improvement. The assessment report concludes that the USQ process is generally effective and complies with 10 CFR 830.203.

During review activities, the ISMS Team noted that the TFC had requested and received approval for three Categorical Exclusions. TF-3851-D is a Categorical Exclusion to allow procedures to be revised to incorporate DOE safety basis changes. TF-03-3852-D is a Categorical Exclusion for labeling activities and corresponding changes to non-safety basis documents to update SSC identification information. TF-03-3850-D is a Categorical Exclusion for specific types of Engineering Change Notice (ECNs) changes and supporting documents. The ORP Safety Evaluation Report (SER) forwarding approval of these Categorical Exclusions provides the following evaluation for TF-03-3850-D:

> "Changes to drawings and supporting documents subject to the Engineering Change Notice (ECN) process generally require USQ evaluation consistent with TFC-ENG-SB-C-03, *Unreviewed Safety Question Process*. USQDs are required for changes to a nuclear facility that alter a structures, systems, and components (SSC) design, function, or method of performance as described in existing safety analyses by, text, drawing, or other information relied upon as the SB. Certain changes processed via the ECNs, however, do not meet these criteria. Changes to drawings and supporting documents made via the ECN process that can be categorically excluded from the USQ process are those that only:
>
> 1. Revise the document to incorporate non-technical information (i.e., not related to the integrity of design), such as, but not limited to: engineering work scope; task descriptions; deliverables; responsibilities; work schedules; cost estimates; organizational names and codes; or personal names.
>
> 2. Revise the document(s) to incorporate outstanding ECNs issues against the document(s). The ECNs being incorporated must have been previously subjected to the USQ process. (Note: USQ Applicability Assessment Section 1, Questions #2 may apply for individual ECNs.)
>
> 3. Update the document to add or update traceability references to drawings or supporting design documentation.
>
> 4. Revise the document to add supplementary information (i.e., notes, symbols, units of measure, views, details, figures, tables) relating to any existing item in the document (provided meaning or intent is not changed).
>
> 5. Revise the document to change any item associated with prototypical or developmental equipment that will not be used in the facility.
>
> 6. Revise the document to change equipment design/analysis details prior to release of the equipment design for facility/SSC modification or facility installation. (Note this categorical exclusion does not apply to drawings H-14-104175, Waste Transfer Piping Diagram 200 East Area, and H-14-104176, Waste Transfer Piping Diagram 200 West Area."

The ORP ISMS Team evaluated USQD TF-03-3850-D Revision 0 for application under the USQ procedure for the Documented Safety Analysis (DSA) and finds that it meets the criteria as described in Reference 1 and that the changes described can be Categorically Excluded from the 10 CFR 830.203 process.

The ISMS Team discussed this Categorical Exclusion with the Director of Nuclear Safety and Licensing. The Exclusion was approved in October 2003 and remained in effect until July of 2004. On July 29, 2004, the ECN procedure was revised to eliminate the practice of deferring USQ evaluations on ECNs. In September 2004, the TFC conducted a Management Observation Program (MOP) assessment to verify that USQ evaluations were being performed satisfactorily on ECNs rather than deferring to the USQ evaluations to be performed on the corresponding work packages. The assessment found that in a significant number of cases evaluators inappropriately took credit for the Categorical Exclusion which, in effect, circumvented the change to the ECN procedure which required each ECN to have a USQ evaluation. Based on the assessment results, the TFC took immediate corrective actions to ensure that affected ECNs received the appropriate USQ evaluation. During discussion of this issue, the ISMS Team was informed that the USQ evaluations are no longer performed on tank farm work packages. The rationale provided for this approach was that the USQ process is intended to evaluate changes in procedure or conditions that may affect the DSA and that TFC work packages are not designed to affect this type of change.

Following this discussion, the ISMS Team revisited the TFC USQ process procedure to further understand the technical basis for excluding work packages from USQ evaluations. No specific guidance or procedural steps are documented within the procedure with reference to the practice of excluding work packages. The ISMS Team also consulted with ORP safety basis personnel to gain an understanding of the regulatory perspective on this subject. The discussion revealed that the TFC approach had been communicated, but that no official ORP position had been established as to its adequacy. Further, as of the date of this review the TFC had not submitted a request for Categorical Exclusion of work packages from the 10 CFR 830.203 process. The impact of this approach could not be fully evaluated during this review. Consequently, the ISMS Team believes that the bases for excluding TFC work packages from the USQ screening process should be documented by Categorical Exclusion **(Observation SB-2-O-1).**

Conclusion

The criteria for this objective were partially met.

Strengths

None

Findings

SB-2-F-1 A vulnerability exists in that some USQ evaluations are prepared without consideration of ORP approved safety basis amendments that have not yet been implemented by the TFC.

Observations

SB-2-O-1 The bases for excluding TFC work packages from the USQ screening process should be documented by Categorical Exclusion.

Review Form – SB-3

Objective

SB-3: Contractor procedures ensure that contractor personnel responsible for analyzing the hazards and developing, reviewing, or implementing the controls, have competence that is commensurate with their responsibilities. Personnel shall possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities.

Criteria

1. Contractor procedures have clearly defined roles and responsibilities for personnel assigned to oversee, review, approve the analysis of hazards, and establish controls associated with facilities and activities.

2. Contractor procedures require that personnel responsible for analyzing hazards and identification of adequate controls have competence that is commensurate with their responsibilities.

Documents Reviewed

- RPP-13033, *Tank Farms Documented Safety Analysis*
- HNF-SD-WM-TSR-006, *Tank Farm Facility Technical Safety Requirements*
- HNF-15279, *242A Evaporator Technical safety Requirements*
- HNF-12125, *222-S Laboratory Technical Safety Requirements*
- DE-AC27-99RL14047, *Tank Farm Contract*
- RPP-15194, *River Protection Project Authorization Agreement between the U.S. Department of Energy, Office of River Protection and CH2M HILL Hanford Group, Inc.*
- TFC-PLN-32, *Safety Management Programs*
- RPP-MP-003, *ISMS System Description*
- HNF-SD-MP-SRID-001, *Tank Farm Contractor Standards/Requirements Identification Document*
- HNF-IP-1266, *Tank Farms Operations Administrative Controls*
- TFC-CHARTER-33, *Safety Basis Change review Board Charter,*
- TFC-ENG-SB-C-03, *Unreviewed Safety Question Process*
- TFC-BSM-TQ-STD-09, *Unreviewed Safety Question Qualification Process*
- TFC-OPS-OPER-C-24, *Occurrence Reporting and Processing of Operations Information*
- 03-TED-110, *DOE Safety Evaluation Report for the Tank Farms Unreviewed Safety Question Process Categorical Exclusions for the Documented Safety Analysis*
- FY-2003-CH2M-I-0155, *CH2M HILL Hanford Group, Inc. Assessment report for Executive-Level Independent Assessment of the Implementation of the Documented Safety Analysis,* dated August/September 2003
- DOE G 424.1-1, *Implementation Guide for Use in Addressing Unreviewed Safety Question Requirements*
- Review Report, *Review of tank Farms Technical Safety Requirement Implementation,* dated June 2005
- FY2005-CHM2-1-0009, *Independent Assessment of CH2M HILL Integrated Safety Management System, Final Report*
- TFC-ENG-SB-C-01, *Safety Basis Documents Change and Maintenance*
- TFC-OPS-OPER-C-02, *Safety Basis Implementation Checklist Preparation, Review, and Approval*
- TFC-03-3850-D, *Categorical Exclusion for Specific Types of Engineering Change Notice Changes to Drawing and Supporting Documents*

- TFC-03-3851-D, *Categorical Exclusion for to Allow Procedures to be Revised to Incorporate the U.S. Department of Energy-Approved Safety Basis Changes*
- TFC-03-3852-D, *Categorical Exclusion for Labeling Activities and Corresponding Changes to Non-Safety basis Documents to Update Structures, Systems of Components Identification Information*
- PER-2005-2058, Problem Evaluation Request
- PER-2005-1934, Problem Evaluation Request
- PER-2005-2037, Problem Evaluation Request
- PER-2005-2039, Problem Evaluation Request
- PER-2005-2049, Problem Evaluation Request
- Tank Farm USQ Evaluator Qualification Records (4)

Interviews Conducted

- TFC Director, Nuclear Safety and Licensing
- TFC USQ Coordinator
- TFC USQ Reviewers (4)
- TFC System Engineers (4)
- TFC Safety Specialists (2)
- TFC Director, for Safe Work Environment
- TFC Field Work Supervisors (15)
- DOE ORP Director, Tank Farms Engineering Division
- DOE ORP Nuclear Safety Analysts, (2)

Observations of Work

- Safety Basis Change Review Board (SBCRB) Meeting
- Executive Safety Review Board (ESRB) Meeting
- Safety Basis Change Docketing Meeting

Discussion

TFC procedures describe the responsibilities for Nuclear Safety and Licensing Program definition, implementation, and oversight. The Nuclear Safety and Licensing organization: 1) provides direction on nuclear safety-related matters; 2) develops and maintains nuclear safety (excluding criticality safety) policies, procedures, guides, and instructions; and 3) interfaces with ORP on nuclear safety documents (including Documented Safety Analyses (DSAs), Technical Safety Requirements (TSRs), positive Unreviewed Safety Questions (USQs), etc.).

TFC personnel assigned to analyze worker safety and health hazards meet DOE Order 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees*, requirements. Procedure TFC-BSM-TQ-STD-09, *Unreviewed Safety Question Qualification Process*, defines the roles and responsibilities for personnel developing and reviewing hazards analysis and controls, and it establishes the training and qualifications for personnel holding these positions. The TFC has developed a training implementation matrix that identifies the required training for nuclear safety analysts and the USQ process personnel. The matrix identifies the source requirements, including applicable codes and standards, as well as TFC references. For example, TFC Course #350935 *Tank Farm USQ Evaluator Training*, TFC Course #350945, *Tank Farm USQ Applicability Assessor Qualification Card*, TFC Course #305936, *Tank Farm USQ Evaluator Requalification Training*. The TFC Nuclear Safety and Licensing staff and several USQ Evaluators were interviewed, and all of those interviewed were found to meet or exceed the requirements of the governing procedure, and that they possess the requisite knowledge and experience to sufficiently carry out their nuclear safety responsibilities. A sample of

qualification records was reviewed and found to contain adequate documentation of their qualifications, including requalification requirements.

The ISMS Team obtained a list of qualified USQ preparers and reviewers, and reviewed the qualification records for several of the personnel on the list. Each of the records reviewed supplied sufficient evidence regarding the associated training and/or experience required for performing USQDs in accordance with TFC procedures. Some of those on the list were also interviewed, and it was apparent they possessed the requisite knowledge and/or experience.

Field Work Supervisors have been assigned and qualified to manage all work at nuclear facilities operated by the TFC. Roles and responsibilities for Field Work Supervisors are clearly defined and include the following, incorporation of ISM principles into work activities, work authorization authority, identification of hazards, and development of hazard controls. The ISMS Team interviewed several of Field Work Supervisors and work crews during observations of work activities and each was found to be very knowledgeable, and actively involved in daily identifications of work hazards.

Conclusion

The criteria for this objective were met.

Strengths

None

Findings

None

Observations

None

Review Form – WP-1

Objective

WP-1: Work Control Program Documentation: The contractor has developed an effective work planning and control process.

Criteria

1. Contractor work control manual/procedure for initiating, analyzing, and developing work control documents is approved and implemented.

2. The contractor's work control process establishes the level of review and approval for different types of work control documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work activity.

3. The contractor has established work planning/control requirements for all personnel performing work at their site, including sub-contractors. Affected personnel are trained on these requirements.

4. The contractor's work control manual/procedure includes turnover requirements when line management and/or first line supervisor responsibilities are transferred.

5. The contractor's work control manual/procedure includes a process for lessons learned/feedback during the execution of work control activities, including incorporation of lessons learned into active and in-development work control documents and/or the work control manual/procedure.

6. The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or the work control manual/procedure.

7. The qualification requirements for Work Control Managers and Planners are established.

8. Records that document the successful completion of Work Control Managers and Planners qualification are retained and auditable.

Documents Reviewed

- TFC-OPS-MAINT-C-01, Revision 1-1, *Tank Farm Contractor Work Control*
- Work Planner qualification card
- Work Planner qualification records
- 7K000-NJM-05-031, Final Event Investigation Report 2005-047, *"C Farm Personnel Contamination Event,"* dated October 10, 2005
- Management Observation Checklist *"Work Order 2W-04-00643/W,"* dated September 30, 2005
- Occurrence Report EM-RP-CHG-TANKFARM-2005-0041, *Personnel Contaminated Removing An Air Line From The Articulated Mast System*
- TFC-ESHQ-RP_ADM-C-11, *ALARA Joint Review Group*

Interviews Conducted

- TFC Vice President for Nuclear Operations
- TFC Work Planning Director
- TFC Closure Operations "C" Farm Work Management Director
- TFC Closure Operations "S" Farm Work Management Director
- TFC Waste Feed Operations Work Management Director
- TFC Closure Operations Surveillance and Maintenance Senior Director
- TFC Closure Operations Surveillance and Maintenance Work Control Manager

Observations of Work (if applicable)

- N/A

Discussion of Results

TFC-OPS-MAINT-C-01, Rev I-1, *Tank Farm Contractor Work Control*, was reviewed to verify that the procedure contains the necessary attributes of an effective work control program. The procedure has been formally approved and the latest revision was effective on September 12, 2005. The procedure adequately delineates the roles and responsibilities of all personnel involved in the work control program from the beginning of the planning process to the completion of work, including post-job reviews. The procedure establishes a satisfactory methodology to determine the required level of hazard analysis and work planning, approval, and authorization based on work activity risk, complexity, and effect on safety systems.

The major phases of the Tank Farm work control program are scoping, walkdowns, job hazard analysis, team planning meeting, final walkdown, and post-job review. With the exception of scoping, workers are expected to be involved in each phase, although the only time the workers who will perform the work are required to be involved in the planning process is during the final walkdown. Workers perform the final walkdown to verify they understand and can follow the approved work instructions during performance of the planned work. A post-job review is to be completed both at the end of work each day and at the completion of field work. The procedure provides some direction on what work planners should do with this feedback, and how to incorporate lessons learned and feedback from previous activities into work package(s) being planned. However, based on interviews and document reviews, this process is inadequately defined to ensure consistent implementation across the TFC organization **(Observation WP-4-O-1)**.

While the procedure adequately defines the process to plan and conduct work, it does not provide requirements for the transfer of responsibility (for turnover) of line management and/or first line supervisors during a work activity. First Line Supervisors perform informal turnover when possible prior to transferring responsibility. If the previous supervisor is not available, the on-coming supervisor reviews the work package and performs a walkdown of the work area prior to performing the work. This informal process was discussed with the Work Planning Director who, while agreeing in principle with the approaches being taken, felt the turnover process should be formalized. He agreed to include a formal turnover process in the next revision to the Tank Farm Work Control procedure. While not a part of the turnover process, for high risk work at the Tank Farms, all first line supervisors for a particular high risk activity are required to be approved by the Joint Review Group according to TFC-ESHQ-RP_ADM-C-11, *ALARA Joint Review Group*.

The Qualification Cards and Records for Tank Farm Work Planners and Lead Planners were reviewed. The TFC has made an extensive effort to retrain and re-qualify planners on the work control process, job hazard analysis methods, and other planning-related functions of their job. The Contractor provided records showing that 50 of 51 planners were re-qualified early in Fiscal Year (FY) 2005; however, it should be noted that a recent reduction

in force resulted in the loss of a significant number of these planners. Training and qualification records for four current planners were reviewed and found to be complete.

The ISMS Team reviewed the investigation report for a recent personnel contamination event associated with the "C" Farm C-200 Series Tanks Retrieval Project, which resulted in six personnel with skin contamination. This Project is completed in three phases for each of the four C-200 Series tanks: Articulated Mast System (AMS) connection, tank retrieval operations, and AMS disconnection. The ISMS Team determined that the Project's hazard analysis was not performed with adequate detail from an overall project perspective (including going from a maintenance/install mode, to an operational/retrieval mode, and back to a maintenance/disconnect/reconnect mode) **(Finding WP-1-F-1)**. In addition, the TFC identified and the ISMS Team noted that turnover between the different operating and field crews from phase-to-phase was not completed, the work crew performing retrieval operations operated the system outside of normal parameters, work instructions were unclear, and the crews performing the connection and disconnection work did not have an adequate understanding of system operation. The combination of these issues resulted in a contaminated air line, the disconnection crew not knowing the air line was pressurized leading to the contamination release and skin contaminations, and the declaration of a Potential Inadequacy in the Documented Safety Analysis (PISA). Corrective actions have been taken by the TFC to address radiological operations personnel performance, but no actions have been taken to address the conduct of operations or work control issues (although the TFC had not yet completed a root cause analysis for the event) **(Observation FI-2-O-2 example)**.

Conclusion

The criteria for this objective were partially met.

The ISMS Team concluded that the contractor's work control procedure provides adequate instruction to line management, work planners, subject matter experts, and Tank Farm workers for the development of work instructions. Including formal turnover requirements in the work control procedure will address a vulnerability identified in the TFC process. The hazard analysis and work control issues associated with the C-200 contamination event are based on planning the work as three separate activities, not as a single, integrated project. Specifically, the TFC project hazard analysis did not evaluate hazards throughout the project life-cycle, including detailed analysis of the hazards associated with equipment disconnect/reconnect when moving the retrieval system from tank to tank.

Findings

WP-1-F-1 Hazard analysis and work control process associated with the C-200 Series Tank Retrieval Project were less than adequate.

Observations

None

Strengths

None

Review Form – WP-2

Objective

WP-2: Work Planning and Control: Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

Criteria

1. Initial discussion/walkdown of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries are understood.

2. A team (Team) comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health SMEs, etc.) is selected by line management to participate in the development of the work control document. Workers are involved in job planning.

3. The Team performs effective walkdowns and Job Hazard Analyses in order to develop work steps/techniques and identify possible hazards and their associated controls.

4. The Team selects controls based upon the following hierarchy: (1) hazard elimination/reduction; (2) engineered controls; (3) administrative controls; and (4) personal protective equipment.

5. The Team ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction).

6. The Team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.

Documents Reviewed

- TFC-OPS-MAINT-C-01, Revision 1-1, *Tank Farm Contractor Work Control*
- TFC-ESHQ-S_SAF-C-02, Revision B-4, *Job Hazard Analysis*
- CLO-WO-05-001721, *241-C-201 Modify Lines to R6*
- CLO-WO-05-001919, *241-S-112 Install Remote Water Lance*
- TF-SJHA-0425, *Supplemental Tank Farms Job Hazard Analysis-Respiratory Protection*
- TF-SJHA-0341, *Tank Closure Projects-JHA supports verbal direction/RWR/Minor Planned Work Packages*
- CLO-WO-05-001346, *Job Hazard Analysis*
- TF-SJHA-0001, *General Tank Farm Hazards (JHA)*

Interviews Conducted

- TFC Work Planning Director
- TFC Closure Operations "C" Farm Work Management Director
- TFC Closure Operations "S" Farm Work Management Director
- TFC Waste Feed Operations Work Management Director
- TFC Closure Operations Surveillance and Maintenance Senior Director
- S-112 Salt Mantis installation and operation planning team

- C-103 breather filter replacement planning team
- CLO-WO-05-001721, *241-C-201 Modify Lines to R6* planning team
- Work Planners (4)
- Hose-in-Hose Transfer Line (HIHTL) System Engineer
- Field Work Supervisors (3)
- Radiological Planner
- Environmental Compliance

Observations of Work

- Table top walkdown for C-103 breather filter replacement
- Job Hazard Analysis for C-103 breather filter replacement
- Joint Review Group for radiological controls investigative survey procedure approval

Discussion of Results

The ISMS Team reviewed TFC-OPS-MAINT-C-01, *Tank Farm Contractor Work Control*, to verify that the procedure contains the necessary attributes to define and analyze proposed work activities in order to identify associated hazards and controls. The procedure establishes requirements for scoping proposed work activities and establishing a planning team to complete walkdowns and hazard analysis. The procedure adequately delineates the roles and responsibilities of all personnel involved in each of these activities. A critical component of the TFC work control program is early and continuous worker involvement in the planning process.

The ISMS Team also reviewed TFC- ESHQ-S_SAF-C-02, *Job Hazard Analysis*, for adequacy. The procedure established a process to determine if a job specific Job Hazard Analysis (JHA) needs to be generated for a proposed work activity or if the hazards and controls are addressed by an existing Standing JHA (SJHA). The TFC has identified the over reliance on SJHAs and is in the process of reducing their use. Specifically, the TFC has determined that there are too many SJHAs. The concern is that SJHAs may not adequately cover all hazards associated with a specific job. The TFC has also determined that job-specific JHAs are more appropriate in some cases. Once again, workers are involved early on and continuously through this process. The procedure directs subject matter experts (SME) involved in the JHA process to recommend to the work team controls based on the hierarchy of hazard elimination, engineered controls, administrative controls, and personal protective equipment. Based on interviews and document reviews, this requirement is being met. Additionally, interviews with workers confirmed that this procedural hierarchy of controls is generally used during JHA planning meetings. The procedure does not include provisions for evaluating the possibility of creating additional hazards due to selected controls nor the possibility of negative synergistic effects of selected controls. However, based on interviews and document reviews, additional hazards are sometimes identified based on the control set selected for some work activities. Additionally, TF-SJHA-0425, *Supplemental Tank Farms Job Hazard Analysis-Respiratory Protection*, was developed to address the hazards associated with respiratory protection. The ISMS Team identified a weakness with the JHA process. While common hazards to the worker are evaluated, upset conditions and "what-if" scenarios that may be associated with specific work activities are not **(Observation WP-2-O-1)**.

On October 13, 2005, the ISMS Team observed a tabletop walkdown and subsequent JHA conducted for the replacement of a breather high efficiency particulate air (HEPA) filter for tank 241-C-103. The filter had clogged earlier than anticipated, resulting in a condition that may limit or prevent airflow through the tank, thus creating a potential accumulation of flammable gases in the tank headspace. As a result, the system engineer stated that surveillance frequency had been increased to every six months from annually. The tabletop and JHA meetings were led by the lead planner for the activity. Participants in the meetings included the system engineer, quality assurance, radiological controls technicians and supervisors, millwright, two operators, two field work supervisors, industrial hygiene technician, and radiological planning. The team systematically identified the sub-

tasks associated with each task for the activity, associated hazards, and controls. The team also evaluated additional hazards associated with the identified controls. After the meetings were complete, ISMS Team members asked the system engineer if the greater than anticipated frequency of HEPA filter clogging had been screened for nuclear safety impacts. The system engineer did not know and contacted nuclear safety personnel. Nuclear safety personnel had not evaluated the condition, but started evaluations after the conversation. On October 14, 2005, a Potential Inadequacy in the Documented Safety Analysis (PISA) was declared due to the condition. The TFC does not evaluate work packages that do not result in an Engineering Change Notice through the Unreviewed Safety Question screening process. A screen of this activity by the TFC may have identified the issue.

The ISMS Team also completed interviews of personnel involved in planning for the S-112 Salt Mantis Project and the *241-C-201 Modify Lines to R6* work package (CLO-WO-05-001721). Workers for each activity had been active participants in the planning walkdown and JHA development. The Salt Mantis Project workers were in the process of completing mock-up training and were very knowledgeable in system operations. Once the system is installed in the field it will be operated by a subcontractor. The planning team has established a formal chain of command/turnover for this activity between the Salt Mantis Project and the subcontractor. Workers involved in the C-201 planning stated that they felt there would be value added from both a safety and efficiency perspective, if the workers who were involved in the planning process for high risk and/or high complexity work, are assigned to perform the work. This desire has been discussed with senior TFC management. The ISMS Team discussed the logistic difficulties in having the same personnel perform both the planning and execution of work for activities with the C-201 team. This led to a discussion regarding the TFC-OPS-MAINT-C-01, Rev. 1-1, *Tank Farm Contractor Work Control*, final walkdown process. The workers stated that they felt that such a walkdown was a great idea and wondered why they weren't performed as required **(Finding WP-4-F-1 example)**.

The ISMS Team observed a Joint Review Group (JRG) meeting conducted to approve a procedure governing radiological controls personnel performing investigative surveys. The JRG consisted of radiological, safety, engineering, and work control personnel. The JRG demonstrated a thorough review of the procedure and provided several value-added changes. Although the JRG concept is relatively new to the Tank Farms, its continued use should improve work control documents for workers' use in the field.

Conclusion

The criteria for this objective were partially met.

The TFC has established work planning and job hazard analysis processes that include worker involvement, but the job hazard analysis process does not evaluate upset condition(s) or "what-if" scenarios. Coupled with the decision to exclude work packages not including Engineering Change Notices from the Unreviewed Safety Question screening process, this weakness may result in non-conservative hazard analysis and control identification.

Findings

None

Observations

WP-2-O-1 The Job Hazard Analysis Process does not require the evaluation of upset conditions and "what-if" scenarios.

Strengths

None

Review Form – WP-3

Objective

WP-3: Work Planning and Control: The contractor work planning process results in work control documents that enable safe and efficient completion of work activities.

Criteria

1. The work scope and associated boundaries are clearly defined.
2. The work control document is written in a clear, concise, and worker friendly manner.
3. The work steps for activities are properly sequenced.
4. Work control documents adequately incorporate technical and administrative requirements (e.g., safety basis, regulatory, consensus codes, etc.,)
5. Work hazard controls identified in the Job Hazards Analysis (JHA) have been incorporated into the work control document.
6. The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.

Documents Reviewed

- 7W100-TLJ-05-004, *Work Planning Improvements and Job Hazard Analysis Management Assessment*, dated August 25, 2005
- 72200-EMJ-05-021, *Independent Assessment of the CH2M HILL Hanford Group, Inc. Integrated Safety Management System*, dated September 30, 2005
- WFO-WO-05-001097, *241-AP Valve Pit Assessment/Clean & Paint* (work package)
- CLO-WO-05-001241, *Disconnect/Reconnect Slurry Hose to C-201 Riser 6* (work package)
- PER-2004-5832
- *Discussion of Work Schedule Delays* memorandum, dated October 11, 2005
- *Task/JHA/Planning Process Flow* chart
- CLO-WO-05-001930, *241-C-103 POR008 Change Pre-Filter and HEPA Filters 1 & 2*
- 7W100-TLJ-05-004, *Work Planning Improvement and Job Hazard Analysis Management Assessment*, dated August 25, 2005
- TFC-OPS-MAINT-C-01, *Tank Farm Contractor Work Control*, Revision I-1, September 12, 2005
- ALARACT 6, 14
- *Expectations for the Implementation of the Integrated Safety Management System*, Revision 1, dated April 15, 2005
- Tank Farm Operations Daily Report
- TFC-ESHQ-RP_ADM-C-11, REV C-2, *ALARA Joint Review Group*, dated August 4, 2005
- TFC-ESHQ-S_SAF-C-02, REV B-4, *Job Hazard Analysis*, dated August 16, 2005
- TFC-OPS-MAINT-D-02, Rev A, *Work Planning Standing Instructions*, dated August 2, 2004
- A-6003-707, *Work Order Planning Checklist*

- DOE Order 5480.19, *Conduct of Operations Requirements*
- CLO-WO-05-001346, *Flush and Remove SX Hose-in-Hose Transfer Lines (HIHTL's)*
- CLO-WO-05-001346, *Job Hazard Analysis*
- Radiological Work Permit IS-616, *Perform High-Volume Flush, Removal of HIHTLs in SX-A Pit and Associated Tasks*
- ALARA Management Worksheet AW-0973, *Perform Flush and Remove HIHTL's on Tanks 241-SX-101, -102, -103, and -105 from SX-A Pit*
- CLO-WO-05-001721, *241-C-201 Modify Lines to R6*
- CLO-WO-05-001241, *241-C-202 Relocate Slurry Hoses to C-201*
- TF-SJHA-0425, *Supplemental Tank Farms Job Hazard Analysis-Respiratory Protection*
- TF-SJHA-0341, *Tank Closure Projects-JHA supports verbal direction/RWR/Minor Planned Work Packages*
- Radiological Work Permit CO-211, *241-C-200-Move Hoses from C-202 Riser #6. Move Slurry Hose from C-202 to C-201 Riser #7*
- ALARA Management Worksheet AW-0989, *241-C-200- Move Hoses from C-202 Riser #6 to C-201 Riser #6. Move Slurry Hoses from C-202 to C-201 Riser #7*

Interviews Conducted

- Tank Waste Services Operations Manager
- Field Work Supervisor (CO-9, ATS-3, WFO-3)
- Field Work Supervisor (Fluor Government Group, construction forces)
- Nuclear Chemical Operators (11)
- Radiological Control Technicians (7)
- Electricians (3)
- Shift Operations Manager (3)
- Industrial Hygiene Technician (1)
- Hanford Atomic Metal Trades Council (HAMTC) Safety Representatives (5)
- Work Planners (5)
- Closure Operations Maintenance Director
- Closure Operations Work Planning Lead (2)
- Waste Feed Operations Facility Radiological Control Supervisor
- Waste Feed Operations Component/System Engineer
- Pipefitter (1)
- Waste Feed Operations Safety Specialist
- Waste Feed Operations Industrial Hygiene Manager
- ORP Facility Representatives (8)
- Industrial Safety Manager
- Waste Feed Operations Work Management Director
- Senior Vice President of Nuclear Operations
- Vice President and Deputy of Nuclear Operations
- Work Planning Director (2)
- TFC Work Planning Director

Observations of Work

- AP Valve Pit Decontamination (WFO-WO-05-001097)
- Pre-job brief for core sampling equipment set-up at AW-103
- Pre-job brief for decontamination of AP Valve Pit (2)

- Meeting with Waste Feed Operations Radiological Control Technicians (RCT) regarding alpha exempt survey requirements
- Waste Feed Operations RCT Routines
- Morning work planning meetings for Waste Feed Operations (2)
- Morning work planning meeting for Sampling
- Morning worker brief for Waste Feed Operations RCTs
- Afternoon Plan of the Day meeting for Closure Operations (CO)
- Morning work planning meetings for Closure Operations (2)
- Move hoses from C-202 to C-201 (CLO-WO-05-001721)
- Pre-job brief for moving hoses from C-202 to C-201 (CLO-WO-05-001721)
- Post-job review for moving hoses from C-202 to C-201 (CLO-WO-05-001721)
- Remove Hose-in-Hose Transfer Lines (HIHTLs) from trenches with crane (CLO-WO-05-001346)
- Pre-job brief for removing HIHTLs from trenches (CLO-WO-05-001346)
- Post-job review for HIHTLs from trenches (CLO-WO-05-001346)
- Pre-job brief for relocating slurry hoses (CLO-WO-05-001241)

Discussion of Results

Contractor procedures and processes defined specific requirements for work control documents. These requirements were primarily contained in TFC-OPS-MAINT-C-01, *Tank Farm Contractor Work Control.* Additional guidance for the preparation of work orders was contained in Form A-6003-707, *Work Order Planning Checklist.* These documents prescribed the TFC process to ensure that work control documents enabled safe and efficient completion of work activities.

During the course of this Review, numerous work control documents were evaluated to determine their compliance with TFC procedural requirements, ISM guidance, and Conduct of Operations principles. The documents reviewed generally adhered to prescribed requirements. The work scope was clearly defined and the work instructions were written in a worker friendly manner.

Some deficiencies were identified with the documents reviewed, indicating inconsistent and incomplete implementation of the aforementioned requirements. Numerous instances were identified in the work documents and operating procedures where information provided in notes and the direction provided in process steps was ambiguous or vague, lending the procedure to interpretation by the Field Work Supervisor (FWS) or TFC operations. This was not consistent with the requirements of DOE Order 5480.19, *Conduct of Operations Requirements for DOE Facilities,* or the TFCs work control procedure for ensuring clearly stated actions **(Observation WP-3-O-1).** The following examples and discussion are provided:

a. TO-080-503, *Push Mode Sampling with Truck 1*, contains the following note:

> NOTE - All Steps within each Section must be performed in order. However, Sections 5.2 through 5.20 may be performed in any logical order or not at all as necessary to facilitate sampling.

Although this step was intended to allow a certain amount of operational flexibility during tank sampling evolutions, it is sufficiently vague to permit inconsistent sampling operations.

b. WS-04-00643, Move air, water, and hydraulic lines from C-202 Articulated Mast System (AMS) to C-201 AMS, contains the following notes and instructions:

NOTE - Ensure that hydraulic, air and water have been relieved of any pressures within lines.

Notes are not intended to contain action steps. Additionally, there was no means to verify the lines were depressurized or to depressurize the lines.

- Steps authorizing the completion of a task per FWS directions.

The use of this type of non-specific work instruction is an inappropriate work planning practice that can contribute to poor Conduct of Operations and work execution. Additionally, inadequate identification of specific tasks makes subsequent hazard analysis and control identification extremely difficult.

Work control documents adequately incorporated technical and administrative requirements, including safety basis requirements, environmental requirements, and other technical direction. It was noted in one case, where the technical requirement was made more restrictive in the work instruction than the actual requirement. WFO-WO-05-001097, *241-AP Valve Pit Assessment/Clean & Paint*, step 4.9.2.1 states that if contamination levels are <100,000 dpm/100 cm2 beta-gamma, then use of the portable exhauster is not required—this step was overly restrictive and did not reflect the actual ALARACT 14 requirement, which specifies "uniformly distributed removable contamination" limits. This deficiency was identified by the TFC and immediately corrected.

Hazard controls were properly delineated in the work documents reviewed in most cases. One example was identified where the controls were not specifically located at the prescribed part of the work instruction as required by TFC-OPS-MAINT-C-01, *Tank Farm Contractor Work Control*: heat stress controls were not incorporated into the precautions of work order CLO-WO-05-001346 as identified in the Job Hazard Analysis (JHA) for the work package.

Conclusion

The criteria for this objective were partially met.

The ISMS Team determined that work control documents and operating procedures were developed in a manner to enable safe and efficient completion of work activities. Work steps were properly sequenced, contained appropriate technical and administrative requirements, and were generally written in a clear, concise manner. Some deficiencies were identified with work documents related to vague or ambiguous notes and work steps, and related to incorporation of JHA control placement in the work instructions.

Findings

None

Observations

WP-3-O-1 Some work instructions and operating procedures reviewed did not adhere to Conduct of Operations principles for ensuring clear, unambiguous direction.

Strengths

None

Review Form – WP-4

Objective

WP-4: Work Planning and Control Oversight: Contractor personnel perform work in accordance with approved work control documents.

Criteria

1. First line supervisors and workers are knowledgeable of their work control documents.

2. Operations work control authority reviews and authorizes all work control documents prior to commencement of work.

3. Effective pre-evolutionary briefings are performed.

4. First line supervisors and workers follow work control document instructions as written. If they cannot perform the work as written, or if unexpected conditions arise, workers and supervisors take conservative decisions to stop the work and follow the approved change control process to modify the work instructions. The bias is set on proving work activities are safe before proceeding, rather than proving them unsafe before halting.

5. First line supervisors and workers understand their stop work authority. Workers at any level can stop unsafe work or work during unexpected conditions. Individuals understand and demonstrate responsibility for safety. Safety and its ownership are apparent in everyone's actions and deeds.

6. Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.

7. Lessons learned/feedback is incorporated into active and in-development work control documents and/or the work control manual/procedure in a timely manner. Workers are actively involved in identification, planning, and improvement of work and work practices.

Documents Reviewed

- 7W100-TLJ-05-004, *Work Planning Improvements and Job Hazard Analysis Management Assessment*, dated August 25, 2005
- 72200-EMJ-05-021, *Independent Assessment of the CH2M HILL Hanford Group, Inc. Integrated Safety Management System*, dated September 30, 2005
- WFO-WO-05-001097, *241-AP Valve Pit Assessment/Clean & Paint* (work package)
- CLO-WO-05-001241, *Disconnect/Reconnect Slurry Hose to C-201 Riser 6* (work package)
- PER-2004-5832
- *Discussion of Work Schedule Delays* memorandum, dated October 11, 2005
- *Task/JHA/Planning Process Flow* chart
- CLO-WO-05-001930, *241-C-103 POR008 Change Pre-Filter and HEPA Filters 1 & 2*
- 7W100-TLJ-05-004, *Work Planning Improvement and Job Hazard Analysis Management Assessment*, dated August 25, 2005
- TFC-OPS-MAINT-C-01, *Tank Farm Contractor Work Control*, Revision I-1, dated September 12, 2005

- ALARACT 6, 14
- *Expectations for the Implementation of the Integrated Safety Management System*, Rev. 1, dated April 15, 2005
- Tank Farm Operations Daily Report
- TFC-ESHQ-RP_ADM-C-11, REV C-2, *ALARA Joint Review Group*, dated August 4, 2005
- TFC-ESHQ-S_SAF-C-02, REV B-4, *Job Hazard Analysis*, dated August 16, 2005
- TFC-OPS-MAINT-D-02, Rev A, *Work Planning Standing Instructions*, dated August 2, 2004
- A-6003-707, *Work Order Planning Checklist*
- DOE Order 5480.19, *Conduct of Operations Requirements*
- CLO-WO-05-001346, *Flush and Remove SX Hose-in-Hose Transfer Lines (HIHTL's)*
- CLO-WO-05-001346, *Job Hazard Analysis*
- Radiological Work Permit IS-616, *Perform High-Volume Flush, Removal of HIHTLs in SX-A Pit and Associated Tasks*
- ALARA Management Worksheet AW-0973, *Perform on Tanks 241-SX-101, -102, -103, and -105 from SX-A Pit Flush and Remove HIHTL's*
- CLO-WO-05-001721, *241-C-201 Modify Lines to R6*
- TF-SJHA-0425, *Supplemental Tank Farms Job Hazard Analysis-Respiratory Protection*
- TF-SJHA-0341, *Tank Closure Projects-JHA Supports Verbal Direction/RWR/Minor Planned Work Packages*
- Radiological Work Permit CO-211, *241-C-200-Move Hoses from C-202 Riser #6. Move Slurry Hose from C-202 to C-201 Riser #7*
- ALARA Management Worksheet AW-0989, *241-C-200- Move Hoses from C-202 Riser #6 to C-201 Riser #6. Move Slurry Hoses from C-202 to C-201 Riser #7*

Interviews Conducted

- Tank Waste Services Operations Manager
- Field Work Supervisor (CO-9, ATS-3, WFO-3)
- Field Work Supervisor (Fluor Government Group, construction forces)
- Nuclear Chemical Operators (11)
- Radiological Control Technicians (7)
- Electricians (3)
- Shift Operations Manager (3)
- Industrial Hygiene Technicians (1)
- Hanford Atomic Metal Trades Council (HAMTC) Safety Representatives (5)
- Work Planners (5)
- Closure Operations Maintenance Director
- Closure Operations Work Planning Lead (2)
- Waste Feed Operations (WFO) Facility Radiological Control Supervisor
- WFO Component/System Engineer
- Pipefitter (1)
- WFO Safety Specialist
- WFO Industrial Hygiene Manager
- ORP Facility Representatives (8)
- Industrial Safety Manager
- WFO Work Management Director
- Senior Vice President of Nuclear Operations
- Vice President and Deputy of Nuclear Operations
- Work Planning Director
- Closure Operations Shift Manager

Observations of Work (if applicable)

- Pre-job brief for core sampling equipment set-up at AW-103
- Pre-job brief for decontamination of AP Valve Pit (2)
- Meeting with WFO Radiological Control Technicians (RCTs) regarding alpha exempt survey requirements
- Work to decontaminate AP Valve Pit (WFO-WO-05-001097)
- Waste Feed Operations RCT Routines
- Morning work planning meetings for Waste Feed Operations (2)
- Morning work planning meeting for Sampling
- Morning worker brief for Waste Feed Operations RCTs
- Afternoon Plan of the Day meeting for Closure Operations
- Morning work planning meetings for Closure Operations (2)
- Move hoses from C-202 to C-201 (CLO-WO-05-001721)
- Pre-job brief for moving hoses from C-202 to C-201 (CLO-WO-05-001721)
- Post-job review for moving hoses from C-202 to C-201 (CLO-WO-05-001721)
- Remove Hose-in-Hose Transfer Lines (HIHTLs) from trenches with crane (CLO-WO-05-001346)
- Pre-job brief for removing HIHTLs from trenches (CLO-WO-05-001346)
- Post-job review for HIHTLs from trenches (CLO-WO-05-001346)
- Pre-job brief for relocating slurry hoses (CLO-WO-05-001241)

Discussion of Results

TFC supervisors and workers performed work in accordance with the approved work orders. During observation of several work activities, the ISMS Team determined that work packages were properly authorized by appropriate personnel, approved for work by the operations organizations, and were performed as written.

First line supervisors for the most part were very knowledgeable of their scope of work and the work packages. They understood the work instructions and were able to adequately convey the instructions to workers during the pre-job briefs. Additionally, the ISMS Team noted an enhancement to the existing work control process in the Waste Feed Operations (WFO) organization. Lead craft personnel in WFO assumed a strong leadership role in overseeing the development of planning packages, assembling the workforce for the work activity, ensuring work activity readiness, and working with the Field Work Supervisor to ensure that the workforce was ready to safely execute the work activity as scheduled. *This was noted as an efficiency improvement since the March 2005 Post-*Implementation Portion of the ISMS Validation Review (**Strength WP-4-S-1**).

During work observations and interviews, the ISMS Team identified that very few of the workers had been involved in the development (planning) of the work packages. This was consistent with a Finding during the October 2004 ISM Improvement Validation Review, which stated that "Worker involvement in work planning appears to be less than effective."

In response to the October 2004 Finding on worker involvement in work planning, the TFC instituted a final work package walkdown with the work team, prior to the pre-job brief, in order to ensure that the actual workers who performed the job understood the work package. In the March 2005 Post-Implementation Portion of the ISM Improvement Validation Review, the report stated that worker involvement in the pre-job walkdown was sufficient to ensure an understanding of the scope the work and safety-related information.

Based on interviews and document reviews, this final pre-job walkdown was not being performed by several organizations, contrary to the TFC work control procedure (**Finding WP-4-F-1**). Specifically, the Closure Operations and Waste Sampling organizations were not conducting pre-job walkdowns per the work control

procedure. WFO was conducting the required pre-job walkdowns, but only with representatives from the work disciplines, not the entire work team. Only the 222-S Laboratory and the construction group (Fluor Government Group) were performing the pre-job walkdowns according to the work control procedure requirements. The TFC has determined that it is not feasible to involve the entire work team in the work package development and planning process. Therefore, the final pre-job walkdown becomes a critical planning step to ensure the work team understands the scope of work and detailed work instructions. During an interview with some of the workers, the workers stated that they felt that such a walkdown was a great idea and wondered why it was not performed as required.

Several pre-job briefs were observed and were determined to be well-conducted. Supervisors were knowledgeable of the scope and content of the work packages and work instructions. Workers received an adequate briefing on their roles and responsibilities for the work. Workers were involved and actively participated in the briefings, including raising questions and discussing communications and logistics. Contingencies and possible abnormal conditions were discussed, along with emergency response actions and responsibilities.

The ISMS Team observed several work activities in the field. Based on these observations and based on interviews, the ISMS Team determined that TFC supervisors and workers follow work control document instructions as written. One instance was observed where the required personal protective equipment delineated in the Job Hazard Analysis (JHA) was not used (see discussion below). The ISMS Team also observed an instance where the work instructions were not consistent with (but more restrictive than) As Low as Reasonably Achievable Control Technology (ALARACT) 14 requirements. The TFC identified this inconsistency, and properly modified the work instructions prior to beginning that portion of the work.

The pre-job brief, execution of work, and post-job review for removing hose-in-hose transfer lines (HIHTLs) from trenches (CLO-WO-05-001346) were observed. During the pre-job brief, the Field Work Supervisor (FWS) reviewed the scope of the planned activities, specific tasks, and with one exception, the hazards and controls associated with the planned work. The FWS discussed the need to remove insulation from the hose once it was removed from the trenches, but did not discuss the use of knives to complete the task. While observing the workers prepare to remove insulation from the hoses, the ISMS Team noted that the workers were wearing surgeon gloves and carrying long, fixed blade knives. The ISMS Team asked an ORP Facility Representative if the workers should be wearing cut resistant gloves. The Facility Representative questioned the FWS who did not know. The FWS asked the workers who said leather gloves were not required. The FWS did not have the work package for the activity at the work site, thus could not verify if such a control existed. During subsequent review of the JHA at the change trailer, it was noted that for the work involving sharp objects, leather gloves or equivalent were required when handling sharp objects and that workers were to use retractable type knives **(Finding WP-4-F-2)**. This was addressed by the FWS at the post-job review. Of the approximately 25 workers performing this activity, none had been involved in the planning process and approximately forty percent had completed a final walkdown.

The pre-job brief, execution of work, and post-job review for moving hoses from Tank 241-C-202 to Tank 241-C-201 (CLO-WO-05-001721) were observed. The FWS adequately covered the scope of the day's activities, associated hazards and controls, and personnel roles during the pre-job brief. Work activities were performed per work package instructions, but field conditions did not provide for efficient work. A scaffold and hoses in the work area provided ergonomic hazards for the workers. Additionally, due to elevated contamination levels in the glove bag, extensive decontamination was required. Between the ergonomic and contamination issues, the work took longer than anticipated and the work crew ran out of air bottles. Workers had to wait in a tent while additional bottles were found. This was appropriately addressed by one of the workers at the post-job review. Only one of the approximately 20 workers performing the work had been a member of the planning team for the work, and none of the workers had performed a final walkdown per the requirements of TFC-OPS-MAINT-C01, *Tank Farm Contractor Work Control.*

The pre-job brief and execution of work for decontamination of the AP Valve Pit (WFO-WO-05-001097) were observed. At the pre-job brief, out of 20 workers, only two nuclear chemical operators from the work crew had been involved in the work planning activities (in addition to the FWS). Review of the work package indicated that a walkdown was performed prior to the pre-job brief, but included only representatives from each work discipline, and not the entire work team. The pre-job brief was thorough, covered applicable hazards and controls, and involved the workers. The work was executed as planned with no upset conditions.

The pre-job brief for relocating slurry hoses (CLO-WO-05-001241) was observed. The FWS adequately discussed the planned scope, hazards, controls, and a recent pen and ink change to the work package. This work was not performed as scheduled in the morning due to an issue with a driver's air line.

The ISMS Team interviewed one Closure Operations Shift Manager. During the interview, the Shift Manager demonstrated adequate knowledge of the Tank Farm Documented Safety Analysis Technical Safety Requirements and his role in releasing new and existing work activities.

Personnel interviewed, including managers, supervisors, and workers, clearly understood their authority and responsibility to stop work for unsafe or unexpected conditions. Workers stated that they did not fear reprisal when raising safety issues or when exercising their stop work authority.

The ISMS Team observed several work activities in the field. Based on the observations and interviews, the ISMS Team determined that TFC supervisors and workers follow work control document instructions as written. One instance was observed where this was not the case. During the performance of work order WO-05-001346, workers did not follow the JHA controls for the use of personal protection equipment when using sharp tools (knives) **(Finding WP-4-F-2)**. The ISMS Team also observed an instance where the work instructions were not consistent with (but more restrictive than) ALARACT 14 requirements. In this case, the work instructions were properly modified prior to beginning that portion of the work.

Work control documents were also reviewed to ensure that adequate work documentation was recorded to describe the status of work progress and for response to unexpected conditions. The FWS adequately documented the requisite information in the work record. Although the ISMS Team determined that there is room for improvement in this area, no specific Findings or Observations were identified. Generally, FWSs should strive to ensure that the work record adequately documents the historical progression of the work activity. In addition, the work record is the critical tool to document work package feedback for use by the planner in future similar work packages.

The feedback element of the work control process was reviewed and observed. Workers interviewed by the ISMS Team stated that they were satisfied with the feedback function relative to the work planning and control process. They felt that their feedback was actively sought and used to improve the work processes. The ISMS Team observed consistent use of worker feedback by the FWS during work execution, making changes to the work instructions on a real-time basis when appropriate.

The ISMS Team reviewed the procedures and processes for the Lessons Learned Program and feedback associated with work planning and determined that these programs require improvement, and that use in work planning was not consistent **(Observation WP-4-O-1)**. Additional improvement is warranted in this area. The ISMS Team determined that the planners were not consistently acting upon the feedback provided in the work packages upon work completion, and not consistent in searching for available feedback when planning work packages. The TFC should evaluate the existing procedural requirements for use of Lessons Learned and worker feedback, evaluate existing processes used by planners to search for feedback when planning packages, and determine program enhancements to improve consistent use of worker feedback. (Note: Additional review

comments on the overall TFC Lessons Learned Program can be found in "Review Form – FI-2" of this Report; however, this Objective focuses on the use of Lessons Learned and feedback specific to the work control process).

Conclusion

The criteria for this objective were partially met.

Workers and supervisors performed work in accordance with approved work control documents. Some workers were involved in work planning. The ISMS Team determined that the final walkdown by the work team, prior to the pre-job brief, was not being conducted by some of the TFC organizations, contrary to the work control procedure. This was considered by TFC management to be a crucial element of the work control process. Additionally, one instance was identified where a control identified in the JHA was not implemented in the field. This indicated that more attention is needed in the implementation of JHA controls. The ISMS Team also identified that more attention is needed in the areas of Lessons Learned and worker feedback, to ensure that these valuable improvement mechanisms are consistently applied to effect continuous improvement to TFC processes and procedures.

Findings

WP-4-F-1 Several organizations were not conducting final pre-job walkdowns with the work team, contrary to the work control procedure.

WP-4-F-2 Workers performing insulation removal during performance of work order CLO-WO-05-001346 did not follow Job Hazard Analysis (JHA) controls for the use of the sharp objects.

Observations

WP-4-O-1 The Lessons Learned Program and work control feedback process require improvement.

Strengths

WP-4-S-1 Lead craft personnel in Waste Feed Operations (WFO) took an active role in work execution, significantly improving efficiency.

Review Form – WP.5

Objective

WP-5: Work Planning and Control Oversight: The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews active and in-development work control documents.

Criteria

1. The contractor has scheduled and performed independent and self-assessment of the work planning and control process. These activities are of sufficient scope, detail, and quantity that the contractor can ascertain the status of their work planning and control process.

2. Line Managers periodically perform surveillances which include the observations of job walkdowns and JHA walkdowns/meetings, pre-evolution briefings, and work performed to work control documents.

3. Line Managers periodically review in-development and approved work control documents.

4. The contractor tracks and trends the results of oversight activities performed on their work planning and control process and takes appropriate actions.

Documents Reviewed

- TFC-ESHQ-AP-C-01, Revision C-1, *Management Assessment,* dated May 31, 2005
- TFC-ESHQ-AP-C-02, Revision B-1, *Independent Assessments,* dated September 13, 2005
- TFC-ESHQ-AP-C-03, Revision A-9, *Management Observation Program,* dated August 19, 2005
- TFC-OPS-MAINT-C-01, Revision I-1, *Tank Farm Contractor Work Control,* dated September 12, 2005
- Interoffice memo from Work Planning to V. M. Pizzuto, *Work Planning Improvements and Job Hazard Analysis Management Assessment,* dated August 25, 2005
- Interoffice memo from Performance Assurance to D. I. Allen, *Transmittal of CH2M HILL Hanford Group, Inc. Mid-Point Assessment of Fiscal Year 2004 Integrated Safety Management System Corrective Action Plan,* dated December 21, 2004
- Interoffice Memo from Assessments to V. M. Pizzuto, "Independent Assessment of the CH2M Hill Hanford Group, Inc. Integrated Safety Management System," dated September 30, 2005
- Interoffice Memo from assessments to V. M. Pizzuto, March 1, 2005, "CH2M HILL Hanford Group, Inc. Midpoint Assessment of the Integrated Safety Management System Consolidated Corrective Action Plan
- Spreadsheet Table "Evaluation of Management Assessment Reports for [FY05] showing color-coded evaluation grades/scores for each management assessment
- Interoffice Memo from Closure Support to E. J. Millikin, July, 2005, subject: "Management Observation Program Report for June and July 2005"
- Interoffice Memo from WFO Support to E. J. Millikin, August 25, 2005, subject: "Waste Feed Operations Assessment Report for June and July 2005"
- Interoffice Memo from Work Planning to V. M. Pizzuto, August 25, 2005, subject: "Work Planning Improvements and Job Hazard Analysis Management Assessment"
- Interoffice Memo from Closure Work Planning to E. J. Millikin, April 15, 2005, subject: "Work Control Feedback Process Management Assessment"

- Interoffice Memo from Closure Support, July 22, 2005, subject: "Fiscal Year 2005 – Management Assessment Corrective Action Management-Drill Program Schedule Adherence/Drill Performance"
- Interoffice Memo from Waste Feed Operations Support to J. A. McDonald, March 7, 2005, subject: "Management Assessment Report for Fiscal Year 2005 – Waste Feed Operations-M-0137, Waste Feed Operations First Line Manager Effectiveness," with completed March 9, 2005
- Interoffice Memo from Engineering Services to R. S. Popielarczyk, June 28, 2005, subject: "Engineering Management Observation Program (MOP)
- Interoffice Memo from Engineering Services to R. S. Popielarczyk, August 18, 2005, subject: "Engineering Management Observation Program (MOP)
- Work Planning Director Management Observation on C-202 Contamination Event

Interviews Conducted

- TFC Assessment Manager
- TFC Assessment and Corrective Actions Manager (recently reassigned to position)
- TFC Closure Operations Deputy Executive Vice-President
- TFC Closure Operations Support Manager (Management Assessment Coordinator)
- TFC Engineering Services Vice-President Retrieval Operations Director
- TFC Environmental Health Director
- TFC Work Planning Director
- TFC Waste Feed Support Management Assessment coordinator
- HAMTC Safety Representative
- TFC Waste Feed Operations Executive Vice-President
- TFC Waste Feed Industrial Hygiene (IH) Manager
- TFC Waste Feed Senior Operations Director
- TFC Waste Feed Lead IH Technician
- TFC Waste Feed IH Technician
- TFC Closure Operations IH Technicians (2)
- TFC Closure Operations IH Manager

Observations of Work (if applicable)

- Job Hazard Analysis (JHA)/Table Top Review

Discussion of Results

The TFC has scheduled and performed independent and self-assessments regarding the work planning and control activities. Examples include management assessments conducted by the Work Planning Director and Closure Work Planning organization during FY 2005, and several independent assessments evaluating the effectiveness of the TFC Integrated Safety Management System. These assessments appeared to be effective in identifying areas needing improvement. See "Review Form – FI-1" on overall discussion of the TFC self-assessment program and "Review Form – FI-2" for discussion on corrective action effectiveness.

Line managers scheduled and performed numerous surveillances (management observations under the Management Observation Program or MOP) of field work activities and work packages. Many of the documented MOPs target observations of work planning activities, including job walkdowns, Job Hazard Analysis (JHA) and work package tabletop meetings, pre-job briefings, as well as work performance in the field. Based on interviews, managers are performing senior supervisory watch functions, including attending the pre-job briefing Joint Review Group meetings, and selected field observations. Industrial hygiene managers interviewed

noted that they periodically review work planning and work activities. There is evidence that managers are performing routine oversight by reviewing work packages being prepared and final work packages, and observing work performed in the field.

The TFC has performed some work performance tracking and trending through quarterly performance indicators. In the area of work execution readiness, some contractor managers are maintaining and monitoring, on a daily basis, performance indicators which contribute to work execution delays. Use of these performance metrics were used on a routine basis to improve efficiency and to effect changes to deficient aspects of the work control programs.

Conclusion

The criteria for this objective were met.

The TFC established and implemented procedures to ensure line management and assessment personnel perform timely oversight of the work planning and control process, and resulting work packages.

Findings

None.

Observations

None.

Strengths

None.

Review Form – HAZ.1

Objective

HAZ-1: Industrial Hygiene Occupational Exposure Assessment and Control of Tank Vapors: The contractor accurately identifies actual and potential occupational exposures to tank vapors and implements controls appropriate to the hazard.

Criteria

1. The contractor is making adequate progress in implementing corrective actions in response to the DOE Office of Independent Oversight and Performance Assurance (OA) investigation and follow-up OA review of worker exposures at the Hanford Tank Farm. The EM-1 approved corrective action plan is being tracked in EH CATS and accurately reflects status of corrective actions.

2. Facility-related tank vapor engineering controls (e.g., stack extensions, filtered ventilation, and remote venting of tanks) are in place or specific/funded project plans are in place for completion.

3. Work planning uses results of tank vapor headspace characterization and industrial hygiene occupational exposure assessments to implement hazard-appropriate controls.

4. Occupational Assessment/monitoring data is appropriately documented for occupational medical and future hazard analysis/work planning purposes.

Documents Reviewed

- TFC-PLN-43, Rev A-5, August 3, 2005, subject: "Tank Farm Contractor Health and Safety Plan"
- TFC-PLN-55, Rev A-1, April 15, 2005, subject: "Industrial Hygiene Safety Management Program Plan"
- TFC-PLN-76, Rev A, September 19, 2005, subject: "Project Management Plan for Resolution of the Tank Farm Vapor Issues
- TFC-ESHQ-S_IH-D-27, Rev A-1, August 22, 2005, subject: "Tank Vapor Source Monitoring"
- TFC-ESHQ-S_IH-CD-35, Rev A, February 8, 2005, subject; "Managing Air Monitoring Zones"
- TFC-ESHQ-IH-STD-03, Rev A, November 30, 2004, subject: "Exposure Monitoring, Reporting, and Records Management"
- TFC-BSM-TQ-STD-07, Rev B, February 10, 2005, subject: "Industrial Hygiene Technician Training and Qualification Requirements"
- "Vapor Solutions Project" schedules with Gantt chart, dated October 6 and 13, 2005
- Interoffice Memo from Mark W. Jones, Environmental Health to T. J. Anderson, October 3, 2005, subject: "EAS Implementation Plan"
- Tank Farm Industrial Hygiene database presentation handouts on Air Sampling Records Flow, Monitoring Records Flow, and IH Instrument Structure
- "Industrial Hygiene Chain of Custody and Laboratory Request" Form
- Interoffice Memo from Waste Feed Operations Industrial Hygiene to J. A. McDonald, August 1, 2005, subject: Waste Feed Operations Injury/Illness Analysis
- Letter from CH2M HILL Environmental Health Industrial Hygiene to (individual's name redacted for privacy reasons), July 19, 2005, subject: "Industrial Hygiene Monitoring Results" as well as 9 similar examples of communicating IH monitoring results to individuals monitored
- *Interoffice Memo from Closure Operations Industrial Hygiene to T. J. Anderson, September 1 2005, subject:* "BY-108 Breather Filter Stack Extension Installation Air Sample Results"

- Chemical Vapor Solutions Team Meeting Minutes for July 27, August 10 and October 5, 2005
- Memo from Glenn S. Podonsky, OA, to Roy J. Schepens, ORP Manager, August 10, 2005, subject: "Final Report- Office of Independent Oversight and Performance Assurance Follow-up Review of Worker Vapor Exposures and Occupational Medicine Program at the Hanford Site, June 2005"
- EH Corrective Action Tracking System for ORP/Hanford Site Tank Vapor Exposure Corrective Action Plan Status
- ORP Assessment Report, A-05-ESQ-TANK FARM-007, subject: Fiscal Year 2005 Review of CH2M HILL Hanford Group, Inc. Industrial Hygiene Program," April 25-29, 2005
- Briefing Charts "Contract Performance, July 2005, the TFC presented to HQ EM Senior Management
- Briefing Charts "Vapor Progress, PER-2003-3497/PER-2004-2193, End Point Assessments" with Vapor Timeline Chart
- Briefing Charts "Vapor Sampling Update," August 17, 2005
- Briefing Char "A-Prefix Sampling Summary," September 30, 2005
- Table "A-Prefix Sampling Summary – Status of Sampling Progress and Results," September 30, 2005
- Administrative Interface Agreement between CH2M HILL Hanford Group, Inc. and AdvanceMed Hanford for Information Transfer and Feedback on Exposure Potential, Medical Services and Medical Needs
- DOE Computerized Accident/Incident Reporting System (CAIRS) User Defined Search Report on TFC injury/illness data for FY05

Interviews Conducted

- ORP Tank Farms Project Assistant Manager
- ORP Director, Office of Environmental, Safety and Quality
- TFC Environmental Health Director
- TFC Environmental Science and Technology Vice-President
- TFC Closure Operations Deputy Executive Vice-President
- TFC Engineering Services Vice-President Retrieval Operations Director
- TFC Waste Feed Operations Executive Vice-President
- TFC Waste Feed Industrial Hygiene Manager
- TFC Waste Feed Senior Operations Director
- TFC Waste Feed Lead Industrial Hygiene (IH) Technician
- TFC Waste Feed IH Technician
- TFC Environmental Health IH Technician
- TFC Closure Operations IH Technicians (2)
- TFC Closure Operations IH Manager
- HAMTC Safety Representative

Observations of Work

- IH Instrumentation Issue Station

Discussion of Results

There has been much progress during the past year to address the technical challenges that need to be addressed in order to bring resolution to the tank vapor and industrial hygiene programmatic issues facing the TFC. The contractor has sampled tank headspace for chemicals of potential concern (COPC) and is finalizing the establishment of occupational exposure limits (OEL) for chemicals with no OELs recognized by the typical sources, such as the Occupational Safety and Health Administration, the American Conference of Governmental Industrial Hygienist, or the National Institute for Occupational Safety and Health. The TFC established an

independent toxicology panel to critique the technical basis for self-imposed OELs assigned to the COPC. In addition, progress has been made in the:

- Development of an Industrial Hygiene (IH) technical basis document and IH exposure monitoring strategy following DOE guidance;
- Establishment and implementation of improved IH technician training and qualification protocols;
- Improvement of sampling and monitoring technical protocols; and
- Development and management of a database.

While the Corrective Action Plan for the DOE OA tank vapor investigation has been completed as documented in the DOE Corrective Action Tracking System, the corrective actions were not sufficiently effective at the time of this review to rescind the mandatory use of supplied-air respirators (Self-Contained Breathing Apparatus or air line respirators) (SARs) for entry into the Tank Farms. The mandatory use of SARs was prompted by the potential for occupational exposures to nitrous oxide, elemental mercury, dimethyl mercury, and formaldehyde. While many of the technical components of functioning IH program have been established, the TFC believes there are some final technical basis updates required to address recent sampling and monitoring results prior to fully utilizing the improved IH program to characterize occupational exposures during work planning activities and establish data-driven hazard controls. Based on interviews, the ISMS Team found that ORP will not close the OA issues until ORP conducts an effectiveness review currently planned in early fiscal year (FY) 2006. The TFC has also scheduled an effectiveness review of the IH program for October-November 2005.

In June 2005, OA conducted a follow-up review to their FY04 investigation and indicated that corrective actions were well under way, but recommended a project plan be prepared to bring all the actions to complete and effective resolution. TFC-PLN-76, Rev A, *Project Management Plan for Resolution of Tank Farm Vapor Issues*, was established to address the OA recommendation. The project management plan outlines the path forward to phase out the mandatory use of SARs on a Tank Farm-by-Tank Farm basis, with the A-prefix Tank Farms being the first. The S-prefix and the C-prefix Tank Farms would follow using appropriate controls tailored for the level of hazard present, rather than default to mandatory use of SARs. TFC-PLN-76 indicates that the TFC will not stop the mandatory use of SARs in the A-prefix Tank Farms for non-waste intrusive work until October 2006. This long delay is due to a very conservative approach to the completion of planned IH technical basis activities. Tank Farm Vapor Resolution schedules provided to the ISMS Team indicate that removal of the mandatory use of SARS in the A-prefix Tank Farms may be as early as the second quarter of FY06. In addition, interviews with many TFC senior managers and IH professionals indicate that they are actually looking to "go off fresh air" in the A-prefix Tank Farm in January 2006, and has communicated this to workers at tailgate safety meetings. It is recommended that TFC-PLN-76 be updated to reflect the actual timing of the A-prefix Tank Farm milestone, based on planned activities that were completed in a shorter time than planned and/or planned activities that were completed in parallel, and that the TFC consider including these expectations in their ISMS annual performance objectives, performance measures, and commitments. The elimination of the mandatory SAR's use in the A-prefix Tank Farms is important to performing work safely/efficiently and ensuring controls are tailored to the hazards; an up-to-date, well communicated plan will help ensure all managers and workers understand the process and schedule.

Facility-related tank vapor engineering controls consisting of sealing tanks for vapor leaks and extending ventilation stacks were accomplished in FY04 and early FY05. Most of the leak paths have been sealed and ongoing maintenance is in progress; however, not all stack extensions have been completed as originally planned. While the potential for installation of a remote stack outside the C Tank Farm and completion of other stack extensions still exists, the decisions will be based on the final results of tank farm vapor characterization from the sampling and monitoring currently taking place. The TFC indicates that the tank vapor data taken after the initial installation of stack extensions indicate there may be no major benefit to raising the stacks in most cases. That is, the TFC is finding little or no exposures over the OELs regardless of stack height. Interviews with senior managers indicate that stack extensions are still a potential engineering control, but will be based on data analysis that shows such extensions would be effective in controlling at OEL action levels or higher.

Work planning activities do not currently rely on the tank vapor headspace characterization and IH occupational exposure assessment data to implement controls appropriate to the hazard, since the TFC is still requiring the mandatory use of SARs in the Tank Farms. The TFC has established the IH and work planning protocols, as well as the development of a new Tank Farm Industrial Hygiene database, to allow for occupational exposure assessment data to help identify IH hazards involved in work being planned, and to apply controls appropriate to the hazards identified. The TFC should verify the effectiveness of these protocols and use of database information in work planning, prior to discontinuing the use of SARs in the A-prefix Tank Farms.

The TFC developed an IH database to support the IH monitoring and sampling data analysis, occupational medical activities, and epidemiological analyses. The database developer/manager demonstrated the database for the ISMS Team. Notable features of the database includes documentation of IH equipment and calibration status, chain of custody for IH samples sent to the laboratory, the generation of field survey forms, direct data input into the database, the generation of electronic presentations of data, and quality control and oversight of data by lead IH personnel. The TFC has established an administrative interface document with AdvancedMed Hanford, the primary occupational medical services provider at the Hanford Site. This agreement provides AMH real-time access to worker exposure data for medical surveillance and occupational health diagnosis purposes. The database provides an excellent tool to make data-driven IH hazard control determinations **(Strength HAZ-1-S-1)**. The database is currently being enhanced to include documentation for workers included in "similarly exposed groups." "Similarly exposed groups" are predefined groups of individuals that do similar work activities; e.g., tank pit entry or breather filter replacement. The ability to capture personal air sampling results of a specific individual (normally the individual with the highest potential for exposure due to relationship to the hazard source), and correlate it with workers in the "similarly exposed group" is an important tool to: 1) evaluate future potential exposures during work planning activities; and 2) link industrial hygiene monitoring data to all workers for occupational medical surveillance and epidemiological purposes.

Conclusion

The criteria for this objective were met.

The TFC has made much progress in developing an IH technical basis and a comprehensive program to support final resolution of the tank vapor issues. The technical basis is being updated to reflect some recent sampling and monitoring data, and the TFC has a project management plan to incrementally (by A-prefix Tank Farms first, then S, and finally C Tank Farms) move away from the default, mandatory use of supplied-air respirators for entry into any Tank farm. In addition, the project plan will allow IH controls tailored to the actual hazards present in the work activity. The TFC project management plan should be updated, as necessary, to reflect actual status of accomplishing the plan milestones, and include the plan/milestones as part of their ISMS FY06 annual performance objectives, performance measures and objectives. This is an important safety and health initiative that can reduce the increase in injuries resulting from the use of supplied-air respirators and provide long-term resolution of the tank vapor issue; and the TFC should continue to place emphasis on this important initiative.

Findings

None.

Observations

None.

Strengths

HAZ-1-S-1 The Tank Farm Industrial Hygiene (IH) database provides an excellent tool to make data-driven IH hazard control determinations.

Review Form – FI.1

Objective

FI-1: Contractor Self-Assessments: The contractor uses self-assessment to evaluate performance at all levels to determine effectiveness of their Integrated Safety Management System.

Criteria

1. The contractor has established a self-assessment process. It includes guidance for both ongoing and periodic focused self-assessments.

2. The contractor has scheduled self-assessments that are of sufficient scope, detail, and quantity that the contractor can ascertain the status of their Integrated Safety Management System.

3. Self-assessments, which focus on hands-on work and the implementation of administrative processes, involve workers, supervisors, and managers to encourage identification and resolution of deficiencies at the lowest level practicable (e.g., workplace inspections and post-job reviews).

4. Each organization routinely conducts its own self-assessments of programs, processes, and performance. Leaders throughout the organization set an example for safety through their direct involvement in oversight activities and associated performance improvement.

5. Support organizations perform self-assessments of their performance and the adequacy of their processes.

6. Self-assessment results are documented commensurate with the significance of and risks associated with activities being evaluated and communicated to affected groups and individuals.

7. The contractor assesses the implementation and adequacy of their self-assessment process, including analysis of the collective results of lower-level self-assessments.

8. Personnel conducting self-assessments have the necessary expertise.

9. Self-assessments identify meaningful results and areas for improvement.

10. Leaders are in close contact with the front-line; leaders pay attention to real-time operational information. Maintaining operational awareness is a priority. Leaders identify critical performance elements and monitor these closely.

11. Independent oversight groups periodically evaluate programs, processes, and performance.

Documents Reviewed

- TFC-PLN-10, Rev B, April 1, 2005, *Assessment Program Plan*
- TFC-ESHQ-AP-C-01, Rev C-1, May 31, 2005, *Management Assessment*
- TFC-ESHQ-AP-C-02, Rev B-1, September 13, 2005, *Independent Assessments*
- TFC-ESHQ-AP-C-03, Rev A-9, August 19, 2005, *Management Observation Program*

- TFC-ESHQ-AP-D-05, Rev A, February 26, 2004, *Integrated Assessment Schedule Administration*
- "FY2006 CH2M HILL Integrated Assessment Schedule, Rev 1," dated October 6, 2005
- Table "Waste Feed Operations FY2006 Assessments (Integrated Schedule)" showing Proposed Management Assessment topic, manager assigned, month scheduled, and justification for selection
- Briefing Charts "Assessment Results" prepared for presentation to the Executive Safety Review Board scheduled for October 14, 2005
- Spreadsheet Table "Evaluation of Management Assessment Reports for [FY05] showing color-coded evaluation grades/scores for each management assessment
- Spreadsheets dated October 13, 2005, "FY2005 MA's Completed" showing assessment report number, title, team lead, month due, month completed, status, and type (55 Management Assessments were listed as completed; 5 were listed as not yet complete)
- Management Assessment Postponement or Cancellation Form (6 completed/signed by TFC Deputy General Manger)
- "ISMS Review Feedback and Improvement" CH2M HILL In-briefing presentation
- Interoffice Memo from Closure Support to E. J. Millikin, July, 2005, subject: "Management Observation Program Report for June and July 2005"
- Interoffice Memo from WFO Support to E. J. Millikin, August 25, 2005, subject: "Waste Feed Operations Assessment Report for June and July 2005"
- Interoffice Memo from Work Planning to V. M. Pizzuto, August 25, 2005, subject: "Work Planning Improvements and Job Hazard Analysis Management Assessment"
- Interoffice Memo from Closure Work Planning to E. J. Millikin, April 15, 2005, subject: "Work Control Feedback Process Management Assessment"
- Interoffice Memo from Closure Operations Maintenance to E. J. Millikin, May 10, 2005, subject: "Fiscal Year 2005 Management Assessment – Preventive Maintenance"
- Interoffice Memo from Closure Support to E.J. Millikin, August 25, 2005, subject: "Specialty Assessment – Closure Operations Government Vehicle Control and Access"
- Interoffice Memo from Closure Support to E. J. Millikin, June 29, 2005, subject: "Fiscal Year 2005-Management Assessment Corrective Action Management – ESTARS/PER Actions"
- Interoffice Memo from Closure Support, July 22, 2005, subject: "Fiscal Year 2005 – Management Assessment Corrective Action Management-Drill Program Schedule Adherence/Drill Performance"
- Interoffice Memo from Mission Analysis to M.R. Kenbel, March 30, 2005, subject: "Management Assessment on Waste Feed Operation On-The-Job Training, FY2005-WFO-M-0136," with completed Assessment Program Office Review Form dated April 12, 2005
- Interoffice Memo from Waste Feed Operations Support to J. A. McDonald, March 7, 2005, subject: "Management Assessment Report for Fiscal Year 2005 – Waste Feed Operations-M-0137, Waste Feed Operations First Line Manager Effectiveness," with completed March 9, 2005
- Interoffice Memo from Wasted Feed Operations Maintenance to C. E. Anderson, April 29, 2005, subject: "Management Assessment Report: FY2005-WFO-M-140, Waste Feed Operation Preventive Maintenance Program and Process Effectiveness," with completed Assessment Program Office Review Form dated March 4, 2005.
- Interoffice Memo from Waste Feed Operations to E. J. Milliken, May 31, 2005, subject: Fiscal Year 2005 – Management Assessment Report 'Records Management'," with completed Assessment Program Office Review Form (undated)
- Interoffice Memo from Engineering Services to R. S. Popielarczyk, June 28, 2005, subject: "Engineering Management Observation Program (MOP)
- Interoffice Memo from Engineering Services to R. S. Popielarczyk, August 18, 2005, subject: "Engineering Management Observation Program (MOP)

Interviews Conducted

- ORP Assistant Manager for Tank Farms
- TFC Assessment Manager
- TFC Lead Quality Assurance Assessor
- TFC Lessons-Learned Program Manager
- TFC Closure Operations Deputy Executive Vice-President
- TFC Closure Operations Support Manager (Management Assessment Coordinator)
- TFC Engineering Services Vice-President Retrieval Operations Director
- TFC Environmental Health Director
- TFC Waste Feed Support Management Assessment coordinator
- HAMTC Safety Representative
- TFC Environmental Science and Technology Vice-President
- TFC Assessment and Corrective Actions Manager (recently reassigned to position)
- TFC Waste Feed Operations Executive Vice-President
- TFC Waste Feed Industrial Hygiene Manager
- TFC Waste Feed Senior Operations Director
- TFC Waste Feed Lead Industrial Hygiene (IH) Technician
- TFC Waste Feed IH Technician
- TFC Environmental Health IH Technician
- TFC Closure Operations IH Technicians (2)
- TFC Closure Operations IH Manager

Observations of Work (if applicable)

N/A

Discussion of Results

The TFC developed a plan (TFC-PLN-10, *Assessment Program Plan*) that addresses the overall assessment program. In addition, procedures have been developed and implemented on the scheduling of assessments (TFC-ESHQ-AP-D-05, *Integrated Assessment Schedule Administration*), as well as the conduct of self-assessments through a management assessment program (TFC-ESHQ-AP-C-01, *Management Assessment*) and a management observation program (MOP) (TFC-ESHQ-AP-C-03, *Management Observation Program*). The TFC also has procedures for conducting assessments that target specific issues to complement the scheduled management assessments and MOPs. The TFC plans and procedures provide a solid foundation for scheduling, conducting, tracking assessment performance, and identifying opportunities for improving the conduct of their work activities.

In FY 2005, the TFC originally scheduled 65 management assessments, and added three later in the fiscal year. Of those 68 scheduled: 55 were completed mostly on schedule within the fiscal year; five management assessment reports were still pending at the time of the Review; and eight were cancelled with TFC Chief Operating Officer approval. The management assessments (including MOPs) appear to be of sufficient quantity, scope and detail to help managers understand their organization's performance and areas requiring improvement. Many of the self-assessment activities directly address one or more of the ISM core functions. Based on interviews with senior line management and a review of the FY06 Integrated Assessment Schedule, TFC management will be performing significantly fewer management assessments in FY06. The rationale for this reduction is that the management assessments will be larger in scope and cross all line organizations. TFC management is attempting to provide managers opportunities for cross training between line organizations, and ensure consistent application of company processes.

Each major TFC organization conducts and documents an analysis of all the MOPs occurring within a two-month timeframe, for a total of six rollup analyses per year. Bimonthly analyses are used as a performance tracking tool to ensure Management Observation Program (MOP) assessments are scheduled and completed as scheduled, and evaluate documentation of formal tracking of issues in the Problem Evaluation Request (PER) system. The rollup analyses were found to be effective in tracking MOPs and there was some evidence of trending and identification of recurring issues. Many MOPs are scheduled to review a topical area that is to be covered by an upcoming, more formal, management assessment. Several management assessment reports were found to include analysis of the results of these targeted MOPs and subsequent rollup analyses. Based on review of selected management assessment reports and MOP rollup reports, it appears that self-assessments are providing meaningful results that are useful to management to ensure continued improvement. For a review of the effectiveness of corrective action management of self-assessment activities, see "Review Form – FI-2."

Self-assessments were found to cover both administrative processes and the actual conduct of work. Based on interviews and a review of MOP reports, it appears that there is an effort to resolve deficiencies by managers taking direct action themselves and submitting a PER, when necessary, if determined important to track for trending purposes.

Each TFC organization proposes its own management assessment schedule for inclusion in an overall company annual integrated schedule, and assigns managers to lead and participate in the management assessments. Resulting management assessment reports are routinely provided to all line management and the Assessment Director, and the results are presented at Executive Safety Review Board meetings. The assessment procedure requires managers that conduct management and specialty assessments to be qualified. To participate in management assessments, managers must complete an online training module and participate in a 4-hour training course on assessment techniques. To lead an assessment, managers must complete the same training and an oral board with the Assessment Director. Through review of selected management assessment plans and final reports, documentation was found that indicates assessment team members and leads met the training and qualification requirements, with only a few not meeting the training requirements. The assessment organization also formally "grades" each management assessment plan and final report. A table was provided to the ISMS Team that summarizes the results of the formal evaluation (grading) of the assessment results. This table also showed that almost all team members were properly qualified by the procedure. The evaluation also looked at: assessment planning and preparation; assessment performance; assessment reporting; and the assessments' contribution to the organization's process improvement.

Through interviews with line managers, it was found that they maintain operational awareness of work activities through the MOPs, PER review, participation in event critiques, review or preparation of occurrence reporting, and attendance at safety, plan-of-the-day, and work planning meetings. One line organization reported that managers' schedules are planned to dedicate a day in the field each week. Many of the MOPs are used to evaluate actual training courses workers are receiving to ensure adequacy of training and that management policy is properly being communicated. Line management conducted periodic self-assessments of program effectiveness in their respective areas. The individuals were knowledgeable, experienced, and had the necessary expertise. Results of self-assessments were considered valuable by the line managers, and were used for continuous improvement.

In the area of work execution readiness, some managers maintained performance indicators and monitored, on a daily basis, factors which contributed to work execution delays. The performance metrics were used on a routine basis to improve efficiency and effect changes to deficient aspects of the work control programs.

Conclusion

The criteria for this objective were met.

The TFC has developed procedures for the conduct of formal self-assessment activities. The TFC conducted over 60 formal management assessments and hundreds of management observation program surveillances during FY05 in order to evaluate performance at all levels, including determine the effectiveness of the TFC ISMS. A FY06 assessment schedule has been developed with approximately 10-12 management assessments to be conducted during the fiscal year. While there are fewer scheduled formal management assessments, they will cut across and more fully evaluate all line and support organizations, provide cross-training opportunities between organizational lines, and promote a more consistent application of TFC policies and procedures.

Findings

None.

Observations

None.

Strengths

None.

Review Form – FI.2

Objective

FI.2: Improvement Mechanisms and Corrective Action Programs: Internal and external feedback mechanisms are integrated with Corrective Action programs to drive ISM program improvement.

Criteria

1. Management standards and expectations are explicit, well communicated, and permeate the organization.
   a. The management chain and workforce understand and are working to fulfill the expectations
   b. Management assessment processes measure performance against the expectations
   c. Executive management understands how well the expectations are being fulfilled

2. The organization actively and systematically monitors performance through multiple means, including management field observations; issue reporting, performance indicators, trend analysis, benchmarking, industry experience reviews, self-assessments, and performance assessments. Feedback from various means is integrated to create a full understanding.
   a. A high level of trust is established where management encourages employees at all levels in the organization to identify and report a broad range of problems; all information is valued. Employees who identify problems receive prompt feedback about corrective actions. Candid dialogue and debate and a healthy skepticism are encouraged when safety issues are being evaluated. Differing professional opinions are welcomed and respected. Robust discussion and constructive conflict are recognized as a natural result of diversity of expertise and experience. A variety of methods is available for personnel to raise safety issues, without fear of retribution.
   b. Management formally defines problem reporting criteria, the problem reporting system(s) to be used, the desired levels of problem evaluation, and the timeliness of corrective actions.
   c. New problems reported in the corrective action program are screened promptly for their effect on safety, reliability, operability and reportability, and are reported to management when appropriate. Incident reviews are conducted promptly to uncover lessons, learn from mistakes, determine compensatory measures (if needed), and to determine the full extent of the problem.
   d. Problems are evaluated commensurate with significance to determine the cause(s) based on a graded approach for both major and minor incidents. Any failure, no matter how small, is viewed as a window into the system that can spur learning.
   e. Trained individuals or teams conduct high quality root cause analyses; they evaluate significant problems using a formally defined process consisting of a structured root cause methodology to identify root and contributing causes and corrective actions to prevent recurrence.
   f. Performance Assurance is used constructively to strengthen safety and improve performance, and includes an appropriate mix of internal and external oversight reviews, reflecting an integrated and balanced approach. This balance is periodically reviewed and adjusted as needed.
   g. Information in lower tier performance observation or reporting programs is periodically assessed for trends needing additional evaluation or corrective action.
   h. Independent oversight evaluates the effectiveness of and makes recommendations on the corrective action program.
   i. The performance assurance program is formally defined, consists of robust, frequent, and independent oversight, conducted at all levels of the organization, and includes independent evaluation of performance indicators and trend analysis.

j. Knowledgeable, trained individuals conduct independent assessments as scheduled, communicate closely with those being assessed to help assure understanding of and ownership for results, and provide meaningful results to management for use in planning improvements in performance.

3. Vigorous corrective and improvement action programs are in place and effective. Rapid response to problems and closeout of issues ensures that small issues do not become large ones. Managers are actively involved to balance priorities to achieve timely resolutions.
   a. Management assures that corrective actions are approved, prioritized, and completed in a timely manner consistent with their significance.
   b. Problems and associated causes are trended to identify repeat occurrence, generic issues, and vulnerabilities at a low level before significant problems result. Recent occurrences and problem reports do not reveal significant recurring problems.
   c. Corrective actions designed to prevent recurrence of significant problems are checked for effectiveness.
   d. Management appropriately communicates results of internal independent oversight, DOE Facility Representative and other DOE programmatic reviews, and other external stakeholder (e.g., Defense Nuclear Facilities Safety Board [DNFSB]) reviews to affected groups and verifies that the Corrective Action Program is effectively and appropriately used for identification, prioritization, tracking, and resolution of associated issues.

4. ISM Improvement Validation issues and recommendations have been effectively resolved.
   a. Findings from the November 8, 2004, ISM Improvement Validation Report:
      - Finding 1 regarding worker involvement in work planning
      - Finding 2 regarding adequacy of Job Hazards Analyses (JHAs)
      - Finding 7 regarding adequacy of critiques
      - Finding 8 regarding level of knowledge in the practical application of radiological controls for ionizing radiation
   b. Recommendations from the March 28, 2005, ISM Improvement Validation Report regarding:
      - Assurance of readiness to proceed with work
      - effectiveness and timeliness of Problem Evaluation Request (PER) closure and sufficiency of PER closure feedback to affected employees
      - sufficiency of engineering and management oversight of work performance

5. Operating experience is highly valued, and the capacity to learn from experience is well developed. The organization regularly examines and learns from operating experiences, both internal and in related industries.

6. Senior executives are periodically briefed on results of oversight group activities to gain insights into facility safety performance (i.e., significant ORP and DNFSB staff review issues identified since January 2005).

7. Management uses lessons learned from both inside and outside their facility and organization to continuously improve performance and safety (with specific emphasis on lessons learned pertinent to Hanford tank farm activities that were associated with the Columbia Shuttle Accident, the Davis Besse reactor vessel head cladding degradation incident, and the 2004 Savannah River Site and Hanford fatalities).

Documents Reviewed

- ISMS Pre-validation Finding 1 *"Worker involvement in work planning appears to be less than adequate,"* PER 2004-5832, and associated closure documentation.
- ISMS Pre-validation Finding 2 *"Job Hazard Analyses reviewed do not provide a job-specific work step analysis of the hazards,"* PER 2004-5833, and associated closure documentation.

- ISMS Pre-validation Finding 7 *"Inadequacies identified in the critique of the CR Vault event were not formally identified, nor were corrective actions taken as a result of the poor critique,"* PER 2004-5838, and associated closure documentation.
- ISMS Pre-validation Finding 8 *"First line supervisors and their work crews demonstrated weaknesses in level of knowledge in the practical application of radiological controls for ionizing radiation (including fundamentals and limitations). Additionally some first line supervisors were unable to clearly articulate Conduct of Operations and ISMS attributes,"* PER 2004-5839, and associated closure documentation.
- Final Report FY2005-CH2M-I-0009, *Independent Assessment of CH2M HILL Integrated Safety Management System,* dated September 2005, and associated PERs 2005-3419, 2005-3420, and 2005-3421.
- Final Report FY2005-PP&C-M-0135, Management *Assessment of Work Planning Improvements and Job Hazard Analysis,* dated August 2005, and associated PERs 2005-3066, 2005-3067, and 2005-3069.
- Final Report, *End-Point Management Assessment of Problem Evaluation Request 2004-4057,* dated September 2005, and associated PER 2005-2946.
- Final Report FY2005-CH2M-I-0001, *Independent Assessment of CH2M HILL Radiological Records Program,* dated December 2004.
- Final Report FY2005-CH2M-I-0011, *Mid-Point Assessment of CH2M HILL Integrated Safety Management System Consolidated Corrective Action Plan,* dated January 2005, and associated PER 2005-0866.
- Final Report FY2005-CH2M-I-0002, *Quality Assurance Audit of the CH2M HILL Hanford Group, Inc. Project W-464 Office of Civilian Waste Management Program,* dated March 2005.
- Final Report FY2005-CO-M-0108, *Management Assessment Corrective Action Management ESTARS / PER Actions,* dated June 2005, and associated PERS 2005-2560.
- Final Report FY2005-PA-M-0159, *Management Assessment PER Process Assessment,* dated May 2005.
- Final Report FY2005-CH2M-I-0014, *Independent Assessment of CH2M HILL Occupational Injury and illness: Roles and Responsibilities of Management/Employees for Investigation and Follow-Through,* dated August 2005.
- Final Report FY2005-CH2M-I-0008, *Independent Assessment of CH2M HILL Hanford Group, Inc, Independent Assessment of Workers' Recognition of Workplace hazards and Controls,* dated August 2005.
- Final Report FY2005-CH2M-I-0013, *Independent Assessment of CH2M HILL Internal and External Dosimetry Programs,* dated June 2005.
- Management Observation Checklist from Tony Jennings dated 9/30/05 regarding work order 2W-04-00643/W
- FY 2006 TFC Integrated Assessment Schedule, Rev 1, dated October 6, 2005
- Final Event Investigation Report, EIR-2005-047, *C Farm Personnel Contamination Event,* dated October 10, 2005
- Conduct of Operations Mentoring Activities Mentoring Evaluation 12/04-09/05 and associated narrative information
- Conduct of Operations Mentoring Activities, Work Delays (Preventable) 05/05-09/05 and associated narrative information
- Metrics regarding work delays during April & May 2005, June& July 2005, August 2005, and September 2005, and associated narrative information
- PER Program Performance Indicators April 05 – September 05
- TFC Focus Issue 52, October 10, 2005
- DNFSB Hanford Site Representatives' Report of July 15, 2005 and related PER 2005-3491
- PER-2004-3383 discussing DNFSB concerns with errors in safety basis documents and process engineering
- Office of River Protection Tank Farm Facility Representative Weekly Report for the Week of August 22-25, 2005 and associated PERs 2005-3132, 3133, 3134, and 3135.
- Letter Edward S. Aromi (TFC) to R.J. Schepens (DOE) dated September 15, 2005, "Contract Number DE-AC27-99RL14047 – Integrated Environment, safety, and Health Management System Fiscal Year 2006 Declaration of Readiness
- TFC-Charter-32, Rev A-2, dated 9/22/05, *Executive Safety Review Board*

- TFC-PLN-32, Rev B-5, dated 10/06/05, *Tank Farm Contractor Safety Management Programs*
- TFC-PLN-10, Rev B, dated 4/15/05, *Assessment Program Plan*
- TFC-ESHQ-AP-C-01, Rev C-1, dated 05/31/05, *Management Assessment*
- TFC-ESHQ-AP-C-02, Rev B-1, dated 09/13/05, *Independent Assessments*
- TFC-ESHQ-Q_C-C-01, Rev B-14, dated 08/09/05, *Problem Evaluation Request*
- TFC-ESHQ-Q_ADM-C-11, Rev B-5, dated 08/15/05, *Root and Common Cause Analysis and Corrective Action Planning*
- TFC-ESHQ-Q_ADM-C-12, Rev A-4, dated 08/15/05, *Apparent cause Analysis and Corrective Action planning*
- TFC-ESHQ-Q_C-02, Rev B-1, dated 06/30/05, *PER Tracking Data and Trending analysis Program*
- TFC-OPS-OPER-C-28, Rev A-1, dated 04/01/05, *Lessons Learned*
- PER 2005-1582 dated 4/15/05, *Loss of Drill String*, and associated ESTARS
- PER 2005-2407 dated 6/9/05, C Farm *Contamination Event (C203-C202)*, and associated ESTARS
- PER 2005-3339 dated 9/21/05, C Farm *Contamination Event (C202-C201)*, and associated ESTARS
- PER 2005-3354 dated 9/21/05, *Inadequacies Identified During Operation of Decon Trailer*
- Procedure TO-080-503
- Critique reports 2005-047, 2005-036, and Loss of Drill String in Tank AY-102 Report for Causal Analysis
- ALARACT 2

Interviews Conducted

- HAMTC Representatives (4)
- Nuclear Operations Senior Vice President
- Performance Assurance Vice President
- Prior Assessment Director
- Prior Corrective Action Program Manager
- Assessment Program staff (2)
- Operations Mentors (2)
- Safety Health and Quality Director
- Executive Vice President and Chief Operating Officer
- Corrective Action Program staff (3)
- Nuclear Operations Technical Services Vice President
- Prior Safety Programs Senior Director
- First Line Supervisors (2)
- Electricians (2)
- Pipe-fitter (1)
- Instrument Technician (1)
- ATS Planner (1)
- ATS Manager (1)
- CO Planner (1)
- WFO Planners (2)
- ATS Field Work Supervisors (2)
- Operations Specialist (1)
- ATS RadCon Director
- WFO Support (1)
- RadCon Programs Director
- HPTs (8)
- IHTs (6)

Observations of Work

Executive Safety Review Board (ESRB) Meeting on October 14, 2005

Discussion of Results

Interviews with managers, supervisors and workers mostly revealed a detailed understanding of management expectations for the implementation of ISMS. These expectations were provided to the TFC staff in various ways, such as posters, employee briefings, and excerpts in the TFC Daily Operations Report and other presentation and communication channels. Personnel were observed to clearly understand their role in the safe execution of work, in applying the principles of ISM, and in being an active participant in fostering a safe work environment. Additionally, based on interviews, personnel were held accountable at all levels of the organization for adhering to these defined expectations. Limited exceptions were observed during interviews in which some personnel conveyed Integrated Safety Management (ISM) as one of the DOE imposed programs that get in the way of achieving efficiency in getting work done. This type of comment is indicative of the need for management to continuously reinforce ISM being embraced as a value.

One specific example was observed where management's expectations were not fully understood. As noted during assessment of the Work Planning criteria, several organizations were not conducting final pre-job walkdowns with the work team, contrary to the work control procedure and contrary to management's expectations. Other examples, however, were observed where management's expectations were well communicated, explicit, and fully understood. One communicated expectation involved "the need to assume that structures, systems and components (SSCs) that are in contact with radiological systems are radiologically contaminated until proven otherwise," and a second involved "appropriately specific scope definition and activity identification during planning to enable proper development of Job Hazard Analysis (JHA) controls at the activity level." Personnel interviews and observation of planning activities indicate that these expectations were appropriately understood by TFC staff.

The ISMS Team observed an Executive Safety Review Board (ESRB) meeting conducted on October 14, 2005. The agenda items included discussions on the "health" of two safety management programs: environmental management and waste management. The briefings presented to the ESRB on the "health" of these programs were well done and provided useful and candid information. Meaningful questions were posed by ESRB members, and expectations for improvement or clarification were clearly communicated to the program owners. The ISMS Team considers that the use of the ESRB is an excellent forum for senior management to understand the health of their safety management programs and communicate expectations regarding those programs **(Strength FI-2-S-1).**

Through interviews and review of procedures and assessment documentation, the TFC was observed to actively and systematically monitor performance through multiple means including management field observations, performance indicators and trend data, self-assessments, and independent assessments. Assessment planning was observed to be comprehensive and implemented. Also, assessment findings and key observations from assessments were, in most cases, identified to be carried through into the Corrective Action Program as Problem Evaluation Requests (PERs).

All levels of the organization were observed to be aware of the various means available to report problems. Management encouraged workers to identify problems, regardless of their severity, and actively sought such feedback from the workforce. Input was viewed as valuable by management and, with some limited exception, was actively pursued to ensure closure of the identified issues. The workforce was encouraged to identify and resolve issues at the lowest levels possible. Workers were observed to not be reticent to raise issues to management, did not have a fear of retaliation, and were involved in issue resolution. In most cases, feedback was provided to workers regarding the resolution of the identified issues. Based on interviews, evidence of

improvement in the level of trust between workers and management has been observed, with some limited exception. Regarding the reporting of injuries and unsafe conditions, this trust is corroborated by the number of first aid visits in fiscal year FY 2004 (244) and the number of PERs written in Calendar Year 2005 (4612) which cover a broad spectrum of significance levels.

Senior management was observed to participate in briefings of the results of oversight groups, such as this Team, and was observed to actively pursue understanding of oversight issues and their resolution. Management was also observed to be aware of select DOE and Defense Nuclear Facilities Safety Board (DNFSB) staff issues. DOE and DNFSB staff issues selected for review were ascertained to be identified in the TFC's Corrective Action Program.

Based on interviews and review of procedures, PERs, and associated investigation, causal analysis and closure documentation, rigorous corrective and improvement action programs were observed to be in place, and, with exception noted herein, observed to be effective. The PER program/process has a sufficient timeline for the screening of newly generated PERs and assignment to responsible managers. This is a three-part process that typically happens within approximately three days. Through this process a determination is made on which type of investigation and causal analysis (root cause or apparent cause) is required depending on the significance of the PER. This determination then feeds what type of investigation team with requisite qualifications is formed.

The ISMS Team selected four PERs for review: 1) PER 2005-1582 dated April 15, 2005, *Loss of Drill String*; 2) PER 2005-2407 dated June 9, 2005, *Contamination Event (C203-C202)*; 3) PER 2005-3339 dated September 21, 2005, *Contamination Event (C202-C201)*; and 4) PER 2005-3354 dated September 21, 2005, *Inadequacies Identified During Operation of Decon Trailer*. This set of incidents provided a variety of screening, investigation, and causal analyses techniques. The ISMS Team determined that investigation and causal analyses performed for these incidents followed procedural guidelines and that personnel involved were appropriately trained. However, investigation and causal analysis for the C-203 to C-202 contamination event was considered weak in that it did not appropriately address the lack of hazard analysis for upset conditions. Corrective actions are required to be derived from the causal analyses in order to prevent recurrence and are documented using "ESTARS" (Electronic Suspense Tracking and Routing System). Once actions are appropriately completed, the corrective actions and associated issues are documented to be closed. There were no ESTARS written for the Decon Trailer Operability incident (PER 2005-3354) since corrective action was taken as immediate action. Corrective actions for the C-203 to C-202 contamination event (PER 2005-2407) were documented using ESTARS and completed by the assigned due dates; however, the ISMS Team considers that they were not sufficient to prevent recurrence as evidenced by the subsequent C-202 to C-201 contamination incident. The ISMS Team considers that recurrence prevention might have been better assured if "the lack of hazard analysis for upset conditions" had been appropriately addressed **(Observation FI-2-O-1)**. Corrective actions identified for the Dropped Drill String incident (PER 2005-1582) were determined to be sufficient if appropriately implemented. One associated corrective action ESTAR CH2M-PER-2005-1583.1 was documented to be closed; however, review of procedure TO-080-503 revisions to incorporate this corrective action did not, in the ISMS Team's view, provide an appropriate level of detail "to consistently perform the evolution, including specific revisions to introduce a step in Section 5.17 requiring verification of foot clamp closure and a requirement for inclusion of a secondary restraint during removals" **(Observation FI-2-O-1 and FI-2-O-2 example)**.

For the incidents specifically reviewed, it appeared that the fact findings/critiques were thoroughly conducted in a timely manner. Examples of appropriate implementation of interim corrective actions were also observed. One example of timely immediate corrective action involved issuing a standing order (CO-05-011) to treat activities and associated equipment as radiologically contaminated when breaching tank farm systems. However, in this example, the ISMS Team observed that important Conduct of Operations issues were not addressed for immediate action. Another example of implementation of prompt corrective actions was observed in response to the 702 AZ Decon trailer incident. The management team responsible for this piece of equipment has corrected all known deficiencies and revised the procedure.

The ISMS Team evaluated the extent to which the TFC tracks and trends issues and issue resolution. The TFC was observed to track and trend PERs both internal (PER to PER) and external as a result of occurrence reports. This track and trend activity will trigger a "trend PER" if conditions exceed a designated management threshold. While the TFC does not credit this trending to prevent recurrence of incidents, it uses this activity to help detect potential for more significant events. The TFC was also observed to track and trend PER backlog average age and cycle time at closure. Performance data indicates that, since April 2005, the ESTARS backlog has been reduced from 1412 open tasks to 979 open tasks, average age has increased from 129 days to 153 days, but cycle time at closure has decreased from 130 days to 113 days.

The ISMS Team reviewed closure documentation associated with the following Findings from the November 8, 2004, ISM Improvement Validation Report:

- Finding 1 regarding worker involvement in work planning: Some deficiencies were identified with the TFC closure of this issue. Specifically, the TFC was not conducting the final pre-job walk down of the work site and work package instructions in accordance with procedural requirements **(Observation FI-2-O-2 example)**. Other specific details are provided in the "Review Form – WP-4," of this report. While feedback was observed to be provided during post-job reviews, the process to record and preserve this information, in the TFC's own documentation, was weak and generally ineffective. Specifically, a corrective action listed for the aforementioned Finding 1 was to conduct a management assessment of the effectiveness of the daily post-job review. This management assessment was performed and identified deficiencies in the process post-job review process. The corrective actions for resolving specific post-job review issues were captured in PERs 2004-4057 and 2005-0447; however, closure documentation for Finding 1 corrective actions did not reflect these PERs, thus giving an apparent false sense of adequate closure of the original issue **(Observation FI-2-O-2 example)**.

- Finding 2 regarding adequacy of Job Hazard Analysis (JHA): Actions included review and revision of the JHA procedure to use clear and understandable language and terminology. Additional actions were identified to select a model JHA as an example to use in the corrective action process, and to perform a management assessment of the actions' efficacy, subsequent to their implementation. A TFC's management observation found significant weaknesses in the revised process. There were six Findings, two Observations, and two noteworthy practices. It noted good understanding and willingness to use worker involvement in the hazard identification process and a good recognition of the value of using a JHA; however, it also identified a lack of understanding of how to define work in enough detail at the task level, for good hazard identification, a lack of understanding of job-specific job hazard analyses and how to align identified hazards to the task. Inconsistent application of procedure training and the need for more coaching were also identified as contributory deficiencies. In spite of the above, the issue was closed out. The management review mentioned above did create further corrective action in the form of 3 PERs and one internal memorandum which resulted in personnel training for hazard recognition, formulation of JHAs, and revisions to the JHA process. It is apparent that revision to the JHA process is currently in progress at this time, including the reduction of the number of Standing JHAs. Closure documentation for the aforementioned Finding 2 did not reflect these new PERs, thus giving an apparent false sense of adequate closure of the issue **(Observation FI-2-O-2 example)**. Similar to the discussion related to closure of Finding 1 above, when management assessments are performed to evaluate the effectiveness of corrective actions, and when those reviews result in significant related issues, then closure documentation of the management assessment issues should be included with the parent issue (in this case, Finding 1 and 2 corrective action/closure files). This provides a "cradle-to-grave" audit trail of the original issue, corrective actions, effectiveness evaluations, and subsequent corrective actions, if necessary.

- Finding 7 regarding adequacy of critiques: Seven ESTARS actions were established to initiate corrective action on this subject. The primary criticism of this matter was that too many people attended a critique, causing it to be less effective than it should have been. The Contractor revised the procedure describing a

critique activity, limiting the number of people in attendance, and defining the roles and responsibilities of each attendee. There were deletions and additions made to the procedure to improve its efficiency and efficacy. A flow chart was graphed for the investigation and critique process. This PER was closed on February 2, 2005. There was no evidence in the corrective action document as to how the effectiveness and efficacy of the revised process was established before closure of the PER. In discussion, management indicated that they intend to watch the effectiveness with which critiques are conducted and make corrections if needed.

- Finding 8 regarding level of knowledge in the practical application of radiological controls for ionizing radiation: Interviews with workers and supervisors revealed an improved understanding of radiological controls and instrumentation. Detailed discussions were observed regarding survey techniques, frequencies, and differentiation between the various types of ionizing radiation. Discussions were also observed between the workers and supervisors regarding expected radiation and contamination levels, including permit limits and contingency measures for unexpected high values.

The ISMS Team also reviewed closure actions associated with the following items noted in the March 28, 2005, ISM Improvement Validation Report:

- Assurance of readiness to proceed with work: The TFC was observed to have placed an emphasis on improving work activity readiness. Workers and supervisors understood management's expectations for ensuring readiness for work prior to and upon completion of the pre-job brief. As discussed in "Review Form – FI-1," some TFC organizations have developed and are tracking performance indicators for work delays and the causes for those work delays. Review of these performance indicators revealed that TFC efforts to improve work activity readiness were having a positive effect; however, additional-continued focus on this area appears to be warranted

- Effectiveness and timeliness of PER closure and sufficiency of PER closure feedback to affected employees: Through worker interviews it was concluded that, with some limited exception, the PER feedback loop has improved. Performance data indicates that, since April 2005, the ESTARS backlog has been reduced from 1412 open tasks to 979 open tasks, average age has increased from 129 days to 153 days, but cycle time at closure has decreased from 130 days to 113 days.

- Sufficiency of engineering and management oversight of work performance: The TFC has placed a sufficient priority on ensuring engineering and management presence in the field conducting work oversight. Interviews revealed that management has promulgated clear expectations for engineers and managers to provide field oversight of work. Workers stated that they frequently observe engineers and managers in the field during the performance of work (this was not the case for radiological engineers due to their few numbers). This is an improvement since the March 2005 ISMS Improvement Validation Review.

In summary, the following types of weaknesses were noted with closure of these issues **(Observation FI-2-O-2)**: Closure documentation was incomplete; in some cases, it did not contain reference(s) to additional PERs which were generated as actions to remediate issues identified in the original PER or did not adequately document the basis for closure. In this regard, a lack of complete documentation makes the audit trail unnecessarily complicated and may give an apparent false sense of adequate closure of the issue. In two cases, closure was indicated when field activities clearly contradicted that the key issues had been effectively resolved. These involved lack of pre-execution walkdowns by work groups who will perform the work and current weaknesses with JHAs.

Management was observed to use lessons learned from both inside and outside of their facility and organization to continuously improve performance and safety (including communication of results of external oversight reviews). TFC management puts forth an effort to convey Lessons Learned to the employees via bulletins, Lessons Learned corner in the Focus, as well as the most recent recordable injuries being briefed at the Presidents Accident Prevention Counsel, which encourages all area managers to then report the details to the workers. However, the ISMS Team found during interviews involving recent events, including the recent C-202 personnel contamination, C-203 personnel contamination, 702-AZ Decon trailer, and the Dropping of the Drill String, that the Lessons Learned Program is not adequate to assure that the workforce and organizations really learn from the lessons. When asked of their knowledge of the above four tank farm events, the majority of individuals interviewed indicated that they had heard of them but had no knowledge of the details **(Observation WP-4-O-1 example)**. The knowledge was observed to be somewhat higher when asked about two national events (Columbia Shuttle Accident and the Davis Besse reactor vessel head cladding degradation incident).

In addition, the ISMS Team observed weaknesses in recording and preserving post-job review comments from workers and support personnel. While Team members observed many comments being made during post-job reviews and observed someone recording the comments, attempts to obtain worker post-job comments from field management failed to elicit those comments. Rather than being able to always use comments from post-job reviews, planners, by their own admission during interviews, frequently rely entirely on their personal knowledge, worker input at the planning stage, and information gleaned during pre-job walkdowns. While the latter is commendable, leaving out the use of post-job worker comments seems to be a failure to use all available information in work planning, and creates the possibility that a previous lesson is not applied to a current situation **(Observation WP-4-O-1 example)**.

Conclusion

The criteria for this objective were met.

Findings

None

Observations

FI-2-O-1 Corrective actions of some recent events to prevent reoccurrence appear weak.

FI-2-O-2 Some closure packages were documented as closed when, in some cases, evidence in the work package or field suggested otherwise.

Strengths

FI-2-S-1 The use of the Executive Safety Review Board (ESRB) is an excellent forum for senior management to understand the health of their safety management programs and communicate expectations regarding those programs.

Attachment B – Team Member Biographical Summaries

Before joining DOE, Mr. Krietz served as Safety Director at the Sierra Army Depot and the Senior Safety Manager for the U.S. Army Depot System Command. He completed the Army Materiel Command Safety Management Intern Program and technical training in the chemical, explosives, nuclear, and radiological areas. Mr. Krietz has served as lead, co-lead, or participant on over 40 comprehensive safety and health program evaluations of Army Depot System Command installations. He has also been accident investigation board chairman for fatality investigations at the Anniston and Tobyhanna Army Depots. He has been the lead, co-lead, or participant on preoperational surveys of toxic chemical weapon operations at Anniston, Blue-Grass, Pueblo, Tooele, and Umatilla Army Depots, and he has been the lead for Army safety and health inspections of industrial, explosives, nuclear, and construction operations at Army Depots. With DOE, he has served as an evaluator for the DOE Voluntary Protection Program evaluations at the Savannah River Site (SRS) and Idaho National Laboratory, and he has been an evaluator for DOE Office of ES&H and Office of Environmental Management reviews of site safety and health programs. Mr. Krietz served as a team member on the CH2M HILL Hanford Group, Inc. ISMS Verification at the Office of River Protection Tank Farms and Bechtel National, Inc., the ISMS Verification of the Waste Treatment Plant Project at Hanford, the ISMS reverifications of BJC and ORO in Oak Ridge, and various Environmental Management line oversight assessments of the DOE field elements.

Susan J. Coleman: Ms. Coleman has over 25 years experience in the areas of program/project management, security, and technical editing/document production, as evidenced during assignments with the U.S. Department of Energy Hanford Site and U.S. Navy/Naval Reserve (CTACS, Retired). Due to knowledge and/or extensive experience in numerous areas of the DOE Office of River Protection mission, Ms. Coleman currently supports the Manager's Office and senior management team in various capacities, such as developing technical reports and documents, and facilitating closure of a wide range of technical activities; as an experienced technical expert in the area of Security she supports the ORP Security Program Manager in the oversight of the DOE program and prime contractors, CH2M HILL Hanford Group, Inc. responsible for the Hanford Site tank farms, and Bechtel National, Inc. responsible for the design, construction and commissioning of a vitrification plant. She is an advisor to the DOE Federal Technical Capability Panel Chairman and Panel, which is responsible for overseeing, developing, implementing, and/or resolving issues related to recruiting, developing, and retaining technical capability within DOE. In 1999, Ms. Coleman participated on a team to successfully place a contract valued at $6.5 billion to develop a Waste Treatment Complex and the team negotiating an extension of the current Tank Farms contract. From 1986 to 1999, Ms. Coleman supported the organization responsible for integrating activities between DOE and the two prime contractors, CH2M HILL and BNFL, Inc., and the $9M Single-Shell Tank Program, responsible for the technical activities for waste retrieval, technology demonstration, tank farm closure, tank leak contamination studies and corrective measures including reviewing authorization basis documents and developing evaluation reports; necessary to continue safe operation of the Hanford Site Tank Farms. From 1995 to 1996, Ms. Coleman supported the team responsible for developing the initial Request for Proposals (RFP) provided to commercial industry to build the nation's largest vitrification facility to treat nuclear waste. From 1994 to 1995, Ms. Coleman coordinated the DOE Standards/Requirements Identification Document (S/RID) project, which developed a comprehensive document that included the environmental, health and safety requirements necessary to manage the Hanford Site. During 1993, Ms. Coleman was Project Lead of a group responsible for identifying historical information relevant to the "Downwinders" class-action lawsuits; which charged deleterious health effects to people in the Hanford vicinity during the period 1944 to 1947. Ms. Coleman holds a Bachelor of Science degree in Business Administration (with a Labor Relations concentration) from Bowie State University.

Donald Rack has over 22 years experience in the nuclear industry in both nuclear facility operations and oversight. He served for 8 years in the U.S. Navy specializing in reactor plant operation, control system maintenance, and radiological controls. For the last 14 years he has worked for the Department of Energy (DOE) at Rocky Flats before transitioning to the DOE-Environmental Management Consolidated Business Center. At Rocky Flats he was a qualified DOE Facility Representative in Buildings 371 and 374. He served as the DOE Review Team Lead and developed the Safety Evaluation Reports for the Building 771/774, 371/374, and 559 Decommissioning Basis for Operations (DBIO) documents. He also led the DOE Implementation Validation Teams for each of the 3 DBIOs. Mr. Rack has either led or participated in several Operational Readiness Review and Readiness Assessments. He

has performed numerous formal assessments of contractor activities at Rocky Flats including Conduct of Operations, work control, fire protection/combustible controls, operator training and qualification, Technical Safety Requirement Administrative Control implementation, and radiological controls.

Dan Ford currently serves as Senior Technical Consultant to the University of California at the Los Alamos National Laboratory and has 26 years of experience in nuclear facilities engineering, safety management, and regulatory oversight. He was a senior-level consultant to the United States Nuclear Regulatory Commission (NRC) for 11 years and has testified as an expert witness on behalf of the NRC during several Atomic Safety and Licensing Board hearings. As Senior Technical Consultant, he assisted the Department of Energy's Office of Nuclear Safety in the areas of event analysis, authorization basis, and nuclear safety oversight. At Rocky Flats for seven years, he was technical consultant to the DOE Field Office in the areas of facility and process authorization basis, engineering, internal assessment, and coordinated Field Office initiatives in response to Defense Nuclear Facilities Safety Board recommendations. Mr. Ford holds American National Standards Institute (ANSI) nuclear systems inspection and testing certifications in the areas of electrical power and instrumentation and control systems and an American Society for Quality Control (ASQC) quality engineering certificate.

Mr. Ford's formal assessment experience includes participation in nuclear safety assessment of over forty commercial license holders while serving as a consultant to the NRC, and assisting the NRC in development of assessment programs for examination of plant licensing, design, installation, operation, maintenance, inspection and testing programs. While with the Office of Nuclear Safety, Mr. Ford participated in Operational Readiness Reviews including the High Level Tank Draining evolution at RFETS Building 771, resumption activities in RFETS Building 707, and review of nuclear operations at Savannah River and Pantex. Under contract to the Rocky Flats Field Office, he conducted the Operational Readiness Review of the Plutonium Stabilization and Packaging System (PuSPS), and numerous Readiness Assessment Activities.

Elizabeth ("Liz") Norton has worked at the Hanford site for 23 years as a Nuclear Chemical Operator (NCO). She is currently a Hanford Atomic Metal Trades Council (HAMTC) Safety Representative for CH2M HILL Hanford Group, Inc. She is a member of the Paper, Allied-Industrial, Chemical and Energy Workers International Union (PACE) Local 8-0369 (PACE is a member of the Hanford Atomic Metal Trades Council [HAMTC]). Prior to her employment with CH2M HILL, Ms. Norton performed NCO duties in several facilities and for various contractors, including PUREX/UO3 during nuclear fuel processing operations, Waste Receiving and Processing (WRAP) facility, where she was involved in two Operational Readiness Reviews and facility startup, and the Solid Waste Organization. Ms. Norton has been a CH2M HILL HAMTC Safety Representative for the past 2 years.

In the past 2 years, Ms. Norton has been heavily involved in the Department of Energy Voluntary Protection Program (VPP). Her involvement in VPP included the recertification of VPP Star status at the 222-S Laboratory, and in mentoring other candidate VPP sites. She has been a team member for several VPP self-assessments, and has also been a member of several DOE-HQ onsite reviews for VPP recertification.

SEPARATION

PAGE

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RL-675 (03/99)

United States Government **Department of Energy**

memorandum

Office of River Protection

DATE: DEC 29 2005

REPLY TO ATTN OF: ORP:RCB 05-ESQ-094

SUBJECT: U.S. DEPARTMENT OF ENERGY (DOE), OFFICE OF RIVER PROTECTION (ORP), FEEDBACK AND IMPROVEMENT ASSESSMENT REPORT

TO: Dr. Inés Triay, Chief Operating Officer
for Environmental Management, EM-2, HQ

Reference: HQ memorandum from I. R. Triay to Distribution "Feedback and Improvement Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 25," dated November 17, 2005.

This memorandum transmits the results of the ORP feedback and improvement assessment requested in the Reference. The assessment compared the criteria specified in the memorandum to the assurance systems of ORP and its contractors, CH2M HILL Hanford Group, Inc., Advanced Technologies and Laboratories International, Inc., and Bechtel National, Inc.

The Reference also required ORP to submit draft site action plans by January 13, 2006. ORP will submit its draft site action plans as stated in the Reference.

If you have any questions, please contact me, or your staff may contact Robert C. Barr, Director, Office of Environmental Safety and Quality, (509) 376-7851.

Roy J. Schepens, Manager
Office of River Protection

Attachment

cc w/attach:
D. Y. Chung, EM-24
T. T. Evans, EM-3.2
D. L. Borders, PAC

Attachment
05-ESQ-094
A-05-ESQ-SITE-001

U.S. DEPARTMENT OF ENERGY
Office of River Protection (ORP)
Environmental Safety and Quality

ASSESSMENT:	ORP and Contractor Feedback and Improvement
REPORT:	A-05-ESQ-SITE-001
FACILITY:	ORP and its Contractors
LOCATION:	Richland, Washington
DATES:	December 5 through 23, 2005
ASSESSORS:	David H. Brown, ORP; Lead Assessor Donald Fugit, BNI; Assessor Mark Von Weber, CH2M Hill Hanford Group, Inc.; Assessor Phyllis H. Bruce, Advanced Technologies and Laboratories International, Inc.; Assessor
APPROVED BY:	P. P. Carier, Team Lead Verification and Confirmation Official

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List of Acronyms

ASCP	Analytical Services Production Contractor
ATL	Advanced Technologies and Laboratories, Inc.
BNI	Bechtel National, Inc.
CARS	Corrective Action Reporting System (ORP)
CATRAX	Commitment Action Tracking System (ATL)
CH2M HILL	CH2M Hill Hanford Group, Inc.
CRAD	Criteria Review and Approach Document
DOE	U.S. Department of Energy
DOE-OIG	U.S. Department of Energy, Office of the Inspector General
ESRB	Executive Safety Review Board (CH2M HILL)
F&I	Feedback and Improvement
FHI	Fluor Hanford, Inc.
HLAN	Hanford Local Area Network
HASQARD	Hanford Analytical Services Quality Assurance Requirements Document
ISMS	Integrated Safety Management System
IT	Information Technology
LMSI	Lockheed Martin Services, Inc.
NTS	Price-Anderson Noncompliance Tracking System
ORP	Office of River Protection
OSHA	U.S. Occupational Safety and Health Administration
PER	Problem Evaluation Request (CH2M HILL)
PAAA	Price-Anderson Amendments Act
PSC	Project Safety Committee (BNI)
PTH	Protection Technologies Hanford, Inc.
QA	Quality Assurance
QAM	Quality Assurance Manual (BNI)
QAIS	Quality Assurance Information System (BNI)
QAPD	Quality Assurance Program Description
SMP	Safety Management Program (CH2M HILL)
SQIS	Supplier Quality Information System (BNI)
SSRB	Senior Safety Review Board (CH2M HILL)
RCA	Root Cause Analysis
RITS	Recommendations and Issues Tracking System (BNI)
SAS	Safeguards and Security
WTP	Hanford Tank Waste Treatment and Immobilization Plant

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Office of River Protection and Contractor Assessment of Feedback and Improvement (F&I)

Scope

From December 5 through 23, 2005, the U.S. Department of Energy (DOE) ORP, CH2M Hill Hanford Group, Inc., (CH2M HILL), Bechtel National, Inc., (BNI), and Advanced Technologies and Laboratories International, Inc., (ATL) evaluated their F&I processes. The assessment was conducted in response to direction from EM-1 stated in DOE EM-1 memorandum, Dr. Inés R. Triay to Distribution, "Feedback and Improvement Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, Commitment 25," dated November 17, 2005. As specified by this memorandum, the assessment was conducted jointly between ORP and its contractors. The assessment responded directly to a set of criteria and review approach documents (CRADs) provided by the EM-1 memorandum.

Results

Generally, the assessment team found ORP, CH2M HILL, and BNI had mature F&I systems that were consistent with their DOE contracts. However, they did not necessarily conform to the new oversight policy DOE was implementing in response to DNFSB Recommendation 2004-1. At the time of the assessment, neither ORP nor its contractors had implemented the new order, DOE O 226.1, *Implementation of Department of Energy Oversight Policy.* ATL was a new contractor and had not completed initial development of its assurance system.

The results of the evaluation of each CRAD criterion are documented in the four appendices to this report. For ORP, CH2M HILL, and BNI the differences with the CRAD criteria identified by the assessment team are listed below as "issues." For ATL, where a criterion was not addressed by either an issued procedure or a scheduled procedure, the gap is identified as an issue.

ORP memorandum 05-ESQ-082, Roy J. Schepens to Inés Triay, EM-2, "U.S. Department of Energy, Office of River Protection, Fiscal Year 2006 Integrated Safety Management System Declaration of Readiness," dated December 1, 2005, provided an assessment of the status of ISMS systems, including feedback and improvement systems, for ORP and its contractors. The declaration identified weaknesses in feedback and improvement implementation along with actions required to correct the weaknesses. The weaknesses included needs for:

- Improved root cause analysis and subsequent corrective action planning;
- Improved documentation, tracking, and closure of corrective actions;
- Improved training coordination for Federal employees;

- Improved Computerized Accident/Incident Reporting System reporting at the Hanford Tank Waste Treatment and Immobilization Plant (WTP);
- Enhanced central integration of lessons-learned activities for more efficient distribution;
- Improved DOE industrial safety oversight of the ORP projects;
- Expanded self-assessment of Federal programs and systems; and
- Improved oversight functions to ensure qualified safety oversight capability is available to the WTP and Tank Farms on a routine basis, and backup support is identified for all key subject matter experts.

EM-1 requires ORP and its contractors to bring their assurance systems into alignment with the new DOE oversight policy, but some implementation details were not clear at the time of this assessment. Because oversight policy, assurance systems, and expectations regarding F&I processes were interrelated, the intent of some CRAD assessment criteria that were based on the new oversight policy was not clear. To clarify the implementation details, DOE had committed to schedule workshops and issue additional directives, but the workshops were to occur after this assessment. To complete this assessment the assessment team used its best judgment regarding the intent of the DOE policy and CRADs while evaluating the F&I processes.

Issues

ORP:

Note: At the time of the assessment fieldwork, ORP had recognized the actions required to implement DOE O 226.1, and had already initiated the necessary changes to ORP M 220.1, *Integrated Assessment Program*.

1. ORP M 220.1, *Integrated Assessment Program*, should be revised to explicitly address oversight of all features of contractor assurance systems, including cyber security, business processes, and safeguards and security.

2. ORP M 220.1 should be changed to address oversight of other feedback systems, such as worker feedback. It should also be changed to more comprehensively address oversight of communication of information, such as dissenting opinions, up the management chain.

3. ORP M 220.1 and ORP M 420.2, *Facility Representative Program*, should be changed to describe a process for resolving professional disagreements over assessment issues, including provisions for independent technical reviews for significant findings.

4. ORP M 220.1 should be changed to formalize the requirements for ORP oversight of contractor employee concerns processes.

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BNI:

1. Bechtel National Inc. (BNI) cannot determine the impact of developing a complete contractor assurance system until the U.S. Department of Energy (DOE) implementation manual/workshops for DOE O 226.1 are provided and a detailed gap analysis can be performed.

2. Hanford Tank Waste Treatment and Immobilization Plant (WTP) assurance activities may not encompass WTP subcontractor activities to the degree required by Appendix A to the Contractor Requirements Document of DOE O 226.1, *Implementation of Department of Energy Oversight Policy.*

3. WTP assurance activities may not encompass WTP business operations to the degree required by Appendix A to the Contractor Requirements Document of DOE O 226.1, *Implementation of Department of Energy Oversight Policy.*

CH2M HILL:

1. CH2M HILL has implemented the required elements of an assurance system and some elements, such as the Quality Assurance Program Description document, have been approved by DOE. However, a single program description document that fully details the programs and processes that comprise the assurance system has not been developed, approved by contractor management, and forwarded to DOE for review and approval.

ATL:

1. ATL does not have a procedure for causal analysis.

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Signatures

David H. Brown,
Assessment Team Leader

Patrick P. Carier,
Assistant Assessment Team Leader

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Appendices

ORP Assessment Results

CH2M Hill Hanford Group, Inc., Assessment Results

Bechtel National, Inc., Assessment Results

Advanced Technologies and Laboratories International, Inc.

Feedback and Improvement Assessment Results, DNFSB Recommendation 2004-1
Office of River Protection

Criteria	Results
Performance Objective F&I-3: DOE Line Management Oversight **DOE line management have established and implemented effective oversight processes that evaluate the adequacy and effectiveness of contractor assurance systems and DOE oversight processes.**	
1. DOE line management has established a baseline line management oversight program that ensures that DOE line management maintains sufficient knowledge of site and contractor activities to make informed decisions concerning hazards, risks and resource allocation, provide direction to contractors, and evaluate contractor performance.	The assessors found that a generally adequate line management oversight program was described in the following documents and procedures: • ORP M 414.1, Rev.2, *Quality Assurance Program Description*; • ORP M 450.4, Rev. 2, *Integrated Safety Management System*; • ORP M 220.1 Rev 3, *Integrated Assessment Program*; • ORP M 420.2C, *Facility Representative Program*; and • The ORP Facility Representative Instructions. ORP M 220.1, ORP M 420.2, and the Facility Representative Instructions specified processes for providing management with the knowledge to make informed decisions concerning hazards, risks, and resource allocation, as well as for providing direction to contractors and evaluating contractor performance. These documents and procedures did not specify all features of assurance systems required by the new order, DOE O 226.1,

Criteria	Results
	Implementation of DOE Oversight Policy. Specifically, the procedures did not address cyber security, and they did not adequately address safeguards and security (SAS). They also did not integrate oversight of contractor business assurance systems. **Issue:** ORP M 220.1 should be revised to explicitly address oversight of all features of contractor assurance systems, including cyber security, business processes, and SAS.
2. DOE line oversight program includes assessments, operational awareness activities, performance monitoring and improvement, and assessment of contractor assurance systems. Documented program plans have been established that define oversight program activities and annual schedules of planned assessments and focus areas for operational awareness. Operational awareness activities must be documented either individually or in periodic (e.g., weekly or monthly) summaries. Deficiencies in programs or performance identified during operational awareness activities are communicated to the contractor for resolution through a structured issues management process.	The assessors found the following documents and procedures adequately described and specified how ORP organizations were to conduct independent assessments of contractor activities and management assessments of ORP work: • ORP M 414.1, Rev. 2, *Quality Assurance Program Description*; • ORP M 450.4, Rev. 2, *Integrated Safety Management System*; • ORP M 220.1 Rev 3, *Integrated Assessment Program*; • ORP M 420.2C, *Facility Representative Program*; and • The Facility Representative Instructions. ORP M 420.2 required facility representatives to be in their facilities on a daily basis, providing operational awareness. ORP M 220.1 required managers to routinely walk through facilities and observe ongoing activities. ORP M 220.1, ORP M 420.2, and the Facility Representative Instructions required oversight activities be planned. ORP M 220.1 required development and maintenance of an Annual Assessment Plan while ORP M 420.2 required development of a

Criteria	Results
	Master Assessment Plan. ORP procedures required these plans to be revisited periodically to verify relevance and to update them. ORP M 220.1 required the Assessment Program Committee, made up of ORP managers, to meet at least quarterly to review the status of assessments and update the assessment plan. ORP M 420.2 and the Facility Representative Instructions required issues identified by Facility Representatives be documented and communicated to the contractors promptly. These procedures required that each quarter, issues to be rolled up into reports that were to be transmitted formally (by letter) to the contractors. ORP procedures required ORP management and Facility Representatives, and contractor management to meet monthly and quarterly to discuss the status of issues identified by Facility Representatives. Reports of assessments performed by the Environmental Safety and Quality organization and other ORP organizations in accordance with ORP M 220.1 were to be transmitted to contractors promptly by formal correspondence. ORP M 220.1 required managers to document issues identified in walkthrough inspections on a form provided by ORP M 220.1. ORP M 220.1 required that issues be tracked in the Consolidated Action Reporting System (CARS). This system was maintained formally, and issues were to be closed out formally with the agreement of the person initiating the issue. ORP procedures required the status of issues in CARS to be periodically reported to management in reports. Procedures

Criteria	Results
	specified that issues in CARS were to be closed at the request of the closure authority (usually the organization that identified the issue), and the affected contractor was then to be notified of the closure.
3. DOE line management monitors contractor performance and assesses whether performance expectations are met; that contractors are assessing site activities adequately; self-identifying deficiencies; and, taking timely and effective corrective actions. Responsibilities for line oversight and self-assessment are assigned and managers, supervisors, and workers are held accountable for performance assurance activities. Deficiencies must be brought to the attention of contractor management and addressed in a timely manner.	The assessors found that the following documents and procedures adequately described and specified how ORP management monitors contractor oversight performance. • ORP M 220.1 Rev 3, *Integrated Assessment Program*; • ORP M 420.2C, *Facility Representative Program*; and • The Facility Representative Instructions. These procedure required ORP oversight of contractors to include assessments of corrective action and assessment programs. They required assessments to be performance-based, verifying the effectiveness of contractor implementation of corrective action requirements. These assessments were to be performed at least annually for each contractor. The following examples of recent ORP assessments showed that ORP evaluated contractor performance in their own assessment programs: • A-05-ESQ-RPPWTP-009 (WTP Quality Issues) • A-05-ESQ-RPPWTP-006 (WTP Corrective Action) • A-05-TANKFARM-002 (Tank Farms Quality Assurance) Effective implementation meant contractors were identifying deficiencies and were taking timely and effective corrective actions. It also meant that assigned managers, supervisors, and

Criteria	Results
	workers were held accountable for performance assurance activities. ORP procedures required assessments to verify deficiencies were brought to the attention of contractor management in a timely manner.
4. DOE line management requires that findings must be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans.	The assessors found the following documents and procedures adequately described and specified how oversight issues were tracked to resolution: • ORP M 220.1, Rev 3, *Integrated Assessment Program* and • ORP M 414.1, Rev. 2, *Quality Assurance Program Description*. ORP M 220.1 required oversight issues to be entered into CARS where they were tracked to closure. ORP M 220.1 specified that closure included a formal process of reviewing and accepting contractor corrective action plans, then verifying implementation of corrective actions. The Facility Representative Instructions require ORP management to meet with contractor management monthly and quarterly to review the status of issues. Issues were not to be closed out without the agreement of the Facility Representatives.
5. DOE line management regularly assesses the effectiveness of contractor issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback). DOE line management must also evaluate contractor processes for communicating information, including dissenting opinions, up the management chain.	The assessors found ORP M 220.1, Rev 3, *Integrated Assessment Program*, adequately described and specified oversight of contractor corrective action and lessons learned systems, but with some weaknesses. ORP M 220.1 did not systematically require assessments that evaluate other feedback systems, such as worker feedback. It also did not address oversight of some contractor processes for communicating information, such as dissenting

Criteria	Results
	opinions, up the management chain. **Issue**: ORP M 220.1 should be changed to address oversight of other feedback systems, such as worker feedback. It should also be changed to more comprehensively address oversight of communication of information, such as dissenting opinions, up the management chain.
6. DOE line management must verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE assessments or reviews are closed, and requires that deficiencies are analyzed both individually and collectively to identify causes and prevent recurrences.	The assessors found that DOE M 220.1, Rev 3, *Integrated Assessment Program*, adequately described and specified an oversight issue closure process. Before findings were closed, ORP M 220.1 required responsible organizations to analyze issues both individually and collectively to identify causes and prevent recurrence. Individual findings were to be evaluated in the process by which contractor assessment responses were accepted and findings closed. DOE M 220.1 required a responsible individual to evaluate the response for adequacy. Responses without adequate cause evaluation and meaningful corrective actions were to be returned to the contractor for reevaluation. The assessors found ORP M 220.1 required the Assessment Program Committee to evaluate findings collectively to identify broader issues. If they considered corrective actions were not broad enough and so would not prevent recurrence, they were to schedule assessments that looked at collections of findings to look for deeper causes. An example was the ESQ assessment of Bechtel National, Inc., quality issues (A-05-ESQ-RPPWTP-009, October 2005) that addressed collected quality issues in BNI

Criteria	Results
	construction work. The Facility Representative Instructions required ORP management to meet with contractor management on a monthly and quarterly basis to analyze issues, both collectively and individually. The Facility Representative Instructions required results of these analyses to be used in scheduling future Facility Representative assessments.
7. DOE line management has established appropriate criteria for determining the effectiveness of site programs, management systems, and contractor assurance systems, and includes consideration of previous assessment results, effectiveness of corrective actions and self-assessments, and evidence of sustained management support for site programs and management and assurance systems. Review criteria are based on requirements and performance objectives (e.g., laws, regulations, and DOE directives), site-specific procedures/manuals, and other contractually mandated requirements and performance objectives.	The assessors found the following documents and procedures adequately described and specified appropriate criteria for determining effectiveness of site programs and management systems, but with some weaknesses: • ORP M 220.1 Rev 3, *Integrated Assessment Program*; • ORP M 420.2C, *Facility Representative Program*; and • The Facility Representative Instructions. The Facility Representative Instructions contained an extensive collection of detailed instructions for conducting both surveillances and formal assessments. The Environmental Safety and Health organization also had detailed instructions addressing how to assess specific QA topics. These prescribed assessment activities that were based on regulatory requirements, contractual requirements, and performance objectives. ORP M 220.1 did not explicitly address all contractor assurance systems, although these were largely captured in the site programs and management systems listed in Attachments 9.2 and 9.3 of ORP M 220.1. These attachments provided the results of a

Criteria	Results
	systematic process of identifying applicable requirements and identifying necessary oversight activities. However, Attachments 9.2 and 9.3 did not adequately address cyber security, business assurance systems, or SAS. **Issue:** ORP M 220.1 should be revised to explicitly address oversight of all features of contractor assurance systems, including cyber security, business processes, and SAS.
8. DOE line management has established and maintained appropriate qualification standards for personnel with oversight responsibilities, and a clear, unambiguous line of authority and responsibility for oversight.	The assessors found the following documents and procedures adequately described and specified requirements for qualification of personnel with oversight responsibility: • ORP M 220.1, Rev 3, *Integrated Assessment Program*; • ORP M 414.1, Rev. 2, *Quality* Assurance *Program Description*; • ORP M 420.2C, *Facility Representative Program*; and • The Facility Representative Instructions. The assessors also found these procedures described clear and unambiguous lines of authority and responsibility for oversight. ORP M 420.2 and the Facility Representative Instructions specified Facility Representatives were subject to a rigorous qualification process that was consistent with DOE STD-1063-2000. The ORP Manager was the Qualifying Official. ORP M 420.2 required management to document qualification progress using formalized qualification cards. ORP M 220.1 required assessment personnel from the

Criteria	Results
	Environmental Safety and Quality organization to be qualified using a formal process. ORP M 220.1 provided forms for documenting the details of the qualification process. ORP M 220.1 also provided direction for qualifying personnel who did not routinely perform assessments or who performed assessments for ORP program offices.
9. Line management periodically reviews established performance measures to ensure performance objectives and criteria are challenging and focused on improving performance in known areas of weakness.	The assessors found the following procedures adequately described and specified processes for periodically reviewing performance measures: • ORP M 220.1 Rev 3, *Integrated Assessment Program*; • ORP M 420.2C, *Facility Representative Program*; and • The Facility Representative Instructions. ORP M 220.1 required the Assessment Program Committee to periodically review performance measures. ORP M 220.1 also required the Assessment Program Committee to meet at least quarterly to revaluate the focus of assessments. In practice, the committee met more often than quarterly. The Assessment Program Committee periodically reviewed a number of indicators, including the results of recent assessments, to focus assessment attention on areas of known weakness. ORP M 420.2 and the Facility Representative Instructions required management to meet quarterly to reevaluate Facility Representative surveillance and assessment schedules. These procedures required schedule revisions to provide focus on areas of known weakness.

Criteria	Results
10. DOE line management has established effective processes for communicating line oversight results and other issues up the DOE line management chain, using a graded approach based on the hazards and risks. Established processes include provisions for communicating and documenting dissenting opinions. Formal, structured processes for resolving disputes for oversight findings and other significant issues have been implemented, and include provisions for independent technical reviews for significant findings.	The assessors found the following procedures adequately described and specified a process for communicating oversight results and other issues up the DOE management chain, but with one weakness: • ORP M 220.1, Rev 3, *Integrated Assessment Program*; • ORP M 420.2C, *Facility Representative Program*; and • The Facility Representative Instructions. ORP M 220.1 and the Facility Representative Instructions required all assessment reports to be transmitted formally to the contractors using the ORP correspondence control system. When there were findings, ORP initiated correspondence requiring the contractor to provide a response. All correspondence was signed by the ORP Manager with the concurrence of cognizant Assistant Managers. ORP M 220.1, ORP 420.2, and the Facility Representative Instructions did not include provisions for resolving internal disputes regarding oversight findings and other significant issues. **Issue:** ORP M 220.1 and ORP M 420.2 should be changed to describe a process for resolving professional disagreements over assessment issues, including provisions for independent technical reviews for significant findings.
11. An effective employee concerns program been established and implemented in accordance with DOE Directives that encourages the reporting of employee concerns and provides thorough investigations and effective corrective actions and	The assessors found the following documents and procedures adequately described and specified an employee concerns program: • ORP M 450.4, Rev. 2, *Integrated Safety Management System*

Criteria	Results
recurrence controls.	*Description* • ORP ESQ 3.1, Rev. 0, *Employee Concerns Program Desk Instructions* The ORP employee concerns program was implemented by the Environmental Safety and Quality organization. The program included oversight of contractor employee concerns programs, but this was not stated in ORP M 220.1, Rev 3, *Integrated Assessment Program*. The program was active and the ORP Employee Concerns Manager said he took in cases on a regular basis. ORP had established an independent office in the Federal Building to take in cases and conduct interviews away from locations where other business is transacted. **Issue:** ORP M 220.1 should be changed to formalize the requirements for ORP oversight of contractor employee concerns processes.

Feedback and Improvement Assessment Results, DNFSB Recommendation 2004-1
CH2M Hill Hanford Group, Inc.

<table>
<tr><th>Criteria</th><th>Results</th></tr>
<tr><td>Objective F&I-1: Contractor Program Documentation

Contractor Line management has established a comprehensive and integrated operational assurance system which addressed all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.</td><td>The assessors found CH2M HILL had established an assurance system including issues management and follow-up processes and activities. CH2M HILL had performed 117 self-assessments in FY05, comprised of twelve independent assessments (IAs), sixty management assessments (MAs) and forty-five specialty assessments (SAs). A summary by assessment activity is presented in the following table.

CH2M HILL and Third-Party Assessment Activity by Fiscal Year (FY)
<table><tr><th></th><th>FY03</th><th>FY04</th><th>FY05</th><th>FY06 (Plan)</th></tr><tr><td>IA</td><td>4</td><td>13</td><td>12</td><td>5</td></tr><tr><td>MA</td><td>28</td><td>62</td><td>60</td><td>52</td></tr><tr><td>SA</td><td>54</td><td>40</td><td>45</td><td>13</td></tr><tr><td>3rd-Party</td><td>2</td><td>5</td><td>--</td><td>1</td></tr></table></td></tr>
<tr><td>1. A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by contractor management, and forwarded to DOE for review and approval. The program description is reviewed and updated annually and forwarded to DOE for review and approval.</td><td>The assessment team evaluated the CH2M HILL documentation detailing its assurance system program descriptions submitted for DOE annual review and approval that addressed the following aspects of its operations:
• Environment, safety, and health;
• Safeguards and security;
• Emergency management;
• Cyber security; and
• Business practices.</td></tr>
</table>

Criteria	Results
	The assessors found the existing programs (e.g., the CH2M HILL Quality Assurance Program Description and the CH2M HILL Integrated Environment, Health, and Safety Management System Description) provided adequate documentation of the assurance system. However, CH2M HILL had not submitted all features of the assurance system to DOE for approval, and had not developed a single description document. This was consistent with CH2M HILL's existing DOE contract. The CH2M HILL programs were: *Environment, safety, and health* – CH2M HILL documented and submitted to the DOE for annual review and approval a detailed assurance system program description in the: • *ISMS* Safety *Description* (RPP-MP-003); • *Quality Assurance* Program *Description* (TFC-PLN-02); • *Documented Safety Analysis* (RPP-13033) – Chapter 17.0; • *Radiological Control Manual* (HNF-5183); and • *Radiation Protection Program* (HNF-MP-5184). *Safeguards and security* – While the assessors found CH2M HILL had documented a detailed assurance system program description, only some elements were submitted to the DOE for annual review and approval. These were the CH2M HILL *Documented Safety Analysis* (RPP-13033) – Chapter 15.0 and CH2M HILL *Emergency Management Drill Program Plan* (RPP-27585). This was consistent with the existing CH2M HILL contract requirements.

Criteria	Results
	The Administrative Interface Agreement (AIA), CHG-FMOA-2001, "Memorandum of Agreement for Site Services, CH2M HILL, and FHI" outlined the Fluor Hanford, Inc. (FHI) and CH2M HILL roles and responsibilities for meeting U.S. Department of Energy (DOE) safeguards and security (SAS) requirements for facilities operated by CH2M HILL. The AIA outlined the roles and responsibilities of CH2M HILL and FHI for meeting DOE SAS requirements based on associated assumptions. FHI and CH2M HILL provided SAS services in accordance with DOE directives and FHI-approved procedures. As a Prime Contractor to ORP, CH2M HILL was to cooperate with FHI to ensure compliance with SAS requirements at CH2M HILL facilities. Although FHI provided technical oversight in the management of the CH2M HILL SAS Program, CH2M HILL was to support the conduct of the SAS Program as a CH2M HILL line management responsibility. *Emergency management* – While the assessors found that a detailed assurance system program description was documented, only some elements were submitted to the DOE for annual review and approval in CH2M HILL's *Documented Safety Analysis* (RPP-13033) – Chapter 15.0 and *Emergency Management Drill Program Plan* (RPP-27585). This was consistent with existing CH2M HILL contract requirements. The assessors found CH2M HILL Emergency Management followed DOE/RL-94-02, *Hanford Emergency Management Plan,* as its implementing requirements document to meet

Criteria	Results
	program requirements. DOE/RL-94-02 provided a description of how the Hanford Site (and contractors), were to implement the provisions of DOE O 151.1 and other applicable orders in terms of overall policies and concept of operations. The plan was used as the basis, along with DOE orders, for the development of specific RL/ORP and site contractor implementing procedures. CH2M HILL managers said this plan also met Federal and state regulations to protect worker and public health and safety and the environment in the event of an emergency at or affecting the Hanford Site. The managers said portions of the plan, together with the Hanford Site location/activity specific documentation were established to meet the Washington Administrative Code WAC-171-303 requirements of the Hanford Site contingency Plan. *Cyber security* – The assessors found FHI, under its existing contract to provide Information Technology (IT) services, including the operation of the Hanford Local Area Network (HLAN) and connected systems, operated under the requirements of DOE N 205.1, *Unclassified Cyber Security Program,* contractor requirements document for cyber security. Cyber security services for CH2M HILL, for those systems connected to HLAN were provided by FHI. A requirement of this order specified the creation of a Cyber Security Program Plan that was to describe the cyber security program and processes. CH2M HILL managers said this document was updated on a bi-annual (every two years) basis and submitted to US DOE RL and US DOE Headquarters for approval. CH2M HILL managers said that each year multiple assessments

Criteria	Results
	by different internal and external entities are conducted to ensure the quality of the cyber security program and posture. The managers said CH2M HILL relied on these on these assessments to assure effective implementation of cyber security requirements. CH2M HILL managers said that, beginning in the Spring of 2003, LMSI was required by contract to conduct vulnerability scans of the network and remediate any identified vulnerabilities on a semi-annual basis. The review was a three part process consisting of (1) a vulnerability scan of all connected devices, (2) the disposition of the identified vulnerabilities, and (3) a validation scan to ensure that the fixed vulnerabilities have been resolved. This review cycle was to be conducted twice a year beginning in October and April. Examples of cyber security assurance activities included: • Vulnerability Scan (FHI/Lockheed-Martin Services (LMSI)) October 2004; • FY05 Financial Statement Audit IT Support Review Limited Scope Vulnerability Assessment (DOE-OIG) April 2005; • Vulnerability Scan (FHI/LMSI) May 2005; • General IT Controls Review August 2005; • Information Security Self Assessment (FHI Safeguards and Security) December 2005; • Vulnerability Scan (FHI/LMSI) April 2004; • IT Controls and Penetration Testing (DOE-OIG) May 2004; • Certification & Accreditation Review (US DOE HQ) June 2004; and • Information Security Self Assessment (Protection

Criteria	Results
	Technologies Hanford (PTH) Safeguards and Security) January 2005. *Business practices* – CH2M HILL managers said that, while a detailed assurance system program description was documented in the CH2M HILL Business Services Procedure Manual, elements such as the CH2M HILL Internal Audit business practices were not being submitted to the DOE for annual review and approval. This was consistent with the existing DOE contract with CH2M HILL. CH2M HILL managers said that the Internal Audit organization served as the oversight function for Business Services. The Internal Audit function was required by CH2M HILL's DOE contract to submit annual plans to audit the contractor and its subcontractors, with the reports being submitted to cognizant CH2M HILL management, the DOE Office of River Protection (ORP) and the DOE Office of Inspector General (OIG). Annual fiscal year audit plans were due to DOE-ORP by June 15 of each year, and approved plans were to be forwarded to the DOE-OIG as part of their *Cooperative Audit Strategy*. The managers said that each annual plan consisted of approximately fourteen individual audits. The managers said CH2M HILL Internal Audit conducted its audits in accordance with the "generally accepted government auditing standards" (i.e., *Yellow Book* Standards, of the U.S. Comptroller General, U.S. General Accounting Office). **Issue:** CH2M HILL has implemented the required elements of an

Criteria	Results
	assurance system and some elements, such as the Quality Assurance Program Description document, have been approved by DOE. However, a single program description document that fully details the programs and processes that comprise the assurance system has not been developed, approved by contractor management, and forwarded to DOE for review and approval.
2. The contractor's assurance system includes assessment activities (self-assessments, management assessments, and internal independent assessments as defined by laws, regulations, and DOE directives such as quality assurance program requirements) and other structured operational awareness activities; incident/event reporting processes, including occupational injury and illness and operational accident investigations; worker feedback mechanisms; issues management; lessons-learned programs; and performance indicators/measures.	The assessors found that CH2M HILL assessment requirements and activities were adequately described and specified in the following documents and procedures: • *Quality Assurance Program Description* (TFC-PLN-02); • *Assessment Policy* (TFC-POL-05); • *Assessment Program Plan* (TFC-PLN-10); • *Management Assessment* (TFC-ESHQ-AP-C-01); • *Independent Assessment* (TFC-ESHQ-AP-C-02); • *Management Observation Program* (TFC-ESHQ-AP-C-03); • *Specialty Assessment* (TFC-ESHQ-AP-C-07); • *Quality Assurance Surveillances* (TFC-ESHQ-Q_PP-P-02); and • *Quality Assurance Audits* (TFC-ESHQ-Q-PP-C-02). *Event Investigation Process* (TFC-OPS-OPER-C-14) and *Occurrence Reporting and Processing of Operations Information* (TFC-OPS-OPER-C-24) procedures adequately described and specified incident/event reporting processes, including accident investigations. *Employee Concerns Program* (TFC-BSM-HR-MA-C-02) adequately described and specified worker feedback mechanisms.

Criteria	Results
	Problem Evaluation Request (TFC-ESHQ-Q-C-C-01) adequately described and specified the CH2M HILL issues management process, including causal analysis, identification of corrective actions and recurrence controls, corrective action tracking and monitoring, closure of corrective actions and verification of effectiveness, and trend analysis. *Lessons Learned* (TFC-OPS-OPER-C-28) described and specified a lessons learned program. *Performance Indicator Program* (TFC-PRJ-PC-C-11) described and specified a system of performance indicators/measures. During the period of January 2003 through December 2005 the number of assessments performed by US DOE ORP, CH2M HILL, and Fluor Hanford (FHI) that address the following aspects of its operations were as follows: • Environment, safety, and health (14); • Safeguards and security (4); • Emergency management (3); • Cyber security (13); and • Business practices (2).
3. The contractor's assurance system monitors and evaluates all work performed under their contract, including the work of subcontractors.	The assessment team evaluated the CH2M HILL assurance system and determined that, under an adequately documented and implemented program, all work performed under contract, including the work of subcontractors, was to be monitored and evaluated. This was described and specified in the following

Criteria	Results
	documents and procedures: • *Quality Assurance Program Description* (TFC-PLN-02); • *Assessment Policy* (TFC-POL-05); • *Assessment Program Plan* (TFC-PLN-10); • *Management Assessment* (TFC-ESHQ-AP-C-01); • *Independent Assessment* (TFC-ESHQ-AP-C-02); • *Management Observation Program* (TFC-ESHQ-AP-C-03); • *Quality Assurance Audit* (TFC-ESHQ-Q-PP-C-02); • *Supplier Quality Assurance Program Evaluation* (TFC-ESHQ-Q-ADM-C-09); • *Quality Assurance Surveillances* (TFC-ESHQ-Q_PP-P-02); and • *Quality Assurance Supplier Oversight* (TFC-ESHQ-Q-INSP-C-06). The following assessments addressed implementation of these programs and procedures: • FY04-ESHQ-M-0116, March 5, 2004, Assess the Effectiveness of the Flow Down of Safety Requirements to Our Subcontractors; • FY04-PRO-M-0084, March 2, 2004, Subcontracted Engineering Services; and • FY05-WFO-M-0138, February 28 ,2005, Oversight of Subcontractors.
4. Contractor assurance system data is formally documented and available to DOE line management. Results of assurance processes are periodically analyzed, complied, and reported to DOE line management as part of formal contract performance	The assessment team found the following documents and procedures adequately described and specified that data was documented and readily available to the DOE Office of River Protection and DOE-HQ. Further, these procedures required that

Criteria	Results
evaluation.	results of assurance processes were to be periodically analyzed, compiled, and reported to DOE in support of the formal contract evaluation. • *Quality Assurance Program Description* (TFC-PLN-02); • *Problem Evaluation Request* (TFC-ESHQ-Q-C-C-01); • *PER Tracking Data and Trending Analysis Program* (TFC-ESHQ-Q-C-C-02); and • *Performance Indicator Program* (TFC-PRJ-PC-C-11).
5. Contractors have established and implemented sufficient processes (e.g., self-assessments, corporate audits, third-party certifications or external reviews, performance indicators) for measuring the effectiveness of the contractor assurance program.	The assessment team found that the following documents and procedures adequately described and specified processes for measuring the effectiveness of the CH2M HILL assurance program: • *Quality Assurance Program Description* (TFC-PLN-02); • *Major Audit/Assessment Preparation Checklist* (TFC-ESHQ-AP-CD-08); • *Senior Safety Review Board* (TFC-CHARTER-23); • *Voluntary Protection Program Application Project Plan* (TFC-PLN-36); and • *Performance Indicator Program* (TFC-PRJ-PC-C-11). The following assessments addressed implementation of these programs and procedures: • FY04-CH2M-I-0027, December 31, 2003, SSRB, Executive-Level Independent Assessment of the Assessment Program; • FY04-CH2M-I-0119, May 19, 2004, CH2M HILL, Analytical Technical Services 222-S Laboratory QA – NQA-1; • FY04-ESHQ-M-0125, August 5, 2004, CH2M HILL, QA Program Implementation SMP Assessment;

Criteria	Results
	• FY05-CH2M-I-0002, March 24, 2005, CH2M HILL, OCRWM QA Audit; • US DOE ORP Audit, March 25, 2005, US DOE ORP, Quality Assurance; • FY05-CH2M-I-0012, May 25, 2005, CH2M HILL, 222-S Laboratory Assessment – NQA-1; and • FY05-PA-M-0160, June 15, 2005, CH2M HILL, QA Surveillance Processes – Internal and External. The assessment team evaluated the CH2M HILL assurance system and found CH2M HILL had requirements for external reviews. For example, TFC-CHARTER-23, required that the Senior Safety Review Board initiate reviews using external agencies and experts. The following are examples of some external reviews: • CH2M Corporate Assessment, December 31, 2005 (Not yet issued – fieldwork complete December 15, 2005); • FY04-CH2M-I-0135, March 6, 2004, SSRB, Executive Level Independent Assessment of the Procedures Streamlining Program; and • FY04-CH2M-I-0130, February 6, 2004, SSRB, Executive Level Independent Assessment of PAAA Implementation.
6. Requirements and formal processes have been established and implemented that ensure personnel responsible for managing and performing assurance activities possess appropriate experience, knowledge, skills, and abilities commensurate with their responsibilities.	The assessment team evaluated the CH2M HILL assurance system and found that the following documents and procedures adequately described and specified how personnel who manage and perform assurance functions would be required to possess experience, knowledge, skills, and abilities commensurate with

Criteria	Results
	their responsibilities: • *Quality Assurance Program Description* (TFC-PLN-02); • *Management Assessment* (TFC-ESHQ-AP-C-01); • *Independent Assessment* (TFC-ESHQ-AP-C-02); and • *Auditor Qualification* (TFC-ESHQ-Q-PP-C-01). The following assessments addressed implementation of these programs and procedures: • US DOE ORP Audit, April 29, 2005, ORP, Training and Qualification Personnel; • FY05-PA-M-0170, October 14, 2005, CH2M HILL Performance Assurance, Effectiveness of Corrective Actions for ORP Assessment; and • FY04-HD&C-M-0051, August 26, 2004, CH2M HILL Human Development, Training Assessment for 222-S Laboratory for Quality and Accuracy of 222-S Records.
Performance Objective F&I-2: Contractor Program Implementation **2.1 Assessments & Performance Indicators: Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.**	

Criteria	Results
1. Line management has established and implemented a rigorous assessment program for performing comprehensive evaluations of all functional areas, programs, facilities, and organizational elements, including subcontractors, with a frequency, scope and rigor based on appropriate analysis of risks. The scope and frequency of assessments are defined in site plans and program documents, include assessments of processes and performance-based observation of activities and evaluation of cross-cutting issues and programs, and meet or exceed requirements of applicable DOE directives.	The assessment team found that the following documents and procedures adequately described and specified assurance system assessment activities for its facilities, systems, and organizational elements, including subcontractors, on a recurring basis. Further, the scope and frequency of assessments were to be specified in assessment schedules, plans, and program documents (e.g., the quality assurance program) and meet or exceed the requirements of applicable DOE directives. • *Quality Assurance Program Description* (TFC-PLN-02); • *Assessment Policy* (TFC-POL-05); • *Assessment Program Plan* (TFC-PLN-10); • *Management Assessment* (TFC-ESHQ-AP-C-01); • *Independent Assessment* (TFC-ESHQ-AP-C-02); • *Management Observation Program* (TFC-ESHQ-AP-C-03); • *Quality Assurance Audit* (TFC-ESHQ-Q-PP-C-02); • *Supplier Quality Assurance Program Evaluation* (TFC-ESHQ-Q-ADM-C-09); and • *Quality Assurance Supplier Oversight* (TFC-ESHQ-Q-INSP-C-06). The following assessments addressed implementation of these programs and procedures: • FY04-CH2M-I-0027, December 31, 2003, SSRB, Executive-Level Independent Assessment of the Assessment Program; • FY04-CH2M-I-0119, May 19, 2004, CH2M HILL, Analytical Technical Services 222-S Laboratory QA – NQA-1; • FY04-ESHQ-M-0125, August 5, 2004, CH2M HILL, QA Program Implementation SMP Assessment; • FY05-CH2M-I-0002, March 24, 2005, CH2M HILL,

Criteria	Results
	OCRWM QA Audit; • US DOE ORP Audit, March 25, 2005, US DOE ORP, Quality Assurance; • FY05-CH2M-I-0012, May 25, 2005, CH2M HILL, 222-S Laboratory Assessment – NQA-1; and • FY05-PA-M-0160, June 15, 2005, CH2M HILL, QA Surveillance Processes – Internal and External.
2. Rigorous self-assessments are identified, planned, and performed at all levels periodically to determine the effectiveness of policies, requirements, and standards and the implementation status.	The assessment team found that the following documents and procedures adequately described and specified how self-assessments are identified and planned with the appropriate level of rigor: • *Quality Assurance Program Description* (TFC-PLN-02); • *Assessment Policy* (TFC-POL-05); • *Assessment Program Plan* (TFC-PLN-10); • *Management Assessment* (TFC-ESHQ-AP-C-01); • *Independent Assessment* (TFC-ESHQ-AP-C-02); • *Management Observation Program* (TFC-ESHQ-AP-C-03); • *Quality Assurance Audit* (TFC-ESHQ-Q-PP-C-02); • *Supplier Quality Assurance Program Evaluation* (TFC-ESHQ-Q-ADM-C-09); and • *Quality Assurance Supplier Oversight* (TFC-ESHQ-Q-INSP-C-06). The following assessments addressed implementation of these programs and procedures: • FY04-CH2M-I-0119, May 19, 2004, CH2M HILL, Analytical Technical Services 222-S Laboratory QA – NQA-1; • FY04-ESHQ-M-0125, August 5, 2004, CH2M HILL, QA

Criteria	Results
	Program Implementation SMP Assessment; • FY05-CH2M-I-0002, March 24, 2005, CH2M HILL, OCRWM QA Audit; • US DOE ORP Audit, March 25, 2005, US DOE ORP, Quality Assurance; • FY05-CH2M-I-0012, May 25, 2005, CH2M HILL, 222-S Laboratory Assessment – NQA-1; and • FY05-PA-M-0160, June 15, 2005, CH2M HILL, QA Surveillance Processes – Internal and External.
3. Appropriate independent internal assessments are identified, planned and performed by contractor organizations or personnel having the authority and independence from line management, to support unbiased evaluations.	The assessment team found that the following documents and procedures adequately described and specified how internal independent assessments were to be performed by organizations or personnel that have authority and independence from line management, to support unbiased evaluations: • *Quality Assurance Program Description* (TFC-PLN-02); • *Assessment Policy* (TFC-POL-05); • *Assessment Program Plan* (TFC-PLN-10); • *Management Assessment* (TFC-ESHQ-AP-C-01); • *Independent Assessment* (TFC-ESHQ-AP-C-02); • *Management Observation Program* (TFC-ESHQ-AP-C-03); • *Quality Assurance Audit* (TFC-ESHQ-Q-PP-C-02); • *Supplier Quality Assurance Program Evaluation* (TFC-ESHQ-Q-ADM-C-09); and • *Quality Assurance Supplier Oversight* (TFC-ESHQ-Q-INSP-C-06).

Criteria	Results
	The following assessments addressed implementation of these programs and procedures: • FY04-CH2M-I-0119, May 19, 2004, CH2M HILL, Analytical Technical Services 222-S Laboratory QA – NQA-1; • FY04-ESHQ-M-0125, August 5, 2004, CH2M HILL, QA Program Implementation SMP Assessment; • FY05-CH2M-I-0002, March 24, 2005, CH2M HILL, OCRWM QA Audit; • US DOE ORP Audit, March 25, 2005, US DOE ORP, Quality Assurance; • FY05-CH2M-I-0012, May 25, 2005, CH2M HILL, 222-S Laboratory Assessment – NQA-1; and • FY05-PA-M-0160, June 15, 2005, CH2M HILL, QA Surveillance Processes – Internal and External.
4. Line managers have established programs and processes to routinely identify, gather, verify, analyze, trend, disseminate, and make use of performance measures that provide contractor and DOE management with indicators of overall performance, the effectiveness of assurance system elements, and identification of specific positive or negative trends. Approved performance measures provide information that indicates how work is being performed and are clearly linked to performance objectives and expectation established by management.	The assessment team found that the following documents and procedures adequately described and specified how program data was to be identified, monitored, and analyzed in order to measure the performance of facilities, programs, and organizations. The data was to be used to demonstrate performance improvement or deterioration relative to identified goals. • *Quality Assurance Program Description* (TFC-PLN-02); • *Problem Evaluation Request* (TFC-ESHQ-Q-C-C-01); • *PER Tracking Data and Trending Analysis Program* (TFC-ESHQ-Q-C-C-02); • *Performance Indicator Program* (TFC-PRJ-PC-C-11); and • *Executive Safety Review Board* (TFC-CHARTER-32). The following assessments addressed implementation of these

Criteria	Results
	programs and procedures: • FY04-BS-M-0039, April 29, 2004, CH2M HILL, Performance Indicators – Verify Accuracy of Source Data and Determine Value for Managing Business and • FY05-BS-M-0152, March 31, 2005, CH2M HILL, Retrievability and Data Quality of Performance Based Incentive Closure Package
5. Line managers effectively utilize performance measures to demonstrate performance improvement or deterioration relative to identified goals, in allocating resources and establishing performance goals, in development of timely compensatory measures and corrective actions for adverse trends, and in sharing good practices and lessons learned.	The assessment team found that the following documents and procedures adequately described and specified how performance indicator data was to be considered in allocating resources, establishing goals, identifying performance trends, identifying potential problems, and applying lessons learned and good practices. Further, managers stated that quantitative performance indicators/measures are considered in evaluating performance and establishing oversight priorities. • *Quality Assurance Program Description* (TFC-PLN-02); • *Problem Evaluation Request* (TFC-ESHQ-Q-C-C-01); • *PER Tracking Data and Trending Analysis Program* (TFC-ESHQ-Q-C-C-02); • *Performance Indicator Program* (TFC-PRJ-PC-C-11); and • *Lessons Learned* (TFC-OPS-OPER-C-28). The following assessments addressed implementation of these programs and procedures: • FY04-BS-M-0039, April 29, 2004, CH2M HILL, Performance Indicators – Verify Accuracy of Source Data and Determine Value for Managing Business and • FY05-BS-M-0152, March 31, 2005, CH2M HILL,

Criteria	Results
	Retrievability and Data Quality of Performance Based Incentive Closure Package.
2.2 Operating Experience: The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.	
1. Formal processes are in place to identify applicable lessons learned from external and internal sources and any necessary corrective and preventive actions, disseminate lessons learned to targeted audiences, and ensure that lessons learned are understood and applied.	The assessment team evaluated the CH2M HILL assurance system and determined that procedure *Lessons Learned* (TFC-OPS-OPER-C-28) adequately described and specified a program to ensure lessons learned were to be communicated during work activities, process reviews, and event analyses to potential users and applied to future work activities. Management assessment FY04-CP-M-0015, *Lessons Learned Program Performance* confirmed implementation of this procedure.
2. Line managers effectively identify, apply, and exchange lessons learned with the rest of the DOE complex. Lessons learned identified by other DOE organizations and external sources are reviewed and applied by line management to prevent similar incidents/events.	The assessment team found documents and procedures that adequately described and specified processes for assurance system lessons learned activities. *Lessons Learned* (TFC-OPS-OPER-C-28) specified how lessons learned were to be identified, applied, and exchanged with the rest of the DOE complex. Internally generated lessons learned were to be routed to the appropriate personnel within the organization. In addition, the CH2M HILL Training manager and the Project Hanford Management Contractor (PHMC) Hanford Site lessons learned coordinator were to receive all lessons learned bulletins. Externally generated lessons learned with applicability to CH2M HILL operations were to be entered into the PER system for

Criteria	Results
	evaluation, corrective action, and tracking purposes. Assessment FY04-CP-M-0015, January 28, 2004, CH2M HILL, Lessons Learned Program Performance, addressed implementation of these programs and procedures.
3. Formal programs and processes have been established and implemented to solicit feedback or suggestions from workers and work activities on the effectiveness of work definition, hazard analyses and controls, and implementation for all types of work activities, and to apply lessons learned.	The assessment team found that *Problem Evaluation Request* (TFC-ESHQ-Q-C-C-01) adequately described and specified processes to solicit feedback from workers and work activities. The assessors found that other feedback mechanisms were described and specified in documents and procedures such as: • *Employee Concerns Program* (TFC-BSM-HR-MA-C-02); • *Pre-Job Briefing* (TFC-OPS-MAINT-C-02); and • *Lessons Learned* (TFC-OPS-OPER-C-28.
4. Employee concerns related to management of DOE and NNSA programs and facilities are promptly and thoroughly reported and investigated in accordance with applicable DOE directives.	The assessment team found that *Employee Concerns Program* (TFC-BSM-HR-MA-C-02) adequately described and specified programs, procedures, and processes for employee concerns activities. US DOE ORP Assessment, *Employee Concerns Program* (June 2005) verified implementation of the CH2M HILL program.
2.3 Event Reporting: Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.	
1. Formal programs and processes have been established to identify issues and report, analyze, and address operational	The assessors found that the following documents and procedures adequately described and specified how operational events,

Criteria	Results
events, accidents, and injuries. Events, accidents, and injuries are promptly and thoroughly reported and investigated, including the identification and resolution of root causes and management and programmatic weaknesses, and distribution of lessons learned.	accidents, and injuries were to be reported and analyzed. This included how they were to be investigated and root causes, management weaknesses, and programmatic weaknesses were to be identified for resolution. It also included the process for how lessons learned were to be disseminated. • *Quality Assurance Program Description* (TFC-PLN-02); • *Event Investigation Process* (TFC-OPS-OPER-C-14); • *Occurrence Reporting and Processing of Operations Information* (TFC-OPS-OPER-C-24); • *Problem Evaluation Request* (TFC-ESHQ-Q-C-C-01); • *Root and Common Cause Analysis and Corrective Action Planning* (TFC-ESHQ-Q-ADM-C-11); • *Price-Anderson Amendments Act Evaluation and Reporting* (TFC-ESHQ-PAAA-C-01); • *Executive Safety Review Board* (TFC-CHARTER-32); and • *Lessons Learned* (TFC-OPS-OPER-C-28). The following assessments addressed implementation of these programs and procedures: • FY04-CP-M-0018, February 26, 2004, CH2M HILL, Contamination Control Effectiveness; • FY04-CH2M-I-0127, July 1, 2004, CH2M HILL, Corrective Action Management for Vapor Issues; • FY04-AP-M-0158, June 30, 2004, CH2M HILL, Safety Review and Performance Assessment SMP Assessment; • FY04-ESHQ-M-0176, August 12, 2004, CH2M HILL, Industrial Hygiene SMP Assessment; • US DOE ORP Audit, April 15, 2005, US DOE ORP, ES&H Reporting;

Criteria	Results
	• FY05-WFO-S-0323, August 1, 2005, CH2M HILL, Illness and Injury Specialty Assessment; • FY05-WFO-S-0315, August 31, 2005, CH2M HILL, Event Investigation Effectiveness; and • FY05-CH2M-I-0008, September 30, 2005, CH2M HILL, Occupational Injury and Illness – Recordkeeping Roles and Responsibilities of Management/Employees for Investigation and Follow-Through.
2. Reporting of operational events, accidents, and injuries are conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE directives, and contract terms and conditions. Trending analysis of events, accidents, and injuries are performed in accordance with structured/formal processes and applicable DOE directives.	The assessors found that the following documents and procedures adequately described and specified how operational events, accidents, and injuries were to be reported, analyzed, and trended: • *Quality Assurance Program Description* (TFC-PLN-02); • *Event Investigation Process* (TFC-OPS-OPER-C-14); • *Occurrence Reporting and Processing of Operations Information* (TFC-OPS-OPER-C-24); • *Problem Evaluation Request* (TFC-ESHQ-Q-C-C-01); • *Lessons Learned* (TFC-OPS-OPER-C-28); and • *Performance Indicator Program* (TFC-PRJ-PC-C-11). The following assessments addressed implementation of these programs and procedures: • FY04-CP-M-0018, February 26, 2004, CH2M HILL, Contamination Control Effectiveness; • FY04-CH2M-I-0127, July 1, 2004, CH2M HILL, Corrective Action Management for Vapor Issues; • FY04-AP-M-0158, June 30, 2004, CH2M HILL, Safety Review and Performance Assessment SMP Assessment; • FY04-ESHQ-M-0176, August 12, 2004, CH2M HILL,

Criteria	Results
	Industrial Hygiene SMP Assessment; • US DOE ORP Audit, April 15, 2005, US DOE ORP, ES&H Reporting; • FY05-WFO-S-0323, August 1, 2005, CH2M HILL, Illness and Injury Specialty Assessment; • FY05-WFO-S-0315, August 31, 2005, CH2M HILL, Event Investigation Effectiveness; and • FY05-CH2M-I-0008, September 30, 2005, CH2M HILL, Occupational Injury and Illness – Recordkeeping Roles and Responsibilities of Management/Employees for Investigation and Follow-Through. The program included the following features: • Reportable occurrences that met occurrence reporting and processing system thresholds and associated corrective actions were to be evaluated, documented, and reported as required by the DOE directives. • For activities covered by the Price-Anderson Amendments Act, nuclear and worker safety and health issues meeting DOE reporting thresholds were to be self-reported through the DOE-wide Noncompliance Tracking System. • Trending analysis of events, accidents, and injuries was to be performed in accordance with structured/formal processes.
2.4 Issues Management: The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.	

Criteria	Results
1. Program and performance deficiencies, regardless of their source, are captured in a system or systems that provides for effective analysis, resolution, and tracking. Issues management system elements include structured processes for determination of risk, significance, and priority of deficiencies; evaluation of scope and extent of condition; determination of reportability under applicable requirements; identification of root causes; identification and documentation of corrective actions and recurrence controls to prevent recurrence; identification of individuals/organizations responsible for corrective action implementation; establishment of milestones based on significance and risk for completion of corrective actions; tracking progress; verification of corrective action completion; and validation of corrective action implementation and effectiveness.	The assessors found that the following CH2M HILL documents and procedures adequately described and specified programs, procedures, and processes for assurance system issue management activities: • *Quality Assurance Program Description* (TFC-PLN-02); • *Event Investigation Process* (TFC-OPS-OPER-C-14); • *Occurrence Reporting and Processing of Operations Information* (TFC-OPS-OPER-C-24); • *Problem Evaluation Request* (TFC-ESHQ-Q-C-C-01); • *Root and Common Cause Analysis and Corrective Action Planning* (TFC-ESHQ-Q-ADM-C-11); • *Price-Anderson Amendments Act Evaluation and Reporting* (TFC-ESHQ-PAAA-C-01); and • *Executive Safety Review Board* (TFC-CHARTER-32). The systems described in these documents provided for the timely and effective resolution of deficiencies and were an integral part of the assurance system. Further, program and performance deficiencies, regardless of their source, were to be captured in an issues management system (i.e., the CH2M HILL Problem Evaluation Request (PER) System) that provided for effective analysis, resolution, and tracking. The CH2M HILL PER system included structured processes for: • Determining the risk, significance, and priority of deficiencies; • Evaluating the scope and extent of the condition or deficiency (e.g., applicability to other equipment, activities, facilities, or organizations);

Criteria	Results
	• Determining event reportability under applicable requirements (e.g., Price-Anderson Amendments Act, Occurrence Reporting and Processing System, security incident reporting); • Identifying root causes (applied to all items using a graded approach based on risk); • Identifying and documenting suitable corrective actions and recurrence controls, based on analysis, to correct the conditions and prevent recurrence; • Identifying individuals/organizations responsible for implementing corrective actions; • Establishing appropriate milestones for completion of corrective actions including consideration of significance of risk; • Tracking progress toward milestones such that responsible individuals and managers can ensure timely completion of actions and resolution of issues; • Verifying that corrective actions are complete; • Validating that corrective actions are effectively implemented and accomplish their intended purposes, using a graded approach based on risk; and • Ensuring that individuals and organizations are accountable for performing their assigned responsibilities.
2. Issues management processes include mechanisms to promptly identify the potential impact of a deficiency and take timely actions to address conditions of immediate concern, including stopping work, system shutdown, emergency response, reporting to management, and compensatory measures pending formal	The assessment team found the following documents and procedures adequately described and specified processes for rapidly determining the impact of identified weaknesses and taking timely action to address conditions of immediate concern. For such conditions, interim corrective actions (e.g., stopping

Criteria	Results
documentation and resolution of the issue.	work, shutting down activities, or revising a procedure) were to be taken as soon as a condition was identified and without waiting until a formal report was issued. • *Problem Evaluation Request* (TFC-ESHQ-Q-C-C-01) and • *Stop Work Responsibility* (TFC-ESHQ-S-SAF-C-04).
3. Processes for analyzing deficiencies, individually and collectively, have been established that enable the identification of programmatic or systemic issues. Line management effectively monitors progress and optimizes the allocation of assessment resources in addressing known systemic issues.	The assessors found that the following documents and procedures adequately described and specified assurance system issue management activities: • *Quality Assurance Program Description* (TFC-PLN-02); • *Problem Evaluation Request* (TFC-ESHQ-Q-C-C-01); • *Price-Anderson Amendments Act Evaluation and Reporting* (TFC-ESHQ-PAAA-C-01); and • *Executive Safety Review Board* (TFC-CHARTER-32). The following assessments addressed implementation of these programs and procedures: • FY04-CH2M-I-0130, February 6, 2004, SSRB, Executive-Level Independent Assessment of the PAAA Implementation; • FY04-CP-M-0037, April 30, 2004, CH2M HILL, Closure Project Corrective Action Management Effectiveness; • FY04-MC-S-0098, June 11, 2004, CH2M HILL, Problem Evaluation Report Processing; • FY05-CH2M-I-0011, March 1, 2005, CH2M HILL, Effectiveness of ISMS Corrective Action Plan and Field Implementation; • US DOE ORP Audit, May 5, 2005, US DOE ORP, PAAA Program Review; • FY05-PA-M-0159, May 31, 2005, CH2M HILL, PER Process

Criteria	Results
	Assessment – Adequacy of Corrective Action Closures; • FY05-CO-M-0108, June 29, 2005, CH2M HILL, Corrective Action Management – Assessment Related ESTARS/PER; • FY05-PA-S-0316, November 30, 2004, CH2M HILL, PAAA Program Review Including Records Management Activities; • FY05-CH2M-I-0009, September 30, 2005, CH2M HILL, ISM Core Function No. 4 – Perform Work within Controls, End-Point Assessment to Determine Corrective Action Effectiveness; and • FY05-PA-M-0170, October 14, 2005, CH2M HILL, Effectiveness of Corrective Actions for ORP Assessment. These processes for collectively and individually analyzing deficiencies were established to enable the identification of programmatic or systemic issues. Management was to monitor processes to ascertain progress in addressing known systemic issues and to optimize the allocation of assessment resources.
4. Processes for communicating issues up the management chain to senior management have been established and based on a graded approach that considers hazards and risks. Line management receives periodic information on the status of identified deficiencies and corrective actions and holds organizations and individuals accountable for timely and effective completion of actions. Line management has executed graded mechanisms such as independent verification and performance-based evaluation to ensure that corrective action and recurrence controls are timely, complete, and effective. Closure of corrective actions and deficiencies are based on objective, technically sound,	The assessment team found the following documents and procedures adequately described and specified processes for communicating issues up the management chain to senior management based on a graded approach: • *Quality Assurance Program Description* (TFC-PLN-02); • *Problem Evaluation Request* (TFC-ESHQ-Q-C-C-01); • *Price-Anderson Amendments Act Evaluation and Reporting* (TFC-ESHQ-PAAA-C-01); and • *Executive Safety Review Board* (TFC-CHARTER-32). The following assessments addressed implementation of these

Criteria	Results
and verified evidence. The effectiveness of corrective actions is determined on a graded basis and additional actions are completed as necessary.	programs and procedures: • FY04-CH2M-I-0130, February 6, 2004, SSRB, Executive-Level Independent Assessment of the PAAA Implementation; • FY04-CP-M-0037, April 30, 2004, CH2M HILL, Closure Project Corrective Action Management Effectiveness; • FY04-MC-S-0098, June 11, 2004, CH2M HILL, Problem Evaluation Report Processing; • FY05-CH2M-I-0011, March 1, 2005, CH2M HILL, Effectiveness of ISMS Corrective Action Plan and Field Implementation; • US DOE ORP Audit, May 5, 2005, US DOE ORP, PAAA Program Review; • FY05-PA-M-0159, May 31, 2005, CH2M HILL, PER Process Assessment – Adequacy of Corrective Action Closures; • FY05-CO-M-0108, June 29, 2005, CH2M HILL, Corrective Action Management – Assessment Related ESTARS/PER; • FY05-PA-S-0316, November 30, 2004, CH2M HILL, PAAA Program Review Including Records Management Activities; • FY05-CH2M-I-0009, September 30, 2005, CH2M HILL, ISM Core Function No. 4 – Perform Work within Controls, End-Point Assessment to Determine Corrective Action Effectiveness; and • FY05-PA-M-0170, October 14, 2005, CH2M HILL, Effectiveness of Corrective Actions for ORP Assessment. TFC-ESHQ-Q_C-C-01, described organizational and individual roles and responsibilities, authority and accountability, checks-and-balances, and escalation processes to ensure timely and effective completion of corrective action. TFC-ESHQ-Q_ADM-

Criteria	Results
	D-03 described adequate processes to ensure that corrective action completion and closure would be evaluated using objective, technically sound, verifiable evidence. The assessors found that the processes described in these procedures provided sufficient technical basis to allow managers to make informed decisions and include provisions for communicating and documenting dissenting opinions. TFC-ESHQ-Q_C-C-01, described processes for resolving disputes about oversight findings and other significant issues are documented. These processes included provisions for independent technical reviews of significant issues.
5. Results of various feedback systems are integrated and collectively analyzed to identify repeat occurrences, generic issues, trends, and vulnerabilities at a lower level before significant problems result.	The assessors found that the following documents and procedures adequately described and specified how results from various feedback systems were to be integrated and collectively analyzed to identify repeat occurrences, generic issues, trends, and vulnerabilities at a lower level before significant problems result: • *Quality Assurance Program Description* (TFC-PLN-02); • *Problem Evaluation Request* (TFC-ESHQ-Q-C-C-01); • *Price-Anderson Amendments Act Evaluation and Reporting* (TFC-ESHQ-PAAA-C-01); and • *Executive Safety Review Board* (TFC-CHARTER-32). The following assessments addressed implementation of these programs and procedures: • FY04-CH2M-I-0130, February 6, 2004, SSRB, Executive-Level Independent Assessment of the PAAA Implementation; • FY04-CP-M-0037, April 30, 2004, CH2M HILL, Closure Project Corrective Action Management Effectiveness;

Criteria	Results
	• FY04-MC-S-0098, June 11, 2004, CH2M HILL, Problem Evaluation Report Processing; • FY05-CH2M-I-0011, March 1, 2005, CH2M HILL, Effectiveness of ISMS Corrective Action Plan and Field Implementation; • US DOE ORP Audit, May 5, 2005, US DOE ORP, PAAA Program Review; • FY05-PA-M-0159, May 31, 2005, CH2M HILL, PER Process Assessment – Adequacy of Corrective Action Closures; • FY05-CO-M-0108, June 29, 2005, CH2M HILL, Corrective Action Management – Assessment Related ESTARS/PER; • FY05-PA-S-0316, November 30, 2004, CH2M HILL, PAAA Program Review Including Records Management Activities; • FY05-CH2M-I-0009, September 30, 2005, CH2M HILL, ISM Core Function No. 4 – Perform Work within Controls, End-Point Assessment to Determine Corrective Action Effectiveness; and • FY05-PA-M-0170, October 14, 2005, CH2M HILL, Effectiveness of Corrective Actions for ORP Assessment. An example of a feedback system was TFC-CHARTER-32 which required the CH2M HILL Executive Safety Review Board (ESRB) to perform the following functions: • Oversee the identification, causal analysis, reporting, and corrective action plan development for issues identified in Significant Problem Evaluation Requests (PERs) and other issues as determined by the chair, vice chair, or sponsor; • Provide strong corporate support for corrective action implementation;

Criteria	Results
	• Provide assurance that corrective actions for Significant PERs and other selected issues have achieved desired results; • Provide feedback and senior management direction concerning the focus and conduct of assessments; • Periodically (approximately quarterly) review the health of Safety Management Program implementation; • Periodically (approximately quarterly) review the Price Anderson Amendments Act (PAAA) Program performance regarding proper screening and reporting of events and issues; • Review events, issues, and adverse trends with safety or quality significance and/or programmatic implications, including safety issues that crosscut organizational boundaries; and • Review safety metrics and corrective actions. Further, the ESRB was to evaluate the scope, depth, and effectiveness of the PER resolutions and end point assessments to ensure: • The adequacy and completeness of the root cause analysis; • Actions are defined and completed to address performance enhancement and process improvements; • Actions are defined and completed to correct the problem and prevent recurrence of the significant event; • Actions are included and completed to address the organizational and programmatic deficiencies; • Actions are included and completed to address the human errors; and • Actions address causal factors.
6. Individuals or teams responsible for corrective action	The assessors found the following documents and procedures

Criteria	Results
development are trained in analysis techniques to evaluate significant problems using a structured methodology to identify root and contributing causes and corrective actions to prevent recurrence.	adequately described and specified that individuals or teams responsible for corrective action development were to be trained in analysis techniques to evaluate significant problems using a structured methodology to identify root and contributing causes and corrective actions to prevent recurrence: • *Quality Assurance Program Description* (TFC-PLN-02); • *Problem Evaluation Request* (TFC-ESHQ-Q-C-C-01); • *Root and Common Cause Analysis and Corrective Action Planning* (TFC-ESHQ-Q-ADM-C-11); and • *Apparent Cause Analysis and Corrective Action Planning* (TFC-ESHQ-Q-ADM-C-12). The following assessments addressed implementation of these programs and procedures: • FY04-CH2M-I-0119, May 19, 2004, CH2M HILL, Analytical Technical Services 222-S Laboratory QA – NQA-1; • FY04-HD&C-M-0051, August 26, 2004, CH2M HILL, Training Assessment for 222-S Laboratory for Quality and Accuracy of 222-S Records; • FY05-CH2M-I-0002, March 24, 2005, CH2M HILL, OCRWM QA Audit; • US DOE ORP Audit, March 25, 2005, US DOE ORP, Quality Assurance; • US DOE ORP Audit, April 29, 2005, US DOE ORP, Training and Qualified Personnel; • FY05-CH2M-I-0012, May 25, 2005, CH2M HILL, 222-S Laboratory Assessment – NQA-1; and • FY05-PA-M-0170, October 14, 2005, CH2M HILL, Effectiveness of Corrective Actions for ORP Assessment.

Criteria	Results
Supplemental Lines of Inquiry	**Results**
Issues Management	The assessment team found that CH2M HILL had established adequate programs, procedures, and processes for assurance system issues management activities.
1. Causal analysis seeks to determine not only the immediate and direct causes of the event/near-miss, but also the organizational factors that created the environment where the event could occur.	TFC-ESHQ-Q_ADM-C-11, *Root and Common Cause Analysis and Corrective Action Planning*, and TFC-ESHQ-Q_ADM-C-12, *Apparent Cause Analysis and Corrective Action Planning*, described processes to ensure that causal analyses determined not only the immediate and direct causes of the event/near-miss, but also the organizational factors that created the environment where the event could occur.
2. Events/near-miss are evaluated to determine the extent to which the contributing factors exist across the organization, and corrective actions are developed to address the full extent of condition.	TFC-OPS-OPER-C-24, *Occurrence Reporting and Processing of Operations Information*, described processes to ensure that events/near-miss were evaluated to determine the extent to which the contributing factors existed across the organization, and corrective actions were developed to address the full extent of condition.
3. Critiques, accident investigations, and associated causal analyses are focused to identify conditions and organizational factors, not to apportion blames to individuals or organizational units.	TFC-OPS-OPER-C-14, *Event Investigation Process*, described processes to ensure that critiques, accident investigations, and associated causal analyses were focused to identify conditions and organizational factors, not to apportion blame to individuals or organizational units.
4. Causal analysis and the resulting development of corrective actions are not constrained by organizational boundaries or	TFC-ESHQ-Q_C-C-01, *Problem Evaluation Request*, described processes to ensure that causal analysis and the resulting

Criteria	Results
management hierarchy.	development of corrective actions were not constrained by organizational boundaries or management hierarchy.
5. Evaluations of events/near-misses that find human error to be a cause or contributor consider the limitations of human performance and examine whether the expectations and work environment were structured for success.	TFC-OPS-OPER-C-24, *Occurrence Reporting and Processing of Operations Information*, described processes to ensure that evaluations of events/near-misses that find human error to be a cause or contributor considered the limitations of human performance and examined whether the expectations and work environment were structured for success.
Event Reporting	The assessment team verified that CH2M HILL had established adequate programs, procedures, and processes for assurance system event reporting activities.
1. Line managers throughout the organization encourage and are responsive to employee feedback.	TFC-CHARTER-34, *Safe Work Environment Charter*; CH2M HILL Expectations for Implementation of the Integrated Environment, Safety and Health Management System (ISMS) (15APR05); TFC-POL-12, *Zero Tolerance for Retaliation*; TFC-POL-13, *Work Place Harassment*, described the principles, protocols, and practices to ensure that line managers throughout the organization encouraged and were responsive to employee feedback.
2. Employees openly report errors and performance challenges to line management, with confidence that the information will be used to drive improvement.	TFC-ESHQ-Q_C-C-01, *Problem Evaluation Request*, described processes to ensure that employees openly reported errors and performance challenges to line management with confidence that the information would be used to drive improvement.
Operating Experience	The assessment team verified that CH2M HILL had established

Criteria	Results
	adequate programs, procedures, and processes for assurance system operating experience activities.
1. The feedback sources monitored and integrated by line management to identify improvement opportunities include indications of safety culture, such as open reporting and a receptive, learning environment.	TFC-CHARTER-34, *Safe Work Environment Charter*; CH2M HILL Expectations for Implementation of the Integrated Environment, Safety and Health Management System (ISMS) (15APR05); TFC-POL-12, *Zero Tolerance for Retaliation*; TFC-POL-13, *Work Place Harassment*, described the principles, protocols, and practices to ensure that feedback sources were monitored and integrated by line management to identify improvement opportunities include indications of safety culture, such as open reporting and a receptive, learning environment.

Feedback and Improvement Assessment Results, DNFSB Recommendation 2004-1
Bechtel National, Incorporated

Criteria	Results
Generic Issues and Note:	**Issue:** Bechtel National Inc. (BNI) cannot determine the impact of developing a complete contractor assurance system until the U.S. Department of Energy (DOE) implementation manual/workshops for DOE O 226.1 are provided and a detailed gap analysis can be performed. **Issue:** Hanford Tank Waste Treatment and Immobilization Plant (WTP) assurance activities may not encompass WTP subcontractor activities to the degree required by Appendix A to the Contractor Requirements Document of DOE O 226.1, *Implementation of Department of Energy Oversight Policy.* **Issue:** WTP assurance activities may not encompass WTP business operations to the degree required by Appendix A to the Contractor Requirements Document of DOE O 226.1, *Implementation of Department of Energy Oversight Policy.* **Note:** It is BNI's understanding that this *Oversight Feedback and Improvement Assessment* is not part of DOE O 226.1, *Implementation of Department of Energy Oversight Policy.*
Objective F&I-1: Contractor Program Documentation **Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible manager, complete corrective actions, and share in lessons learned effectively across all aspects of operation.**	
1. A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by contractor management, and forwarded to DOE for review and approval. The program description is	The assessors found the following documents adequately described and specified BNI's Quality Assurance Program and Integrated Safety Management System (ISMS). • 24590-WTP-QAM-QA-01-001, *Quality Assurance Manual* (QAM). Revisions of the QAM had been approved by WTP management and annual updates forwarded to DOE

Criteria	Results
reviewed and updated annually and forwarded to DOE for review and approval.	for review and approval. This was consistent with BNI's existing DOE contract. - **Revision 6**, dated August 1, 2005, of the *Quality Assurance Manual* had been approved by contractor management and forwarded to DOE (CCN 124001) for review. One comment was received (CCN 127905), which was resolved. - **Revision 5**, dated July 15, 2004, was submitted under CCN 093339 and approved in CCN 096861 • 24590-WTP-ISMSD-ESH-01-001, *WTP Project Integrated Safety Management System Description*. Revisions had been submitted to ORP for approval. This was consistent with BNI's existing DOE contract. - **Revision** 3, dated September 20, 2005, was submitted under CCN 124103.
2. The contractor's assurance system includes assessment activities (self-assessments, management assessments, and internal independent assessments as defined by laws, regulations, and DOE directives such as quality assurance program requirements) and other structured operational awareness activities; incident/event reporting processes, including occupational injury and illness and operational accident investigations; worker feedback mechanisms; issues management; lessons-learned programs; and performance indicators/ measures.	The assessors found that the following documents and procedures adequately described and specified BNI assessment activities and other structured operational awareness activities as follows: **Assessment Activities:** • 24590-WTP-GPP-MGT-002, *Management Assessment*, promoted continuous improvement by assessing the adequate and effective implementation of WTP management systems, especially those related to safety, quality, environmental protection, and cross-functional integration. This procedure provided the processes used by project management to assess the adequacy and effectiveness of work processes and implementing procedures, including the responsibilities of participants, processes for planning and conducting management assessments, and the preparation of management assessment reports, including documentation and resolution of issues identified during the assessment. In June 2005, ORP evaluated implementation of BNI's Quality Assurance Program (A-05-ESQ-RPP-WTP-003)[1]. • 24590-WTP-GPP-QA-501, *Independent Assessment (Audit)*, presented methods for planning, scheduling, performing, reporting, and closing audits conducted by the Quality Assurance (QA) organization in compliance with Policy Q-18.1, "Independent Assessment (Audit)" of 24590-WTP-QAM-QA-01-001, *Quality Assurance Manual*. This procedure required audits to verify compliance with project requirements, evaluate performance, determine the effectiveness of implementation of the

Criteria	Results
	requirements and of corrective action, and identify potential improvement opportunities and lessons learned from similar organizations with similar activities. • 24590-WTP-GPP-QA-601, *Quality Assurance Surveillance*, identified the process used to conduct and document surveillances of quality-related activities in the scope of the WTP QA program. Surveillances were required to be performed based on the need to perform reviews or verifications of specific activities, provide the opportunity to verify the quality of work in process, and promote improvement. This procedure required surveillances to be routinely conducted to verify conformance of items, services, and processes to established requirements; and were separate from and in addition to independent and management assessments. **Structured Operational Awareness Activities:** • 24590-WTP-GPP-MGT-006, *Management Oversight*, described the internal project management and corporate oversight functions for the WTP project. Project and corporate management were required to provide independent oversight and review of project matters that affect nuclear, radiological, and process safety; occupational safety; and environmental protection. This management consisted of WTP and corporate senior management. • 24590-WTP-GPP-MGT-012, *Safety/Quality Council*, established a forum to discuss and review events, actions, and activities associated with safety and quality aspects of the project. The Safety/Quality Council was required to enforce management decisions to balance priorities, recommend safety and quality improvement initiatives, and identify and allocate resources as needed to meet the Project's quality and safety objectives and performance commitments. • 24590-WTP-GPP-MGT-020, *Price-Anderson Amendments Act Review Board*, provided instructions and requirements for implementing the Price-Anderson Amendments Act Review Board (PRB) process for evaluating Price-Anderson Amendments Act (PAAA) noncompliances. It defined the process by which the PRB developed recommendations for the Project Director for reporting potential PAAA noncompliances for input to the DOE Noncompliance Tracking System (NTS). • 24590-WTP-GPP-QA-101, *Price-Anderson Amendments Act Compliance and Reporting*, provided instructions and requirements for implementing the WTP process of identifying, evaluating, and reporting PAAA noncompliances. It defined the

Criteria	Results
	process for identifying PAAA noncompliances, documenting the evaluations of PAAA noncompliances associated with work performed by BNI and its subcontractors and suppliers, tracking PAAA noncompliances in the Quality Assurance Information System (QAIS) or Supplier Quality Information System (SQIS), and identifying and reporting applicable noncompliances for input to the DOE NTS. • 24590-WTP-GPP-SREG-001, *Project Safety Committee*, established the scope, responsibilities, and process of the WTP Project Safety Committee (PSC). The PSC was an independent, integrated advisory committee to the Project Director on matters related to nuclear, radiological, and process safety. **Incident/Event Reporting Process:** • 24590-WTP-GPP-SIND-001, *Reporting Occurrences in Accordance with DOE M 231.1-2*, established a system for the timely identification, categorizing, and reporting of occurrences in accordance with the DOE O 231.1A, *Environment, Safety, and Health Reporting*, and its manual, DOE M 231.1-2, *Occurrence Reporting and Processing of Operations Information.* • 24590-WTP-GPP-SIND-019, *Emergency Management Program*, defined the response to emergency condition; administration of the WTP's emergency management program; coordination and direction of planning, preparedness, and readiness assurance; and relationship to the *Hanford Emergency Management Plan* (DOE/RL-94-02). The Emergency Management Program outlined and established the WTP's responsibilities and conditions for maintaining an emergency preparedness program. BNI had assessed implementation of the Emergency Management Program in February 2005[2]. **Occupational Injury and Illness and Operational Accident Investigations:** • 24590-WTP-GPP-SIND-040, *Environment, Safety, and Health Reporting in Accordance with DOE Order 231.1A*, specified that information pertaining to environment, safety, and health statistics was to be transmitted to DOE Headquarters for evaluating department operations and identifying opportunities for improvement in those areas. This procedure identified those activities meeting the reporting requirements contained in DOE O 231.1A, *Environment, Safety and Health Reporting*, and DOE M 231.1 - 1A, *Environment, Safety and Health Reporting Manual.* In February and March 2005 ORP assessed implementation of BNI's Occupational Safety

Criteria	Results
	and Health Administration (OSHA) injury/illness recordkeeping program (A-05-ESQ-RPPWTP-002)[3]. **Worker Feedback Mechanism:** • 24590-WTP-GPP-MGT-005, *Employee Concerns Program*, provided a method for employees to formally or informally raise and address questions and concerns regarding safety, health, the environment, security, quality, waste, fraud, abuse, and corruption. It also addressed harassment, intimidation, retaliation, and discrimination for raising a concern or engaging in a protected activity. **Issues Management**: • 24590-WTP-GPP-QA-201, *Corrective Action*, defined BNI's method for documenting, implementing, and verifying corrective actions and follow-up for behavioral, procedural, programmatic, and technical conditions adverse to nuclear and process safety, industrial safety and health (IS&H), operations, quality, security, and the environment. In August 2005 ORP evaluated implementation of BNI's corrective action management program (A-05-ESQ-RPPWTP-006)[4]. • Issues and recommendations were to be managed and tracked to completion using the WTP QAIS that included the Recommendation and Issue Tracking System. **Lessons-Learned Program:** • 24590-WTP-GPP-MGT-017, *Lessons Learned*, provided direction for implementing a lessons learned program to establish a consistent manner in which information is captured or developed and disseminated throughout the facility and to other projects to ensure on-going improvement in project execution. **Performance Indicators/Measures:** • 24590-WTP-GPP-MGT-006, *Management Oversight*, described the internal project and corporate senior management oversight functions for the WTP project. Project and corporate management were required to provide independent oversight and review of project matters that affect nuclear, radiological, and process safety; occupational safety; and environmental protection. • *Hanford Tank Waste Treatment and Immobilization Plant (WTP) Fiscal Year (FY) 2006 Integrated Safety Management System (ISMS) Performance Metrics*, dated

Criteria	Results
	September 13, 2005, CCN 124101 • 24590-WTP-GPP-QA-204, *Quality Trending*, identified the requirements, responsibilities, and methodologies for the tracking and trending of quality-related performance metrics for the WTP. It was required to be used for identifying, evaluating, and reporting trends associated with Corrective Action Reports (CARS), Nonconformance Reports, and any other quality-related metrics of interest for the WTP. The PSC was required to review performance indicators and trends for worker, public, and environmental safety activities. In August 2005 ORP evaluated implementation of BNI's corrective action management program (A-05-ESQ-RPPWTP-006)[4]. The assessors found that the WTP QAM included the following policies which specified assessment and operational awareness activities: • Policy Q-01.1, "Project Organization;" • Policy Q-02.1, "Quality Assurance Program;" • Policy Q-02.3, "Auditor/Lead Auditor Qualification and Certification;" • Policy Q-02.4, "Special Reviews" (readiness and peer reviews); • Policy Q-18.1, "Independent Assessment (Audit);" • Policy Q-18.2, "Quality Assurance Surveillance;" and • Policy Q-18.3, "Management Assessment." These procedures required BNI to periodically review the effectiveness of the QA program and its implementation at the department level and the results of these reviews were required to be documented in reports to the Project Director and Senior Management for evaluation and corrective action as required. The effectiveness of the QA program was required to be evaluated and reported by the QA organization through the inspection, review, monitoring, auditing, and assessment functions. In addition, the QA organization at a minimum, annually, was required to prepare an evaluation report on program effectiveness. (*WTP Annual Quality Assurance Effectiveness Review - Calendar Year 2004*, dated June 10, 2005, CCN 121424). In June 2005 ORP evaluated implementation of BNI's Quality Assurance Program (A-05-ESQ-RPP-WTP-003)[1]. In addition to the reviews and evaluations performed above, the QAM required the Project Director to perform an independent assessment of the QA program implementation annually. In September and October of 2005 the Bechtel Systems and Infrastructure

Criteria	Results
	(BSII) Deputy Manager of QA led the *Annual Independent Assessment of the Quality Assurance (QA) Program Implementation.*[5]
3. The contractor's assurance system monitors and evaluates all work performed under their contract, including the work of subcontractors.	The assessors evaluated the assurance system and found documents and procedures adequately described and specified processes for monitoring and evaluating work performed under the BNI contract, including the work of subcontractors (suppliers). Some examples of the BNI procedures were: • 24590-WTP-GPP-MGT-002, *Management Assessment*; • 24590-WTP-GPP-QA-501, *Independent Assessment (Audit)*; • 24590-WTP-GPP-QA-601, *Quality Assurance Surveillance*; • 24590-WTP-GPP-QA-101, *Price-Anderson Amendments Act Compliance and Reporting*; • 24590-WTP-GPP-SIND-001, *Reporting Occurrences in Accordance with DOE M 231.1-2*; • Policy Q-01.1, "Project Organization;" • Policy Q-02.1, "Quality Assurance Program;" • Policy Q-02.3, "Auditor/Lead Auditor Qualification and Certification;" • Policy Q-02.4, "Special Reviews" (readiness and peer reviews); • Policy Q-18.1, "Independent Assessment (Audit);" • Policy Q-18.2, "Quality Assurance Surveillance;" and • Policy Q-18.3, "Management Assessment." The WTP QAM was applicable to the facilities and services being designed, constructed, commissioned, operated, managed, or provided under BNI's contract with ORP. The QAM applied to work taking place at or for the WTP project and to suppliers and subcontractors, as specified by procurement documents, such as design, manufacturing, or analytical laboratory services. In addition, the policies applied to spare/replacement part procurement; repair; modifications; maintenance; in service and/or non-destructive examinations, inspections, or testing; technical analysis and support; and other quality affecting activities. • QAM Policy Q-07.1, "Control of Purchased Items and Services," identified requirements and responsibilities for planning and executing procurement of items and services to assure conformance with specified requirements. Work was to be monitored and evaluated in accordance with the procedures identified in No. 2 above. In addition, subcontractor performance was required to be monitored in accordance

Criteria	Results
	with the Supplier Quality suite of procedures. In June 2005 ORP evaluated implementation of BNI's Quality Assurance Program (A-05-ESQ-RPP-WTP-003)[1].
4. Contractor assurance system data is formally documented and available to DOE line management. Results of assurance processes are periodically analyzed, complied, and reported to DOE line management as part of formal contract performance evaluation.	The assessors evaluated the assurance system and found the following documents and procedures adequately described and specified how program information was to be documented and made available to DOE line management: • 24590-WTP-GPP-MGT-002, *Management Assessment*; • 24590-WTP-GPP-QA-501, *Independent Assessment (Audit)*; • 24590-WTP-GPP-QA-601, *Quality Assurance Surveillance* • 24590-WTP-GPP-QA-101, *Price-Anderson Amendments Act Compliance and Reporting*; • 24590-WTP-GPP-SIND-001, *Reporting Occurrences in Accordance with DOE M 231.1-2*; • WTP QAIS that included the Recommendation and Issue Tracking System; • 24590-WTP-ISMP-ESH-01-001, *Integrated Safety Management Plan*; • 24590-WTP-ISMSD-ESH-01-001, *WTP Project Integrated Safety Management System Description*; and • 24590-WTP-GPP-SIND-040, *Environment, Safety, and Health Reporting in Accordance with DOE Order 231.1A.* Information from self-assessments, management assessments, and internal independent assessments, incident/event reporting processes, worker feedback mechanisms; issues management and lessons-learned programs; and performance indicators/measures were to be documented and made available to DOE line management. Examples of documents transmitted to DOE over the past year included: • *WTP Annual Quality Assurance Effectiveness Review - Calendar Year 2004*, dated June 10, 2005, CCN 121424; • *Hanford Tank Waste Treatment and Immobilization Plan (WTP) Fiscal Year (FY) 2006 Integrated Safety Management System (ISMS) Performance Metrics*, dated September 13, 2005, CCN 124101; • *Hanford Tank Waste Treatment and Immobilization Plant Project WTP Quality Assurance Trend Report - First Quarter CY 2005*, dated June 29, 2005, CCN 120808; • *Hanford Tank Waste Treatment and Immobilization Plant Project WTP Quality Assurance Trend Report - Second Quarter CY 2005*, dated August 09, 2005, CCN

Criteria	Results
	125220; • *Hanford Tank Waste Treatment and Immobilization Plant Project WTP Quality Assurance Trend Report - Third Quarter CY 2005*, dated November 29, 2005, CCN 130831; • *WTP Price-Anderson Amendments Act Quarterly Report First and Second Quarters, CY 2005*, dated September 7, 2005, CCN 126803; and • *WTP Price-Anderson Amendments Act Quarterly Report Third Quarter, CY 2005*, dated November 10, 2005, CCN 130818. In June 2005 ORP evaluated implementation of BNI's Quality Assurance Program (A-05-ESQ-RPP-WTP-003)[1].
5. Contractors have established and implemented sufficient processes (e.g., self-assessments, corporate audits, third-party certifications or external reviews, performance indicators) for measuring the effectiveness of the contractor assurance program.	The assessors found processes in place for measuring the effectiveness of the QA program and ISMS. In addition to the WTP-directed self and independent assessments identified for criteria above, the following have been prepared and are available to DOE line management: • *2004 Annual Quality Assurance Program Evaluation*, dated June 23, 2004, CCN 098243 • *WTP Annual Quality Assurance Effectiveness Review - Calendar Year 2004*, dated June 10, 2005, CCN 121424 • *Hanford Tank Waste Treatment and Immobilization Plan (WTP) Fiscal Year (FY) 2006 Integrated Safety Management System (ISMS) Performance Metrics*, dated September 13, 2005, CCN 124101
6. Requirements and formal processes have been established and implemented that ensure personnel responsible for managing and performing assurance activities possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities.	The assessors found the following documents and procedures adequately described and specified BNI process for ensuring that personnel responsible for managing and performing assurance activities possessed appropriate experience, knowledge, skills, and abilities commensurate with their responsibilities: • QAM Policy Q-02.2, "Personnel Training and Qualification," identified responsibilities and requirements for the indoctrination, training, and qualification of personnel performing or managing activities affecting quality. It included requirements for the training or indoctrination of personnel as to the technical objectives and requirements of the applicable codes and standards, and the applicable quality assurance requirements to be used on the project. It included requirements to ensure that appropriate continuing training would be provided to maintain proficiency.

Criteria	Results
	• QAM Policy Q-02.3, "Auditor/Lead Auditor Qualification and Certification," addressed the responsibilities and requirements for the qualification and certification of QA auditors and lead auditors. It included requirements for the initial and continuing qualification and/or certification of technical specialists, auditors, and lead auditors. • 24590-WTP-GPP-QA-203, *Auditor/Lead Auditor Training and Qualification*, provided the process for qualification and certification of personnel as auditors, lead auditors, and technical specialists to perform QA audits. • 24590-WTP-GPP-CTRG-007, *Systematic Approach to Training Implementing Procedure*, established the requirements associated with the systematic approach to training for courses associated with formal qualification, or that affect quality or safety. BNI Independent Assessment Report 24590-WTP-IAR-QA-04-016 reviewed implementation of WTP training processes.
Performance Objective F&I-2: Contractor Program Implementation **2.1 Assessments & Performance Indicators: Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.**	
1. Line management has established and implemented a rigorous assessment program for performing comprehensive evaluations of all functional areas, programs, facilities, and organizational elements,	The assessors found the following documents and procedures adequately described and specified BNI processes for assessment and performance evaluation: • WTP QAM Policy Q-18.1, "Independent Assessment," identified requirements and responsibilities for performing independent assessments (audits), both internal and

Criteria	Results
including subcontractors, with a frequency, scope and rigor based on appropriate analysis of risks. The scope and frequency of assessments are defined in site plans and program documents, include assessments of processes and performance-based observation of activities and evaluation of cross-cutting issues and programs, and meet or exceed requirements of applicable DOE directives.	external. Assessments were required to be used to verify compliance and effectiveness of the QA program implementation and maintenance, as well as to identify continuous improvement opportunities. • WTP QAM Policy Q-18.2, "Quality Assurance Surveillance," identified requirements and responsibilities for performing quality assurance surveillances, both internal and external. Surveillances were required to be used to evaluate the adequacy, effectiveness, and compliance to specified requirements, QA program implementation and maintenance, and to identify continuous improvement opportunities. • Q-18.3, "Management Assessment," identified requirements and responsibilities for establishing and performing periodic management assessments of the adequacy of implementation of management process within their respective organizations. In addition, the assessors found the WTP self-assessment process was implemented through a two-tiered assessment program. The first tier consisted of ongoing management assessments, described in 24590-WTP-GPP-MGT-002, *Management Assessment*, and 24590-WTP-GPP-MGT-001, *Readiness Assessments*. Because the project included numerous subcontractors, an additional assessment process was described in 24590-WTP-GPP-SIND-022, *Assessment and Issue of Noncompliance for Construction Subcontractor's Safety and Health Compliance.* The second tier consisted of independent audits and surveillances performed by the QA organization in accordance with 24590-WTP-GPP-QA-501, *Independent Assessment (Audit)*, and 24590-WTP-GPP-QA-601, *Quality Assurance Surveillance*. Theses two processes were designed to verify compliance with and the adequacy of the QA and safety programs and to determine the effectiveness of the management assessment process. The assessors found that the WTP developed and distributed annual assessment schedules. The most recently issued was the *WTP Quality Assurance Independent Audit Schedule*, 24590-WTP-SC-QA-01-002, effective April 2005. In addition to the above, processes were in place (See F&I-1 #2, above) for the structured operational awareness activities. In June 2005 ORP evaluated implementation of BNI's Quality Assurance Program (A-05-ESQ-RPP-WTP-003)[1]. In August 2005 ORP evaluated implementation of BNI's corrective action management program (A-05-ESQ-RPPWTP-006)[4].

Criteria	Results
2. Rigorous self-assessments are identified, planned, and performed at all levels periodically to determine the effectiveness of policies, requirements, and standards and the implementation status.	The assessors found the following documents and procedures adequately described and specified BNI processes for self-assessment: • 24590-WTP-GPP-MGT-002, *Management Assessment*, provided the requirements for developing a management assessment schedule and annual plan, planning individual management assessments, conducting management assessments, and reporting results. Management assessments were required to be conducted to identify improvement opportunities and issues that may hinder the organization from achieving its objectives in accordance with safety, quality, environmental protection, contract, or business requirements. • *Final 2004 Management Assessment Listing and Schedule*, 24590-WTP-MAS-MG-03-001 Rev. 08, dated February 28, 2005, CCN 114828 • More than 100 management assessments have been conducted so far in 2005. In June 2005 ORP evaluated implementation of BNI's Quality Assurance Program (A-05-ESQ-RPP-WTP-003)[1].
3. Appropriate independent internal assessments are identified, planned and performed by contractor organizations or personnel having the authority and independence from line management, to support unbiased evaluations.	The assessors found the following documents and procedures adequately described and specified BNI processes for independent assessment: • QAM Policy Q-18.1, "Independent Assessment (Audit)," identified requirements and responsibilities for performing independent assessments (audits), both internal and external. Assessments were required to be used to verify compliance with, and to determine the effectiveness of, the QA program implementation and maintenance and to identify continuous improvement opportunities. • 24590-WTP-GPP-QA-501, *Independent Assessment (Audit)*, prescribed the methods for planning, scheduling, performing, reporting, and closing audits conducted by the Quality Assurance Department in compliance with Policy Q-18.1, "Independent Assessment (Audit)" of 24590-WTP-QAM-QA-01-001, *Quality Assurance Manual*. In June 2005 ORP evaluated implementation of BNI's Quality Assurance Program (A-05-ESQ-RPP-WTP-003)[1].
4. Line managers have established programs and processes to routinely identify, gather, verify, analyze,	The assessors found the following documents and procedures adequately described and specified BNI processes for identifying, gathering, verifying, analyzing, trending,

Criteria	Results
trend, disseminate, and make use of performance measures that provide contractor and DOE management with indicators of overall performance, the effectiveness of assurance system elements, and identification of specific positive or negative trends. Approved performance measures provide information that indicates how work is being performed and are clearly linked to performance objectives and expectation established by management.	disseminating, and making use of performance measures: • 24590-WTP-GPP-QA-201, *Corrective Action*, described the method for documenting, implementing, and verifying corrective actions and follow-up for behavioral, procedural, programmatic, and technical conditions adverse to nuclear and process safety, IS&H, operations, quality, security, and the environment. • 24590-WTP-GPP-CON-3106, *Construction Deficiency Reporting and Control*, identified the requirements for the timely identification, reporting, controlling dispositioning, and documenting of construction deficiencies identified during construction of the WTP. • 24590-WTP-GPP-CON-7104, *Nonconformance Reporting & Control*, identified the minimum requirements for the timely identification, reporting, controlling, dispositioning, and documenting of nonconforming conditions, including items determined to be S/CI identified during construction of the WTP. • 24590-WTP-GPP-QA-204, *Quality Trending*[1], described the method for documenting, implementing, and verifying corrective actions and follow-up for behavioral, procedural, programmatic, and technical conditions adverse to nuclear and process safety, IS&H, operations, quality, security, and the environment. In August 2005 ORP evaluated implementation of BNI's corrective action management program (A-05-ESQ-RPPWTP-006)[4]. • WTP procedure 24590-WTP-GPP-SPEC-001, *WTP Project ISMS Safety Performance Objectives, Measure, and Commitments*, established the requirements, responsibilities, and interfaces for the identification, implementation, tracking, trending, analysis, and reporting of safety performance objectives, measures, and commitments. • WTP QAM Policy Q-16.1, "Corrective Action." In August 2005 ORP evaluated implementation of BNI's corrective action management program (A-05-ESQ-RPPWTP-006)[4]. • 24590-WTP-ISMSD-ESH-01-001, *WTP Project Integrated Safety Management System Description*, specified the WTP ISMS. In June 2005 ORP evaluated implementation of BNI's Quality Assurance Program (A-05-ESQ-RPP-WTP-003)[1].

Criteria	Results
5. Line managers effectively utilize performance measures to demonstrate performance improvement or deterioration relative to identified goals, in allocating resources and establishing performance goals, in development of timely compensatory measures and corrective actions for adverse trends, and in sharing good practices and lessons learned.	The assessors found the following documents and procedures adequately described and specified BNI processes for utilizing performance measures: • WTP QAM Policy Q-16.1 provided for measuring and evaluating performance against key performance indicators/standards. Examples included repeat problems, timeliness of actions, trending in the number of deficiencies, and trends related to causes. Item characteristics, process implementation, and other quality-related information were reviewed as necessary, and the data analyzed to identify improvement opportunities and potential problem areas before they become significant. These data were required to be used to identify trends that adversely impact quality and opportunities to improve items and processes. • 24590-WTP-GPP-QA-204, *Quality Trending*, provided the requirements, responsibilities, and methodologies for the tracking and trending of quality-related performance metrics for the WTP. The WTP issues Quality Assurance Trend Reports that present control charts for the entire project as well as specifically for engineering, acquisitions, and construction and other metrics such as self-identification of adverse conditions, timeliness of corrective action, primary processes affected and nonconformance reporting. In June 2005 ORP evaluated implementation of BNI's Quality Assurance Program (A-05-ESQ-RPP-WTP-003)[1]. In August 2005 ORP evaluated implementation of BNI's corrective action management program (A-05-ESQ-RPPWTP-006)[4].
2.2 Operating Experience: The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.	
1. Formal processes are in place to identify applicable lessons learned from external and internal sources and	The assessors found the following procedure adequately described and specified BNI processes for identifying lessons learned and disseminating the information to targeted

Criteria	Results
any necessary corrective and preventive actions, disseminate lessons learned to targeted audiences, and ensure that lessons learned are understood and applied.	audiences: • 24590-WTP-GPP-MGT-017, *Lessons Learned*, established a consistent manner in which information was to be captured or developed and disseminated throughout the facility and to other projects to ensure on-going improvement in project execution. Lessons learned incorporated the integrated safety management core function of feedback and continuous improvement. The lessons learned program relied upon a web-based system to promote lessons learned, capture ideas for lessons learned, assess the ideas for applicability and approval, disseminate approved lessons learned to the project, and archive lessons learned.
2. Line managers effectively identify, apply, and exchange lessons learned with the rest of the DOE complex. Lessons learned identified by other DOE organizations and external sources are reviewed and applied by line management to prevent similar incidents/events.	The assessors found 24590-WTP-GPP-MGT-017, *Lessons Learned*, adequately described and specified BNI processes for identifying applying, and exchanging lessons learned with the DOE. This procedure required that the WTP Lessons Learned Coordinator determine if a lessons learned bulletin developed at the WTP will be proposed for submittal to the DOE list server. Lessons learned bulletins disseminated to the DOE list server were required to be developed and sent per the requirements of DOE-STD-7501-95, DOE Standard, *Development of DOE Lessons Learned Programs*. Typical external source documents that may be used to develop WTP lessons learned bulletins included the following: • DOE Occurrence Reporting and Processing of Operations Information System final reports; • Industry documents; • DOE Lessons Learned Database; and • Lessons Learned from the on-line Bechtel Lessons Learned System.
3. Formal programs and processes have been established and implemented to solicit feedback or suggestions from workers and work activities on the effectiveness of work definition, hazard analyses and controls, and implementation for all types of work activities, and to apply lessons learned.	The assessors found the following documents and procedures adequately described and specified BNI processes for soliciting feedback and improvement suggestions: • 24590-WTP-GPP-MGT-017, *Lessons Learned*, provided direction for implementing a lessons learned program to establish a consistent manner in which information is captured or developed and disseminated throughout the facility and to other projects to ensure on-going improvement in project execution. • 24590-WTP-GPP-MGT-005, *Employee Concern Program*, provided methods for

Criteria	Results
	employees to formally or informally raise and address questions and concerns regarding safety, health, the environment, security, quality, waste, fraud, abuse, corruption; and harassment, intimidation, retaliation, and discrimination for raising a concern or engaging in a protected activity. • Recommendations were to be disseminated, managed, and tracked to completion using the WTP QAIS that included the Recommendation and Issue Tracking System. • 24590-WTP-GPP-SIND-045, *Safety Communication*, established the methods for maintaining safety awareness and providing safety-related information to employees. This procedure provided directions for conducting and documenting employee safety meetings, posting safety notices, and providing safety training. • 24590-WTP-G63-MGT-001, *Hanford Tank Waste Treatment And Immobilization Plant Integrated Safety Management System Policy*, specified that each person on the Project must accept as their personal value and responsibility a concerted and sustained effort to achieve and maintain a safe work environment. Compliance with the policy was expected at all levels to promote an atmosphere in the workplace of free and open expression for identification, reporting, and resolution of conditions, or potential conditions that may be adverse to safety, health, the environment, or quality.
4. Employee concerns related to management of DOE and NNSA programs and facilities are promptly and thoroughly reported and investigated in accordance with applicable DOE directives.	The assessors found that 24590-WTP-GPP-MGT-005, *Employee Concern Program* adequately described and specified BNI processes to address and resolve employee concerns: The WTP Employee Concerns Program provided the framework to identify, report, and resolve employee concerns in the areas of safety, health, the environment, security, quality, waste, fraud, abuse, or corruption in connection with the work performed at the WTP. The program provided employees with avenues to raise issues and concerns to the attention of management without fear of harassment, intimidation, retaliation, and discrimination. Sharing concerns in staff meetings, Safety Task Analysis Risk Reduction Talk Card meetings, toolbox meetings, or other structured meetings where the concern and the progress made to resolve it could be openly discussed was required to be encouraged. In addition, employees had the option of discussing their concern with their safety representative, union steward, or building trades safety representative. BNI required inquiries to be promptly conducted and reported by or on behalf of the ECP office for the purpose of evaluating and resolving a concern. This usually involved

Criteria	Results
	interviews, inspection of relevant documents, sites, or equipment, and an evaluation of practices being followed.
2.3 Event Reporting: Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.	
1. Formal programs and processes have been established to identify issues and report, analyze, and address operational events, accidents, and injuries. Events, accidents, and injuries are promptly and thoroughly reported and investigated, including the identification and resolution of root causes and management and programmatic weaknesses, and distribution of lessons learned.	The assessors found the following documents and procedures adequately described and specified BNI processes for identifying issues and reporting, analyzing, and addressing operational events, accidents, and injuries: • 24590-WTP-GPP-SIND-001, *Reporting Occurrences in Accordance with DOE M 231.1-2*, established a system for the timely identification, categorization, and reporting of occurrences in accordance with the DOE O 231.1A, *Environment, Safety, and Health Reporting,* and its manual, DOE M 231.1-2 *Occurrence Reporting and Processing of Operations Information.* • 24590-WTP-GPP-SIND-040, *Environment, Safety, and Health Reporting in Accordance with DOE Order 231.1A*, contained requirements to ensure that information pertaining to environment, safety, and health statistics was transmitted to DOE Headquarters for evaluating department operations and identifying opportunities for improvement in those areas. This procedure identified those applicable activities meeting the reporting requirements contained in DOE O 231.1A, *Environment, Safety and Health Reporting,* and DOE M 231.1 - 1A, *Environment, Safety and Health Reporting Manual.* • 24590-WTP-GPP-MGT-014, *Safety/Quality Council*, established a forum to discuss and review events, actions, and activities associated with project safety and quality. The Safety/Quality Council was required to enforce management decisions to balance priorities, recommend safety and quality improvement initiatives, and identify and allocate resources as needed to meet the Project's quality and safety objectives and performance commitments. • 24590-WTP-GPP-MGT-015, *Root Cause Analysis*, presented the process to be used on the WTP for initiating, planning, conducting, and reporting results of an RCA to ensure the appropriate corrective measures are identified, communicated, and

Criteria	Results
	implemented to prevent recurrence. • 24590-WTP-GPP-MGT-017, *Lessons Learned*, provided direction for implementing a lessons learned program to establish a consistent manner in which information is captured or developed and disseminated throughout the facility and to other projects to ensure on-going improvement in project execution. • 24590-WTP-GPP-QA-201, *Corrective Action*, provided the method for documenting, implementing, and verifying corrective actions and follow-up for behavioral, procedural, programmatic, and technical conditions adverse to nuclear and process safety, IS&H, operations, quality, security, and the environment. • 24590-WTP-GPP-CON-3106, *Construction Deficiency Reporting and Control*, identified the requirements for the timely identification, reporting, controlling dispositioning, and documenting of construction deficiencies identified during construction of the WTP. • 24590-WTP-GPP-CON-7104, *Nonconformance Reporting & Control*, identified the minimum requirements for the timely identification, reporting, controlling, dispositioning, and documenting of nonconforming conditions, including items determined to be S/CI identified during construction of the WTP. In August 2005 ORP evaluated implementation of BNI's corrective action management program (A-05-ESQ-RPPWTP-006)[4].
2. Reporting of operational events, accidents, and injuries are conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE directives, and contract terms and conditions. Trending analysis of events, accidents, and injuries are performed in accordance with structured/formal processes and applicable DOE directives.	The assessors found the following documents and procedures adequately described and specified BNI processes to report and perform trending analysis of events, accidents, and injuries: • 24590-WTP-GPP-SIND-001, *Reporting Occurrences in Accordance with DOE M 231.1-2*, established a system for the timely identification, categorizing, and reporting of occurrences in accordance with the DOE O 231.1A, *Environment, Safety, and Health Reporting*, and its manual, DOE M 231.1-2, *Occurrence Reporting and Processing of Operations Information*. • 24590-WTP-GPP-SIND-001, *Reporting Occurrences in Accordance with DOE M 231.1-2* required the WTP Occurrence Report Coordinator to review WTP occurrences and use the information for trending analysis and for early identification and correction of deteriorating conditions.

Criteria	Results
	• 24590-WTP-GPP-SIND-040, *Environment, Safety, and Health Reporting in Accordance with DOE Order 231.1A*, specified that information pertaining to environment, safety, and health statistics was to be transmitted to DOE Headquarters for evaluating department operations and identifying opportunities for improvement in those areas. This procedure identified those activities meeting the reporting requirements contained in DOE O 231.1A, *Environment, Safety and Health Reporting*, and DOE M 231.1-1A, *Environment, Safety and Health Reporting Manual*.
2.4 Issues Management: The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.	
1. Program and performance deficiencies, regardless of their source, are captured in a system or systems that provides for effective analysis, resolution, and tracking. Issues management system elements include structured processes for determination of risk, significance, and priority of deficiencies; evaluation of scope and extent of condition; determination of reportability under applicable requirements; identification of root causes; identification and documentation of corrective actions and recurrence controls to prevent recurrence; identification of individuals/organizations responsible for corrective action implementation; establishment of milestones based on significance and risk for completion of corrective actions; tracking progress; verification of corrective action completion; and validation of corrective action implementation and effectiveness.	The assessors found the following documents and procedures adequately described and specified BNI processes to identify, control, document, evaluate, and trend conditions adverse to quality, and to develop and implement appropriate actions to correct the adverse condition: • 24590-WTP-GPP-QA-201, *Corrective Action*; • 24590-WTP-GPP-CON-3106, *Construction Deficiency Reporting and Control*; and • 24590-WTP-GPP-CON-7104, *Nonconformance Reporting & Control*. In August 2005 ORP evaluated implementation of BNI's corrective action management program (A-05-ESQ-RPPWTP-006)[4].
2. Issues management processes include mechanisms to promptly identify the potential impact of a deficiency and take timely actions to address conditions of immediate concern, including stopping work, system	The assessors found the following documents and procedures adequately described and specified BNI processes to identify the potential impact of deficiencies and cause timely corrective action to take place:

Criteria	Results
shutdown, emergency response, reporting to management, and compensatory measures pending formal documentation and resolution of the issue.	• 24590-WTP-GPP-QA-201, *Corrective Action* and • 24590-WTP-GPP-MGT-008, *Stop Work/Management Suspension of Work.* In August 2005 ORP evaluated implementation of BNI's corrective action management program (A-05-ESQ-RPPWTP-006)[4].
3. Processes for analyzing deficiencies, individually and collectively, have been established that enable the identification of programmatic or systemic issues. Line management effectively monitors progress and optimizes the allocation of assessment resources in addressing known systemic issues.	The assessors found the following documents and procedures adequately described and specified BNI processes to analyze deficiencies for programmatic or systemic issues: • 24590-WTP-GPP-QA-204, *Quality Trending*, identified the requirements, responsibilities, and methodologies for the tracking and trending of quality-related performance metrics for the WTP. • 24590-WTP-GPP-SREG-001, *Project Safety Committee*, established the scope, responsibilities, and process of the WTP PSC. The PSC is required to be an independent, integrated advisory committee to the Project Director on matters related to nuclear, radiological, and process safety. • 24590-WTP-GPP-QA-201, *Corrective Action*, defined "significant" conditions adverse to nuclear and process safety, operations, quality, security and the environment as conditions that represent a breakdown of approved Environmental & Nuclear Safety or QA management systems or programs. This included breakdowns such as a systematic noncompliance with regulatory requirements, and conditions that represent recurring trends of previously closed conditions adverse to nuclear and process safety, operations, quality, security and the environment. • 24590-WTP-GPP-MGT-002, *Management Assessment*, provided for upper tier management assessment planning and execution that included evaluating the adequacy of resources and personnel provided to achieve and ensure quality; the adequacy of procedure content and coverage, the effectiveness of procedure implementation, and the effectiveness of corrective actions for Level 2, 3, and 4 CARS that have been closed at least 6 months. • 24590-WTP-GPP-QA-101, *Price-Anderson Amendments Act Compliance and Reporting*, provided instructions and requirements for implementing the WTP process of identifying, evaluating, and reporting PAAA noncompliances. It defined the process for identifying PAAA noncompliances, documenting the evaluations of PAAA noncompliances associated with work performed by BNI and its subcontractors and suppliers, tracking PAAA noncompliances in the QAIS or SQIS, and identifying and

Criteria	Results
	reporting applicable noncompliances for input to the DOE noncompliance tracking system. In August 2005 ORP evaluated implementation of BNI's corrective action management program (A-05-ESQ-RPPWTP-006)[4].
4. Processes for communicating issues up the management chain to senior management have been established and based on a graded approach that considers hazards and risks. Line management receives periodic information on the status of identified deficiencies and corrective actions and holds organizations and individuals accountable for timely and effective completion of actions. Line management has executed graded mechanisms such as independent verification and performance-based evaluation to ensure that corrective action and recurrence controls are timely, complete, and effective. Closure of corrective actions and deficiencies are based on objective, technically sound, and verified evidence. The effectiveness of corrective actions is determined on a graded basis and additional actions are completed as necessary.	The assessors found the following documents and procedures adequately described and specified BNI processes for communicating issues up the management chain: • 24590-WTP-GPP-QA-101, *Price-Anderson Amendments Act Compliance and Reporting*, provided instructions and requirements for implementing the WTP process of identifying, evaluating, and reporting PAAA noncompliances. It defined the process for identifying PAAA noncompliances, documenting the evaluations of PAAA noncompliances associated with work performed by BNI and its subcontractors and suppliers, tracking PAAA noncompliances in the QAIS or SQIS, and identifying and reporting applicable noncompliances for input to the DOE NTS. • 24590-WTP-GPP-QA-201, *Corrective Action*, provided the method for documenting, implementing, and verifying corrective actions and follow-up for behavioral, procedural, programmatic, and technical conditions adverse to nuclear and process safety, IS&H, operations, quality, security, and the environment. • 24590-WTP-GPP-MGT-014, *Safety/Quality Council*, established a forum to discuss and review events, actions, and activities associated with safety and quality aspects of the project. The Safety/Quality Council was required to enforce management decisions to balance priorities, recommend safety and quality improvement initiatives, and identify and allocate resources as needed to meet the Project's quality and safety objectives and performance commitments. • 24590-WTP-GPP-MGT-015, *Root Cause Analysis*, presented the process to be used on the WTP for initiating, planning, conducting, and reporting results of an RCA to ensure the appropriate corrective measures are identified, communicated, and implemented to prevent recurrence. • 24590-WTP-GPP-MGT-017, *Lessons Learned*, provided direction for implementing a lessons learned program to establish a consistent manner in which information is captured or developed and disseminated throughout the facility and to other projects to ensure on-going improvement in project execution.

Criteria	Results
	• 24590-WTP-GPP-MGT-020, *Price-Anderson Amendments Act Review Board*, provided instructions and requirements for implementing the PRB process for evaluating PAAA noncompliances. It defined the process by which the PRB developed recommendations for the Project Director for reporting potential PAAA noncompliances for input to the DOE NTS. The PRB also provided an additional forum for PAAA issues that have been identified. • 24590-WTP-GPP-SREG-001, *Project Safety Committee*, established the scope, responsibilities, and process of the WTP Project Safety Committee (PSC). The PSC is required to be an independent, integrated advisory committee to the Project Director on matters related to nuclear, radiological, and process safety. In August 2005 ORP evaluated implementation of BNI's corrective action management program (A-05-ESQ-RPPWTP-006)[4].
5. Results of various feedback systems are integrated and collectively analyzed to identify repeat occurrences, generic issues, trends, and vulnerabilities at a lower level before significant problems result.	The assessors found the following documents and procedures adequately described and specified BNI processes for feedback: • QAM Policy Q-16.1, "Corrective Action;" • 24590-WTP-GPP-QA-204, *Quality Trending* • 24590-WTP-ISMP-ESH-01-001, *Integrated Safety Management Plan*; • 24590-WTP-ISMSD-ESH-01-001, *WTP Project Integrated Safety Management System Description*; • 24590-WTP-GPP-SIND-001, *Reporting Occurrences in Accordance with DOE M 231.1-2*; and • 24590-WTP-GPP-SIND-040, *Environment, Safety, and Health Reporting in Accordance with DOE Order 231.1A.* The assessors found the following documents were examples of analyzed feedback system results which were transmitted to ORP: • CCN 121424, *WTP Annual Quality Assurance Effectiveness Review - Calendar Year 2004*, dated June 10, 2005; • CCN 124101, *Hanford Tank Waste Treatment and Immobilization Plan (WTP) Fiscal Year (FY) 2006 Integrated Safety Management System (ISMS) Performance Metrics*, dated September 13, 2005; and • CCN 130831, *Hanford Tank Waste Treatment and Immobilization Plant Project WTP Quality Assurance Trend Report - Third Quarter CY 2005*, dated November 29, 2005.

Criteria	Results
	In August 2005 ORP evaluated implementation of BNI's corrective action management program (A-05-ESQ-RPPWTP-006)[4].
6. Individuals or teams responsible for corrective action development are trained in analysis techniques to evaluate significant problems using a structured methodology to identify root and contributing causes and corrective actions to prevent recurrence.	The assessors found 24590-WTP-GPP-MGT-015, *Root Cause Analysis* described and specified the BNI root cause analysis process. This procedure specified the process to be used on the WTP for initiating, planning, conducting, and reporting results of an RCA to ensure the appropriate corrective measures are identified, communicated, and implemented to prevent recurrence. The procedure required that WTP Root Cause team leads had successfully completed one of the project approved RCA training courses and had performed as a RCA team member on at least one previous RCA. The procedure required BNI team members to be selected based upon technical knowledge, experience and/or familiarity with the root cause analysis process.
Supplemental Lines of Inquiry	**Results**
Issues Management	The assessment team found that BNI had established adequate programs, procedures, and processes for contractor assurance system issues management activities.
1. Causal analysis seeks to determine not only the immediate and direct causes of the event/near-miss, but also the organizational factors that created the environment where the event could occur.	24590-WTP-GPP-MGT-015, *Root Cause Analysis*, and 24590-WTP-GPP-QA-201, *Corrective Action*, described the processes to be used at the WTP to ensure that causal analyses determined not only the immediate and direct causes of the event/near-miss, but also the organizational factors that created the environment where the event occurred.
2. Events/near-miss are evaluated to determine the extent to which the contributing factors exist across the organization, and corrective actions are developed to address the full extent of condition.	24590-WTP-GPP-SIND-021, *Critiques*, 24590-WTP-GPP-SIND-001, *Reporting Occurrences in Accordance with DOE M 231.1-2*, and 24590-WTP-GPP-MGT-015, *Root Cause Analysis*, described processes to ensure that events/near-miss were evaluated to determine the extent to which the contributing factors existed across the organization and corrective actions were developed to address the full extent of the condition.
3. Critiques, accident investigations, and associated causal analyses are focused to identify conditions and organizational factors, not to apportion blames to	24590-WTP-GPP-SIND-021, *Critiques*, 24590-WTP-GPP-SIND-001, *Reporting Occurrences in Accordance with DOE M 231.1-2*, and 24590-WTP-GPP-MGT-015, *Root Cause Analysis*, described process that critiques, accident investigations, and associated

Criteria	Results
individuals or organizational units.	causal analyses were focused to identify conditions and organizational factors, not to apportion blame to individuals or organizational units.
4. Causal analysis and the resulting development of corrective actions are not constrained by organizational boundaries or management hierarchy.	24590-WTP-GPP-QA-201, *Corrective Action*, described processes to ensure that causal analysis and the resulting development of corrective actions were not constrained by organizational boundaries or management hierarchy.
5. Evaluations of events/near-misses that find human error to be a cause or contributor consider the limitations of human performance and examine whether the expectations and work environment were structured for success.	24590-WTP-GPP-MGT-015, *Root Cause Analysis*, 24590-WTP-GPP-SIND-021, *Critiques*, and 24590-WTP-GPP-SIND-001, *Reporting Occurrences in Accordance with DOE M 231.1-2*, described processes to ensure that evaluations of events/near-misses that find human error to be a cause or contributor considered the limitations of human performance and examined whether the expectations and work environment were structured for success.
Event Reporting	The assessment team verified that BNI had established adequate programs, procedures, and processes for contractor assurance system event reporting activities.
1. Line managers throughout the organization encourage and are responsive to employee feedback.	24590-WTP-GPP-MGT-017, *Lessons Learned*, 24590-WTP-GPP-MGT-005, *Employee Concern Program*, 24590-WTP-GPP-SIND-045, *Safety Communication*, and 24590-WTP-G63-MGT-001, *Hanford Tank Waste Treatment And Immobilization Plant Integrated Safety Management System Policy*, described the principles, protocols, and practices to ensure that line managers throughout the organization encouraged and were responsive to employee feedback.
2. Employees openly report errors and performance challenges to line management, with confidence that the information will be used to drive improvement.	24590-WTP-GPP-QA-201, *Corrective Action*, and the WTP QAIS Recommendation and Issue Tracking System included processes to ensure that employees openly reported errors and performance challenges to line management with confidence that the

Criteria	Results
	information would be used to drive improvement.
Operating Experience	The assessment team verified that BNI had established adequate programs, procedures, and processes for contractor assurance system operating experience activities.
1. The feedback sources monitored and integrated by line management to identify improvement opportunities include indications of safety culture, such as open reporting and a receptive, learning environment.	24590-WTP-ISMP-ESH-01-001, *Integrated Safety Management Plan*, 24590-WTP-ISMSD-ESH-01-001, *WTP Project Integrated Safety Management System Description*, and 24590-WTP-GPP-MGT-005, *Employee Concerns Program*, described the principles, protocols, and practices to ensure that feedback sources were monitored and integrated by line management to identify improvement opportunities include indications of safety culture, such as open reporting and a receptive, learning environment.

[1] In June 2005 ORP evaluated implementation of BNI's Quality Assurance Program (A-05-ESQ-RPP-WTP-003). The assessors identified no findings.

[2] In February 2005 WTP QA performed an independent assessment/audit of the WTP Emergency Management Program. The audit identified one CAR and two recommendations. The audit also found many areas of improvement since the last audit.

[3] In February and March 2005 ORP assessed implementation of BNI's OSHA injury/illness recordkeeping program (A-05-ESQ-RPPWTP-002). The Team concluded that BNI has adequate procedures to implement Federal accident and injury reporting requirements but continues to have implementation errors. Two weaknesses, documented as findings, were identified that related to inadequate implementation of the processes prescribed in the procedures.

[4] In August 2005 ORP evaluated implementation of BNI's corrective action management program (A-05-ESQ-RPPWTP-006)[1]. The assessors identified one finding and made five observations.

[5] In September and October of 2005 the Bechtel Systems and Infrastructure (BSII) Deputy Manager of QA led the *Annual Independent Assessment of the Quality Assurance (QA) Program Implementation*. Overall, the audit team concluded that the WTP has implemented and is conducting generally effective assessments in that the scope, depth, breath, and frequency appears adequate in verifying compliance with project requirements, evaluating performance, and determining the effectiveness of implementation of requirements. Two Findings, seven Recommendations for process improvement and three Good Practices exercised by different functions were outlined in the body of the report.

Feedback and Improvement Assessment Results, DNFSB Recommendation 2004-1
Advanced Technologies and Laboratories International, Inc.

Criteria	Results
Objective F&I-1: Contractor Program Documentation **Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.**	
1. A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by contractor management, and forwarded to DOE for review and approval. The program description is reviewed and updated annually and forwarded to DOE for review and approval.	The assessors evaluated ATL's assurance system documents and procedures and found the following: (1) Environment safety and health • ATL-MP-1002, *Quality Assurance Program Description (QAPD)*, defines requirements for Assessment and Corrective Action Management. The QAPD was conditionally approved by the Office of River Protection (ORP). ATL had been working on comment resolution with ORP and the revised QAPD is scheduled to be submitted to ORP for final approval by January 6, 2006. • ATL-MP-1009, Integrated Environmental, Safety, and Health Management System Description for 222-S Analytical Services Contractor (ISMS) was reviewed by ORP and comments were being resolved. The ISMS had not received DOE approval at the time of the assessment

Criteria	Results
	fieldwork. • Radiological Control is provided by CH2M HILL. ATL-M-1016, *ATL Interim Interface Management Plan*, Paragraph 6.25 states CH2M HILL provides the Radiation Control Program to ATL as specified in ATL's contract with ORP. CH2M HILL, HNF-5183, T*ank Farm Radiological Control Manual,* had been approved by ORP and applies at the 222-S Laboratory. (2) Safeguards and security The assessors found that Contract DE-RP27-04RV14548 (the ATL contract with DOE) stated that government furnished services would be provided through the Tank Farm Contractor. The Analytical Services Production Contractor shall support these programs. The programs included, "Security program and security personnel to maintain physical security for the laboratory and its inventory. The ASCP shall maintain the personnel and information security for employees and visitors." ATL-MP-1001, *Procedures Acceptable for Use by the ATL 222-S Analytical Services Production Contractor*, established mandatory compliance for specific CH2M HILL and Fluor Hanford procedures governing a variety safeguards and security activities. These included those for maintaining the personnel and information security for employees and visitors. ATL was not contractually required to and had not independently established safeguards and security procedures.

Criteria	Results
	(3) Emergency management The assessors found that ATL-MP-1016, *ATL Interim Interface Management Plan* described how emergency management was addressed at the 222-S Laboratory during implementation of the new contract. ATL-MP-1016 documented agreements between CH2M HILL and ATL. The agreement stated that ATL accepted support responsibilities consistent with the Emergency Management Process and protocols outlined in CH2M Hill Emergency Management Directives and procedures. CH2M HILL conducted a joint audit of emergency management on-call communications with ATL (Audit No. FY06-ATSEP-WA-001). The audit was completed in September 2005, and there were no findings. (4) Cyber security Fluor Hanford (FH), under their DOE contract to provide IT services to the 222-S Laboratory in accordance with the requirements of CRD DOE N 205.1, *Department of Energy Cyber Security Management Program*. This included operation of the Hanford Local Area Network (HLAN) and connected systems. Cyber security services for CH2M Hill and ATL for systems connected to HLAN were provided by FH. A portion of the compliance with this order required the creation of a "Cyber Security Program Plan" that describes the cyber security program and processes. This document is updated every two years and is submitted to RL and DOE Headquarters for approval. Each year multiple assessments by different internal and external

Criteria	Results
	entities are conducted to ensure the quality of the cyber security program and posture. ATL had a representative on the Hanford Cyber Security Technical Working Group. (5) Business practices The category, "business practices" had limited significance at the 222-S Laboratory since activities such as accounting, payroll, bid and proposal process, etc., are conducted at the corporate office in Germantown, Maryland, and are not solely focused on the Hanford contract.
2. The contractor's assurance system includes assessment activities (self-assessments, management assessments, and internal independent assessments as defined by laws, regulations, and DOE directives such as quality assurance program requirements) and other structured operational awareness activities; incident/event reporting processes, including occupational injury and illness and operational accident investigations; worker feedback mechanisms; issues management; lessons-learned programs; and performance indicators/measures.	The assessors found that ATL was using CH2M HILL ATS-310, Section 1.39 *Assessment Program*, for performing assessments. Assessments had been performed and an assessment schedule was established. Shortly before the assessment fieldwork, ATL issued its own assessment program documents, ATL-MP-1020, *Assessment Program Plan* (November 15, 2005), and supporting procedures. The assessors reviewed ATL-MP-1020, and found that mechanisms were in place to provide for self-assessments, management assessments, internal independent assessments, other structured operational awareness activities, and incident /event reporting processes The following implementing procedures (all issued November 15, 2005) supported the Assessment Program Plan: • ATL-312-1.12, *Qualification of Assessment Personnel* • ATL-312-1.13, *Performance of Independent Assessments* • ATL-312-1.14, *Performance of Management Assessments* • ATL-312-1.15, *Performance of Surveillances and Operational Awareness Assessments*.

Criteria	Results
	At the time of the assessment fieldwork, ATL did not have personnel who were qualified as Lead Auditors/Assessors. When an independent assessment was needed the assessment would be performed by a Lead Assessor from outside of ATL who is qualified in accordance with ATL-312, Section 1.12 and would follow ATL procedures. ATL planed to qualify at least one ATL employee as a Lead Assessor in 2006. ATL tracked all issues in a corrective action database called CATRAX. CATRAX had encountered a few problems in handling the additional requirements of the new procedures regarding input of trend codes, PAAA codes, and graded corrective action. These problems were being resolved and until resolution was complete, ATL was maintaining a manual record of the additional requirements. The assessment team reviewed implementing procedures for other areas of operational awareness, but these were relatively new and had not had been in use long enough to allow conclusions regarding their effectiveness. These procedures included: • ATL-312-1.10 *Occurrence Reporting and Processing of Operations Information* (December 1, 2005); • ATL-312,1.04, *ATL Corrective Action Management* (October 26, 2005); • *ATL-312-1.05, Lessons Learned* (November 7, 2005); • *ATL-312-1.08, Price-Anderson Evaluation and Reporting* (October 26, 2005); and • *ATL-312-1.11, Corrective Action Data Analysis and Trending* (November 28, 2005).

Criteria	Results
	The assessors found that seven surveillances and three management walkthroughs had been performed using the new assessment and corrective action procedures. Assessments identified issues with laboratory calculations and laboratory notebooks, and these were being corrected. The assessors found that implementing procedures for Occupational Injury/Illness Reporting and Employee Concerns were still in development.
3. The contractor's assurance system monitors and evaluates all work performed under their contract, including the work of subcontractors.	The assessors found that work performed by ATL was governed by ATL-MP-1002, *Quality Assurance Program Description*, and ATL-MP-1011, *ATL Quality Assurance Project Plan for 222-S Laboratories*. ATL-MP-1002 had been sent to ORP for review and approval, and ORP comments had been resolved. The implementing procedures described in response F&I-1.2 above implemented the requirements of these documents. ATL did not use subcontractors for performance of analytical work. ATL did procure staff augmentation services and the acquired staff performed work in accordance with ATL programs. In September 2005, an integrated audit team led by Fluor Hanford performed an audit of ATL (Audit No. FH-AVS-05-17) to verify implementation of the requirements of DOE/RL-96-68, *Hanford Analytical Services Quality Assurance Requirements Document* (HASQARD). ATL-MP-1011 implemented the requirements of the HASQARD. The audit resulted in four findings and eight

Criteria	Results
	observations. Corrective action for the four findings and six of the observations was complete. Corrective action for the remaining two observations was scheduled to be complete in December 2005.
4. Contractor assurance system data is formally documented and available to DOE line management. Results of assurance processes are periodically analyzed, complied, and reported to DOE line management as part of formal contract performance evaluation.	The assessors found that since the assurance process procedures identified above had been in place for a relatively short-time, ATL had not issued any reports to DOE. When an assessment was performed prior to the issuance of the assessment program plan (in accordance with procedures documented in ATL-MP-1001), the assessment results were reported quarterly in the Project Status Assessment Report as required by the ATL contract.
5. Contractors have established and implemented sufficient processes (e.g., self-assessments, corporate audits, third-party certifications or external reviews, performance indicators) for measuring the effectiveness of the contractor assurance program.	The assessors found that ATL had systems in place to address all the listed activities, but these were new, and there was not enough evidence of implementation to assess effectiveness. The Assessment Program Plan was not part of a document that was required by contract to be submitted to DOE for approval.
6. Requirements and formal processes have been established and implemented that ensure personnel responsible for managing and performing assurance activities possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities.	The assessors found that ATL used CH2M HILL procedures for Human Resource processes in accordance with ATL-MP-1001, *Procedures Acceptable for Use by ATL 222-S Analytical Service Production Contractor.* The assessors found these procedures required ATL to maintain written job descriptions for all employee positions. The descriptions were to be approved by the President/CEO and contained the following elements: title, summary of job duties, performance requirements, qualifications (education, experience,

Criteria	Results
	other) and essential functions of the job. Open positions were to be posted internally first and then on Washington Worksource web. Resumes were to be screened by HR and the hiring managers. Applications and interview rating forms were to be used and background and reference checks were to be conducted on candidates.
Performance Objective F&I-2: Contractor Program Implementation **2.1 Assessments & Performance Indicators: Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.**	
1. Line management has established and implemented a rigorous assessment program for performing comprehensive evaluations of all functional areas, programs, facilities, and organizational elements, including subcontractors, with a frequency, scope and rigor based on appropriate analysis of risks. The scope and frequency of assessments are defined in site plans and program documents, include assessments of processes and performance-based observation of activities and evaluation of cross-cutting	As described previously, the assessors found the assessment program was adequately established in ATL-MP-1020 and supporting implementing procedures. The procedures were issued less than one month before the assessment fieldwork, and there was little evidence of implementation available. ATL had issued an assessment schedule and was implementing and maintaining it. At the time of the fieldwork, few assessments

Criteria	Results
issues and programs, and meet or exceed requirements of applicable DOE directives.	had been performed. These included the joint audit of Emergency Management, the seven surveillances, and the three management walkthroughs mentioned above.
2. Rigorous self-assessments are identified, planned, and performed at all levels periodically to determine the effectiveness of policies, requirements, and standards and the implementation status.	The assessors reviewed the ATL Assessment Program Plan and found that it provided the mechanism for a rigorous self-assessment program. However, ATL issued it less than one month before the assessment fieldwork, and the assessors were unable to determine the rigor or effectiveness of the program.
3. Appropriate independent internal assessments are identified, planned and performed by contractor organizations or personnel having the authority and independence from line management, to support unbiased evaluations.	The assessors found that ATL had performed no independent assessments at the time of the fieldwork. However, ATL had established qualification requirements for persons to lead independent assessments. ATL-MP-1020, *Assessment Program Plan*, uses a graded approach to assessments that is appropriate for a company of this size. A rigorous self- assessment program of management assessments, surveillances, worker assessments, method assessments, and management walkthroughs is established and there is evidence that implementation has begun. The Assessment Program Plan, defines Independent Assessments as the most formal type of assessment and this type of assessment requires a qualified/certified Lead Auditor who meets the qualification requirements set forth in ATL-312, Section 1.12. In accordance with ATL-MP-1020, Independent Assessments are programmatic assessments. The total QA program will be assessed once every 3 years (although it may be done in parts over a three year period.). The DOE contract with ATL stated the Radcon Program was a CH2M Hill responsibility, so ATL might participate in the

Criteria	Results
	assessment of Radcon. However, ATL would not lead it.
4. Line managers have established programs and processes to routinely identify, gather, verify, analyze, trend, disseminate, and make use of performance measures that provide contractor and DOE management with indicators of overall performance, the effectiveness of assurance system elements, and identification of specific positive or negative trends. Approved performance measures provide information that indicates how work is being performed and are clearly linked to performance objectives and expectation established by management.	The assessors found ATL issued ATL-312, Section 1.11, *Corrective Action Data Analysis and Trending*, on November 28, 2005, which established a process to identify, gather, verify, analyze, trend, disseminate, and make use of performance measures. Line management had developed a key word list for use in identifying adverse trends. Key words were being added to issue identification forms, but the procedure had not had been in use long enough to determine any trends. The assessors found that performance measures were in the developmental stage and had not yet been fully established. Performance measures for the analytical quality and customer service aspects of the laboratory had been developed and ATL management reviewed them monthly. In addition, ATL reported them to DOE in the ATL Monthly Status Report. Additional measures for programmatic implementation were in the developmental stage and had not yet been fully established.
5. Line managers effectively utilize performance measures to demonstrate performance improvement or deterioration relative to identified goals, in allocating resources and establishing performance goals, in development of timely compensatory measures and corrective actions for adverse trends, and in sharing good practices and lessons learned.	The assessors found that ATL reported on-time deliverable, holding time, and Performance Evaluation Samples, performance measures to DOE in the ATL Monthly Status Report. This policy was to be incorporated in the next revision of ATL-MP-1011, *ATL Quality Assurance Project Plan for 222-S Laboratory*, due to be issued in January 2006. Since programmatic performance measures were in the development stage, they had not been made available to management to be used relative to identified goals.
2.2 Operating Experience: The Contractor has developed	

Criteria	Results
and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.	
1. Formal processes are in place to identify applicable lessons learned from external and internal sources and any necessary corrective and preventive actions, disseminate lessons learned to targeted audiences, and ensure that lessons learned are understood and applied.	The assessors found that ATL issued a Lessons Learned (ATL-312, Section 1.05) procedure shortly before the assessment fieldwork. However the procedure did not cover all aspects listed in the CRAD.
2. Line managers effectively identify, apply, and exchange lessons learned with the rest of the DOE complex. Lessons learned identified by other DOE organizations and external sources are reviewed and applied by line management to prevent similar incidents/events.	The assessors found that some Lessons Learned had been obtained from external sources but no Lessons Learned originating within ATL 222-S labs had been shared with the DOE complex. ATL managers said they planned to revise ATL-312, Section 1.05 March 30, 2006 to incorporate provisions for sharing Lessons Learned with the DOE complex.
3. Formal programs and processes have been established and implemented to solicit feedback or suggestions from workers and work activities on the effectiveness of work definition, hazard analyses and controls, and implementation for all types of work activities, and to apply lessons learned.	ATL-MP-312, Section 1.04, provided the process for workers to issue an Issue Identification Form to report potential noncompliances to established requirements. Employees had also been made aware of the Employee Concerns Program as a mechanism to report issues. For example, posters displayed in work areas informed employees about the employee concerns program.
4. Employee concerns related to management of DOE and NNSA programs and facilities are promptly and thoroughly reported and investigated in accordance with applicable DOE directives.	The assessors found that an Employee Concerns Program had been established, an Employee Concerns Program Coordinator had been named, and Employee Concerns posters were on display

Criteria	Results
	in several places in the work areas. ATL had not yet formalized the program in a procedure. The assessors found that ATL has had one employee concern. The concern was investigated, reported, and closed in a timely manner." An Employee Concerns procedure is in development and expected to be issued by January 6, 2005.
2.3 Event Reporting: Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.	
1. Formal programs and processes have been established to identify issues and report, analyze, and address operational events, accidents, and injuries. Events, accidents, and injuries are promptly and thoroughly reported and investigated, including the identification and resolution of root causes and management and programmatic weaknesses, and distribution of lessons learned.	The assessors found that ATL described and specified an adequate process for reporting operational events in ATL-312-1.10, *ATL Occurrence Reporting and Processing of Operations Information*. ATL issued this procedure on December 1, 2005. Persons designated to write occurrence reports were scheduled for training on December 8, 2005.
2. Reporting of operational events, accidents, and injuries are conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE directives, and contract terms and conditions. Trending analysis of events, accidents, and injuries are performed in accordance with structured/formal processes and applicable DOE directives.	The assessors found that ATL described and specified an adequate process for reporting operational events, accidents, and injuries in ATL-312-1.10. At the time of the assessment fieldwork, ATL had reported no occurrences. A recent internal surveillance identified a deficiency in that, although reporting of injuries and illnesses was occurring in accordance with requirements, there was no procedure for this activity. ATL scheduled issuing an accident injury reporting procedure for March 15, 2006.

Criteria	Results
	The trending procedure (ATL-312-1.11) was issued on November 28, 2005 but had not been in place long enough to identify any trends.
2.4 Issues Management: The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.	
1. Program and performance deficiencies, regardless of their source, are captured in a system or systems that provides for effective analysis, resolution, and tracking. Issues management system elements include structured processes for determination of risk, significance, and priority of deficiencies; evaluation of scope and extent of condition; determination of reportability under applicable requirements; identification of root causes; identification and documentation of corrective actions and recurrence controls to prevent recurrence; identification of individuals/organizations responsible for corrective action implementation; establishment of milestones based on significance and risk for completion of corrective actions; tracking progress; verification of corrective action completion; and validation of corrective action implementation and effectiveness.	The assessors found that ATL described and specified an adequate process for capturing the elements of this CRAD in ATL-312, Section 1.04, *ATL Corrective Action Management,* and ATL-312, Section 1.08 *Price-Anderson Amendments Act Evaluation and Reporting,*. Because CATRAX elements were still under development, information was maintained in paper documents. Entrance into CATRAX was to occur when the development issues were resolved.
2. Issues management processes include mechanisms to promptly identify the potential impact of a deficiency and take timely actions to address conditions of immediate concern, including stopping work, system shutdown, emergency response, reporting	The assessors found that ATL described and specified management processes to identify potential ATL deficiencies in ATL-312, Section 1.04. However conditions such as stopping work, system shutdown, emergency response, and reporting to

Criteria	Results
to management, and compensatory measures pending formal documentation and resolution of the issue.	management were governed by CH2M HILL procedures in accordance with ATL-MP-1001.
3. Processes for analyzing deficiencies, individually and collectively, have been established that enable the identification of programmatic or systemic issues. Line management effectively monitors progress and optimizes the allocation of assessment resources in addressing known systemic issues.	The assessors found that ATL had established processes for analyzing deficiencies. However, these procedures were only recently issued, and the assessors could not determine their effectiveness in aiding line management decision making.
4. Processes for communicating issues up the management chain to senior management have been established and based on a graded approach that considers hazards and risks. Line management receives periodic information on the status of identified deficiencies and corrective actions and holds organizations and individuals accountable for timely and effective completion of actions. Line management has executed graded mechanisms such as independent verification and performance-based evaluation to ensure that corrective action and recurrence controls are timely, complete, and effective. Closure of corrective actions and deficiencies are based on objective, technically sound, and verified evidence. The effectiveness of corrective actions is determined on a graded basis and additional actions are completed as necessary.	The assessors found that ATL-312, Section 1.04 provided a mechanism for identifying issues. Issues were then to be evaluated for significance and resolution pursued. The assessors found that since ATL is a company of only about 60 employees, senior management was aware and involved in issues at all levels and received information on the status of issues in real time. ATL did not plan to develop a procedure for this at this time. Guidelines for closure of corrective action based on a graded approach were established in ATL-312, Section 1.04
5. Results of various feedback systems are integrated and collectively analyzed to identify repeat occurrences, generic issues, trends, and vulnerabilities at a lower level before significant problems result.	ATL described and specified an adequate process for integrating and analyzing results from various feedback systems in procedure ATL-312, Section 1.11. However, the assessors found that feedback systems had not been in place a sufficient length of time to acquire significant data.
6. Individuals or teams responsible for corrective action	The assessors found ATL-312, Section 1.04 provided an

Criteria	Results
development are trained in analysis techniques to evaluate significant problems using a structured methodology to identify root and contributing causes and corrective actions to prevent recurrence.	adequate, graded approach to causal analysis. Significant issues required a root cause analysis and lesser issues required an apparent cause analysis. There had been no significant issues identified at the time of the assessment fieldwork. The assessors observed that apparent cause codes were recorded on the Issue Identification forms associated with the issue.
Issues Management	
1. Causal analysis seeks to determine not only the immediate and direct causes of the evens/near-miss, but also the organizational factors that created the environment where the event could occur.	The assessors found that ATL did not have a causal analysis implementing procedure. **Issue: ATL does not have a procedure for causal analysis.**
2. Events/near-miss are evaluated to determine the extent to which the contributing factors exist across the organization, and corrective actions are developed to address the full extent of the condition.	The assessors found that ATL-312, Section1.10, *ATL* Occurrence Reporting and Processing of Operations Information, provided criteria for evaluating events and near-miss. ATL-MP-1001, *Procedures Acceptable for Use by the ATL 222-S Analytical Services Production Contractor,* authorized use of TFC-OPS-OPER-C-14, *Event/Near-Miss Investigation and Critique Process, for ATL.* These procedures worked in conjunction with ATL-312, Section 1.04 which required the determination of extent of condition across organizations and development of corrective action to address the full extent of the condition.
3, Critiques, accident investigations, and associated causal analyses are focused to identify conditions and organizational factors, not to apportion blames to individuals or organizational units.	The assessors found that ATL-312, Section 1.04, *Corrective Action Management,* required root cause analysis for significant deficiencies and apparent cause analysis for deficiencies that did not rise to the "significant" level. Apparent Cause Analyses were performed using the Apparent Cause Tree® published by

Criteria	Results
	Performance International, Inc.
4. Causal analysis and the resulting development of corrective actions are not constrained by organizational boundaries or management hierarchy.	The assessors found that ATL-312, Section 1.04 contained provision for requesting corrective action across organizational boundaries. Three examples were reviewed for evidence that corrective actions had cut across organizations: • An observation in audit FH-AVS-05-17, performed by Fluor Hanford, involved requesting corrective action from CH2M HILL regarding a procedure in use by ATL. ATL issued Issue Identification Form No. ATL-2005-042, which in trun triggered an Action/Tracking request issued to CH2M HILL. • Two surveillances (SR-IO-05-05 and SR-IO-05-06) required corrective actions from multiple organizations within ATL.
5. Evaluations of events/near-miss that find human error to be a cause or contributor consider the limitations of human performance and examine whether the expectations and work environment were structured for success.	The assessors found that the Apparent Cause Tree used in ATL root cause analyses provided for identification of factors that limit human performance and examined whether the expectations and work environment were structured for success.
Event Reporting	
1. Line managers throughout the organization encourage and are responsive to employee feedback.	The assessors found that there was frequent interaction with management and employees, and employees are openly encouraged to provide feedback. Some methods used to accomplish this included, but were not limited to, personal interaction with employees (one-on-one or in small groups), management walkthroughs, and regular staff meetings with "around the table" time. ATL-MP-1007, *ATL Roles and Responsibilities*, provided for cultivating an environment that

Criteria	Results
	focused on efficiency and continuous improvement, and fostered an organization that endorsed company values of respecting each other's perspective, and sharing knowledge and resources to achieve excellence, deliver value, and grow individually and collectively.
2. Employees openly report errors and performance challenges to line management, with confidence that the information will be used to drive improvement.	The assessors found employees openly reported errors and performance challenges through regular interface with management, the use of the Issue Identification form (ATL-312, Section 1.04), and the Employee Concerns Program. Issues reported through ATL312, Section 1.04 and the Employee Concerns Program were to be evaluated or investigated and tracked to resolution.
Operating Experience	
1. The feedback sources monitored and integrated by line management to identify improvement opportunities include indications of safety culture, such as open reporting and a receptive, learning environment.	The assessors found that none of the formalized feedback sources had been in place sufficient time to indicate the status of the safety culture and open receptive learning environment. However, the assessors observed participation in the Voluntary Protection Program throughout the organization, the management's expression of concern for the morale and safety of employees, and the willingness of employees to serve on committees and improvement activities. The assessors concluded that a safety culture that includes open reporting and a receptive, learning environment existed at ATL.

SEPARATION

PAGE

DOE F 1325.8
(3/02)

United States Government **Department of Energy**
Portsmouth/Paducah Project Office

memorandum

DATE: JAN 13 2006

REPLY TO ATTN OF: PPPO:Saluke PPPO-03-077-06

SUBJECT: **ASSESSMENTS AND DRAFT SITE ACTION PLANS FOR DEFENSE NUCLEAR SAFETY BOARD RECOMMENDATION 2004-1, COMMITMENTS 23 AND 25**

TO: Dae Y. Chung, Director, Licensing Office, Environmental Cleanup and Acceleration Office of Environmental Management

Attached are the assessments reports for Defense Nuclear Safety Board Recommendation 2001-4, Commitments 23 and 25 as performed by the Portsmouth/Paducah Project Office (PPPO) and its contractors at the Paducah and Portsmouth sites.

A draft site action plan has been prepared for each commitment with individual sections for the PPPO and each contractor.

Electronic copies of the attached documents have been forwarded to Tom Evans (EM-3.2) and Terry Kreitz (EM-22).

If you have questions, please contact John Saluke of my staff at (740) 897-3871.

William E. Murphie
Manager
Portsmouth/Paducah Project Office

Attachment

cc w/attachment:
R. Blumenfeld, PPPO/LEX
J. Zimmerman, PPPO/LEX

Results of Assessment of the Effectiveness of
Work Planning and Work Control Processes at Paducah, Kentucky,
Bechtel Jacobs Company, LLC.

Performance Objective WPC-1: Work Planning and Control Oversight
The DOE field element has an established process that ensures effective oversight of the contractor's work planning and control process.

This Performance Objective assessed by the DOE field element.

Performance Objective WPC-2: Work Planning and Control Oversight
The DOE field element performs effective oversight of the contractor's work planning and control process.

This Performance Objective assessed by the DOE field element.

Performance Objective WPC-3: Work Control Program Documentation
The contractor has developed an effective work planning and control process.

Criteria
1. A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by contractor management, and forwarded to DOE for review and approval. The program description is reviewed and updated annually and forwarded to DOE for review and approval.
2. The contractor's work control process establishes the level of review and approval for different types of work control documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work activity.
3. The contractor has established work planning/control requirements for all personnel performing work at their site, including subcontractors. Affected personnel are trained on these requirements.
4. The contractor's work control manual/procedure includes turnover requirements when line management and/or first line supervisor responsibilities are transferred.
5. The contractor's work control manual/procedure includes a process for lessons learned/feedback during the execution of work control activities, including incorporation of lessons learned into active and in-development work control documents.
6. The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or work control manual/procedure.
7. The qualification requirements for Work Control Managers and Planners are established.
8. Records that document the successful completion and qualification of Work Control Managers and Planners are retained and auditable.

Results:
The contractor has developed an effective work planning and control process.

BJC PA-1001, revision 7, work control procedure governs initiating, analyzing, and developing work control documents. BJC-EH-2010, revision 6, includes hazard analysis

reviews ands actions. Both procedures are approved and implemented. However, weaknesses were noted within the following criteria.

Criteria 4. - The contractor's work control manual/procedure includes turnover requirements when line management and/or first line supervisor responsibilities are transferred.
Line management/or first line supervisor responsibility transfers are not described in a sub-contractor work procedure/instructions. Although, sub-contractor procedures describe personnel turn-over requirements, it appears that these are a lower tier (worker) requirements, not necessarily line manager/ or first line supervisor responsibilities.

Criteria 7 - The qualification requirements for Work Control Managers and Planners are established.
Qualification requirements for work control managers and planners were not described in work procedure/instructions. The review concluded that personnel performing work control and planning are seasoned field engineers, have sufficient education and are familiar with the work control/planning process. In addition, weekly field team briefings and periodic work control training briefing sessions were held along with required reading to enhance work control/planner knowledge. However, no documented qualification process specifically describes qualification requirements for work control managers and planners.

Criteria 8 -. Records that document the successful completion and qualification of Work Control Managers and Planners are retained and auditable.
The auditable documentation for Work Control Managers and Planners identified during the assessment were "required reading" verification sheets noting the work control procedure/instruction, date and signature of reader. In addition, weekly field team briefings and periodic work control training briefing sessions were held along with required reading to enhance work control/planner knowledge. However, no records were found identifying successful completion and qualification of Work Control Managers and planners.

Evaluation:
Performance Objective partially met

Noteworthy Practices:
None noted

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification
Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

Criteria:
1. Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries are understood.

2. A team (team) comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health Subject Matter Experts, etc.) is selected by line management to participate in the development of the work control document.
3. The team performs effective walk downs and Job Hazard Analyses in order to develop work steps/techniques and identify possible hazards and their associated controls.
4. The team considers potential upset conditions, accidents, and "what if" scenarios and their consequences during the walk downs and JHAs.
5. The team selects controls based upon the following hierarchy: (1) hazard elimination/reduction, (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.
6. The team ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction). [This Criterion addresses potential loss of safety function during D&D and may not be applicable to all work activities].
7. The team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.

Results:
Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls as described in BJC procedure PA-1001, revision 7. Section 1.2 of the procedure describes the implementation of the BJC Integrated Safety Management System (ISMS) methodology, including identification and categorization hazard, and the development and implementation of hazard controls. The procedure requires that the Planning Team will consist of the owner/preparer, front line supervisor, facility manager or designee, worker representative(s) per classification, ES&H representative, and security representative. Additional Planning Team members from other disciplines may be added depending on the project or task to be performed. . Paragraph 5.4.11 requires the Planning Team members to work with ES&H personnel and identified workers to develop an Activity Hazard Analysis (AHA) for the work to be performed.

Evaluation:
Performance Objective fully met

Noteworthy Practices:
The review identified a tool used prior to the start of work. The tool is a called a Safety Task Analysis Risk Reduction talk (STARRT) card. The card includes the; scope of work, associated hazards, procedure usage, PPE, changes in scope, appropriate contacts and to remain injury free. The card is an extensive checklist of work control safety elements noted above and requires employee signatures denoting the STARRT review briefing elements, comments, feedback and knowledge of right to stop/suspend work.

Performance Objective WPC-5: Work Planning and Control Process
The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

Criteria:
1. The work scope and associated boundaries are clearly defined.
2. The work control document is written in a clear, concise, and worker friendly manner.
3. The work steps for activities are properly sequenced.
4. Work control documents adequately incorporate technical and administrative requirements (e.g., contract, safety basis, regulatory, consensus codes, etc.).
5. Work hazard controls identified in the JHA have been incorporated into the work control document.
6. The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.

Results:
The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities. The review of three contractor work control packages determined that the requirements of PA-1001, Paducah Work Control Process, along with associated work control documents were met. Work steps were adequately described and sequenced along with established work boundaries. Technical and administrative requirements were incorporated in the work documents along with properly placed hazard controls.

Criteria 2 - One observation was noted in this area for revision changes not noted in the office copy of the work instruction, but was noted in the field copy. The observation was closed during the assessment.

Evaluation:
Performance Objective fully met

Noteworthy Practices:
None noted

Performance Objective WPC-6: Work Planning and Control Oversight
Contractor personnel perform work in accordance with approved work control documents.

Criteria:
1. First line supervisors and workers are knowledgeable of their work control documents and meet all applicable training and medical requirements.
2. Operations work control authority reviews and authorizes all work control documents prior to commencement of work. He/she is required to evaluate all work at a facility and/or site to ensure work activities of one scope do not adversely affect the safe work of another.
3. Effective pre-evolutionary briefings are performed
4. First line supervisors and workers follow work control document instructions as written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their change control process.
5. First line supervisors and workers understand their stop work authority.
6. Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.

7. Lessons learned/feedback is incorporated into active and in-development work control documents in a timely manner.

Results:
Contractor personnel perform work in accordance with approved work control documents. Work activities related "Required Reading" is mandatory for all employees. Required reading is documented in work packages and/or located on the BJC employee website on the, "Required Reading" database. Contractor required reading was verified during the review of work packages. Selected employee training records were reviewed during the assessment. Employees are trained in accordance with 1910.120 (e) requirements. Employees receive medical exams and medical records are retained for audit purposes as required by 10CFR 1910.120 (f) medical surveillance requirements. Review of three work packages and personnel interviews concluded that employees received pre and post -job briefings, comply with work instructions, and understand "stop work" requirements. Lessons learned/feedback was incorporated into all work packages reviewed.

During a review of work packages an observation was made that not all work packages contained a worker training matrix. Although, PA-1001 does require a training matrix be documented for all workers involved in a work project it does not specifically require it to be included in the work package. Worker training matrixes were located in work packages, field offices or on workers (passport cards). An observation was written and entered into the BJC corrective actions program (I/Cats) to enhance the program.

Evaluation:
Performance Objective met

Noteworthy Practices:
Personnel assigned to the Paducah Scrap Metal Removal and Disposal project, receive the required project training and are issued a "passport card" to wear. This card identifies the wearer, project assignment and training expiration date. Passport cards" are usually issued for long term duration work. The passport system has a central training coordinator who keeps day to day records of employee training status for individual sub-projects. The passport system allows instant identification of the workers training to the field supervisor upon start of each day tasks. Also, the worker has a visual reminder of when their training expires. The "passport" system is considered a good work practice, but may not be practical for short-term projects.

Performance Objective WPC-7: Work Planning and Control Oversight
The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents.

Criteria
1. The contractor has scheduled and performed independent and self-assessment of the work planning and control process. These activities are of sufficient scope, detail, and quantity that the contractor can ascertain the status of their work planning and control process.

2. Line managers periodically perform surveillances, which include the observations of job walk downs and JHA walk downs/meetings, pre-evolution briefings, and work performed to work control documents.
3. Line managers periodically review in-development and approved work control documents.
4. The contractor tracks and trends the results of oversight activities performed on their work planning and control process and takes appropriate actions.

Results:
The contractor has an established process (BJC-GM-1001) that requires line management and assessment personnel perform timely assessments/, surveillances of the work planning and control process. A review of historic BJC management assessments and sub-contractor surveillances was performed. The assessments/surveillances were of sufficient scope, detail, and quantity to determine the status of the specific work planning and work control program. First line supervisors participate in quality oversight functions in the field on a random basis. Monthly work planning assessment reports are generated with program statistics and trending data. Weaknesses are noted and corrective actions taken.

Evaluation:
Performance Objective fully met

Noteworthy Practices:
None noted

QUALITY ASSURANCE MONITORING REPORT

Type: Management Assessment

Title: Work Control and Work Planning

Number: MA-06-PAD-001

Organizations: Multiple Paducah Projects

Location: Bechtel Jacobs Company, LLC (BJC) Kevil, KY, Office

Date(s): December 15, 2005, through December 30, 2005

Work Package No(s): WP-05-RM0024, WP-05-RM0042, DMSA-OS-06-FW No. 6192

Performed by: Vince Acevez - Quality Engineer, *Pacific Western Technologies* (PWT)

Purpose: The purpose of this assessment is to review the Paducah Gaseous Diffusion Plant work control and work planning program. The assessment was performed in response to Department of Energy Environmental Management Memorandum - Recommendation 2004-1, Commitment 23.

Basis: The reference document(s) for the assessment are as follows:

PA-1001 – Paducah Work Control Process
BJCF-601 – Paducah Maintenance Work Request
BJCF-604 – Paducah Work Package Cover Sheet
BJCF-605 – Paducah Work Instruction
BJCF-606 – Paducah Work package Index Sheet
BJCF-607 – Paducah Work Package Pre-Job Briefing –Attendance and Comment Sheet
BJCF-608 – Paducah Work History/Punch List
BJCF-856 – Starrt Card
BJC-PQ-1107 – Performance Document Process
BJC-EH-2010 – Hazard Assessment

Checklist: See criteria crosswalk attachment No. 1

Personnel Contacted: The following personnel were contacted during this monitoring activity:

- Randy Crawford – BJC
- Frank Overby – BJC
- Donnie Chumbler – BJC
- Jolie Fleming – Tetra Tech
- Ricky Keeling – BJC
- Ed King – BJC
- Larry Maghrak – DOE
- Tammy Smith – PWT
- Larry Smith – PWT
- Tracy McDanel
- Gary Hines – Weskem
- Larry Nichols – Weskem
- Greg K. Bell – Weston Southern
- Keith Mason – Weskem

Results Summary:

This assessment was performed utilizing guidance provided by the Department of Energy Environmental Management Memorandum-Work Planning and Work Control (WPC) checklist and site action Plans for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, Commitment 23.

Paducah Quality Assurance reviewed a selection of work planning and work control documents, performed personnel interviews, and observed field work activities. The reviews included three stages of work planning and work control, (1) planning stage, (2) implementation stage and (3) project closure stage. Work package reviews identified that BJC Company Integrated Safety Management System (ISMS) methodology core functions were incorporated into work planning and work control activities along with the requirements of PA-1001, Paducah Work Control Process. The review concluded that the work control and work planning program is functional but opportunities exist for improvement.

Observations:
During this review two observations were noted: (1) Personnel training matrices were inconsistent where they resided for work planning/work control projects and (2) work package revision changes were noted on a work package cover sheet but the changes were not delineated (marked or noted) on the reference pages as to what was added or changed. The second observation was resolved and closed during the assessment. The observations were discussed with line management, documented and resolved and/or tracked.

Weaknesses:

In addition, two weaknesses were noted: (1) WPC-3 (4) – "line management/or first line supervisor responsibility transfers." The review noted that BJC-FS-1026 (prime) does delineate turnover responsibilities but it appears from document reviews and personnel interviews that this responsibility is not specifically mentioned in sub-contractor procedures. Weakness (2) WPC-3 (7) – "qualification requirements for work control managers and planners" could not be verified by document reviews and personnel interviews. The review concluded that personnel performing work control and planning are seasoned field engineers, have sufficient education and are familiar with the work control/planning process. However, no documented qualification process other then "required reading" specifically describes qualification requirements for work control managers and planners. In support of work control and work planning the BJC Area /Operations Manager conducts weekly field team training briefs. The briefs are attended by work control/planning and associated personnel. A review of a sample of training briefs identify that work control and work planning elements were discussed and documented. The briefs included topics such as; radiation support strategy, FS-1001 (Oak Ridge) work control program overview, equipment maintenance, records management, sub-contract closure process, and work control feed-back. These two weaknesses were discussed with line management, documented, and will be monitored for followed-up.

A review of previously performed work planning and work control management assessments, (attachment #3) was performed. The review found weaknesses with incorporating lessons learned in work packages, lack of project management involvement in the work planning stage, and personnel training documentation not found in work packages. The current assessment found lessons learned incorporated into work packages. The lack of project management involvement was not identified during this assessment. Interviews with line project managers and associated work package reviews concluded that project management was involved in the work planning stage. Personnel training documentation not available in work packages again was identified during this assessment and observation No.1was issued.

The following work control packages were reviewed:

(I) Planning Stage -The following project documents were reviewed:

Project Plan: Paducah Scrap Metal Removal and Disposal, WP-05-RM0042– Subcontract No. 23900-SC-RM268F

WP-05-RM0042, Paducah Scrap Metal Disposal plan was reviewed against PA-1001, Paducah Work Control Process, to determine if procedural requirements were incorporated into the plan. The work plan contained the necessary document requirements of PA-1001. However, the following observations were identified during the review:

Observations:

(1) BJCF-606, revision 0 did not contain a training matrix for project personnel. In addition, form BJCF-606 does not contain a specific box to check for personnel training requirements met. PA-1001 steps requiring training documentation: are: 5.5.10, "develop a training matrix for all workers performing and supporting the task to document that all members of the Execution Team have all required training" ..... Step 5.6.9, "ensure that all the required training for all manual workers (Execution Team members) is current prior to starting work and document that review." Although PA-1011 does not specifically require a training matrix be present in the work package, no consistency as to where the training matrix resides for work packages is evident. Some are located in the work package, field office, or secured by the worker (passport card). This observation was also noted in past management assessment performed. (See management assessment attachment No.3)

(2) BJCF-604, revision 1 referenced revision changes, (i.e. page 3 added note and comment 3, editorial changes on page 4,5,6, and10 editorial, However, when you go to these pages there is no identification as to what has been added or changed (i.e. marginal markings, bold type). This observation was discussed with the BJC Project lead and Project Manager. It was later learned that the field copy of the work package did contain revision changes marked in red to identify the changes. The observation was closed during the assessment.

During discussions with the Project STR for Paducah Scrap Metal Removal and Disposal and BJC Facility Management Team lead it was learned that personnel assigned to the Paducah Scrap Metal Removal and Disposal project, receive the required project training and are issued a "passport card" to wear. This was verified during a review of DMSA activities outside of No. 6 facility. This card identifies the wearer, project assignment and training expiration date. It is the duty of the wearer and line supervisor to ensure this training is kept current. It was further learned that "passport cards" are usually issued for long term duration work. The passport system has a central training coordinator who keeps day to day records of employee training status for individual sub-projects. The passport system allows instant identification of the workers training to the field supervisor upon start of each day tasks. Also, the worker has a visual reminder of when their training expires. The "passport" system is considered a good work practice, but may not be practical for short-term projects.

(II) Implementation Stage -The following project activities and documents were reviewed.

Project Work: (DMSA-OS-06) -FWR No. 6192 – Perform mobilization, characterization, inventory, waste disposition and demobilization of OS-06

Quality Assurance observed associated work activities outside of No. 6 facility on 12/21/05. The work activities included dismantlement, cut and segregate old double lined tanker rail cars for eventual shipment to the site landfill. The front line supervisor discussed worker activities and controls at the job site with Quality Assurance personnel. The area that one tank was dismantled and cut was found roped off and radiation monitoring equipment present. Work was temporarily stopped at this time due to required sampling and testing of loose contamination discovered once the tank ends were removed. The project work package documentation was reviewed to verify compliance with PA-1001, Paducah Work Control Process. The following documents were identified as part of this project package: Job scope, lessons learned, activity hazards analysis, tail gate briefs (pre and post), MSDS sheets, NCS sheets, current procedures/work instructions along with sequential revisions, training qualifications (passport cards), completed NCS, RCRA, TSCA, RLLW, and solid waste characterization documents. Review of the work package documents, personnel interviews and observations

concluded that the project has met the intent of BJC Integrated Safety Management System (ISMS) methodology and PA-1001 work control process requirements.

(III) Closure Stage - The following project documents were reviewed:

Project Plan: Uranium Tetrafluoride Disposition Project – Subcontract No. 23900-BA-LW165U-PR-003.
Work Package WP-05-RM0024

A review of Tetra Tech work package WP-05-RM-0024 (UF_4 drum shipment work) was performed on 12/19/05 to verify compliance with PA-1001, Paducah Work Control, Revision 7, closure requirements. The package included two BJC Paducah Work Package Cover sheets (BJCF-604), revision 0 and 1. Revision 0 included all the appropriate signatures except that of the Facility Manager and the Quality Assurance STR review. Revision 1 was created to include an additional activity to the project. Revision 1 included all of the signatures except the front line supervisor owner/preparer, Facility Manager and Quality Assurance STR. Discussions with the Tetra Tech Field Engineer, responsible for closing the work package, stated that omitted signatures were needed prior for the final review and closure of the work package.

The work package review identified the following work control elements: USQ determinations, work instructions/procedures, training matrix, past lessons learned, pre-job briefs, equipment used, applicable correspondence documents, training matrix, and scale tests. Although all signatures were not present, due to recent completion of work and availability of key personnel, the work package was found in compliance with PA-1001 requirements.

Associated Plan Documents:

Technical Basis Document:

Quality Assurance reviewed technical basis documentation providing justification for radionuclide reporting associated with UF_4 materials, nuclide concerns and general assumptions. In addition, the document discussed historical data used for UF_4 isotope determination, shipment assumptions, total activities, regulatory thresholds, Department of Transportation classifications and review and approval signatures.

Project Transportation/Shipment

The purpose of this document was to ensure that hazardous material shipments were performed in compliance with Department of Transportation (DOT) regulations. The plan included a crosswalk that identified project transportation field activities were in compliance with applicable DOT regulations and Best Management Practices (BMP).

A review of the UF_4 Disposition Project shipment flow sheet included; container identifications, shipment preparations, field work, documentation, and OSSMR reviews. Also included were; inbound trucks, loading of containers and outbound trucks. The following document sections were reviewed:

Section 4 of the document described Duratek Technical Support personnel roles and responsibilities.

Section 4.3 of the document described precautions and Limitations. (I.e. container leakage, actions to be taken and national security)

Section 4.4 of the document described records to maintain and controls in accordance with applicable procedures and the quality assurance program.

Section 5.1 of the document describes shipment approval process. (i.e., UF_4 project profile, shipment summary form, spreadsheets)

Section 5.10 of the document described performance indicators. (i.e.; charts, statistics and trends).

Section 5.9 of the document described personnel training requirements for this project. (i.e., Hazmat employees, DOT, and driver training Federal Motor carrier safety Regulations, Drug and alcohol testing).

The following attachments contain assessment data:

Attachment No. 1 - Performance objectives, criteria, work package evidence reviews, and compliance results.
Attachment No. 2 - Work control and work planning packages and associated procedures
Attachment No. 3 – Historic management assessment reviews

Department of Energy (DOE) Commitment No. 23 Response - Work Control and Work Planning				
Performance Objective	Criteria	Evidence	Compliant	Actions

Attachment No. 1

WPC-1 (DOE established oversight process)	Not applicable to DOE contractors (DOE completes)	N/A	N/A	N/A
WPC-2 (DOE oversight performance)	Not applicable to DOE contractors (DOE completes)	N/A	N/A	N/A
(WPC-3) Work Control Program Documentation – The contractor has developed an effective work planning and control process. (see attachment No.2 evidence work related procedures)	1. Contractor work control manual/procedure for initiating, analyzing, and developing work control documents, including job hazard analysis, is approved and implemented	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192 (W-321-PWOS) (PA-1001)	Acceptable	None
	2. The contractor's work control process establishes the level of review and approval for different types of work control documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work activity.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192.) (PA-1001)	Acceptable	None
	3. The contractor has established work planning/control requirements for all personnel performing work at their site, including subcontractors. Affected personnel are trained on these requirements.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192. (W-321,201, PA-1001)	Acceptable	None
	4. The contractor's work control manual/ procedure include turnover requirements when line management and/or first line supervisor responsibilities are transferred.	Prime contractor procedure BJC-FS-1026 delineates turn-over but is not flowed down to sub-contractor procedures. W-201-PWOS)	Weakness noted (see results summary)	None
	5. The contractor's work control manual/procedure includes a process for lessons learned/feedback during the execution of work control activities, including incorporation of lessons learned into active and in development work control documents.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192. (W-544-PWOS)	Acceptable	None
	6. The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or work control manual/procedure.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192. (PA-1001, W-201,544)	Acceptable	None

Department of Energy (DOE) Commitment No. 23 Response - Work Control and Work Planning				
Performance Objective	Criteria	Evidence	Compliant	Actions
	7. The qualification requirements for Work Control Managers and Planners are established.	Experienced field engineers perform work planning and control activities. However, no qualification program was identified.	Weakness (see summary results)	None
	8. Records that document the successful completion and qualification of Work Control Managers and Planners are retained and auditable.	Reviewed "controlled" required reading training documents for two Tetra Tech work control/planner engineers. BJC subcontracts work control/document planning	Weakness (see summary results)	None
(WPC-4) Work Planning and Control Activity – Definition and Hazard Analysis – Work activities are adequately defined and analyzed to identify hazards and associated controls. (see attachment No.2 evidence work related procedures)	1. Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped with known boundaries.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192. ((W-219, 201,321-PWOS)	Acceptable	None
	2. A team (team) comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health Subject Matter Experts, etc.) is selected by line management to participate in the development of the work control document.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192 (PA-1001, W-321,201-PWOS)	Acceptable	None
	3. The team performs effective walk downs and Job Hazard Analyses in order to develop work steps/techniques and identify possible hazards and their associated controls.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192. (W-219,201-PWOS)	Acceptable	None
	4. The team considers potential upset conditions, accidents, and "what if" scenarios and their consequences during the walk downs and JHAs.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR- 6192 (W-219, 2012010-PWOS)	Acceptable	None
	5. The team selects controls based upon the following hierarchy: (1) hazard elimination/ reduction, (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192(W-201,212,219,240)	Acceptable	None
	6. The team ensures that the level of control established for a hazard is maintained throughout the activity or until	WP-05-RM0024 WP-05-RM0042	Acceptable where applicable	None

Department of Energy (DOE) Commitment No. 23 Response - Work Control and Work Planning				
Performance Objective	Criteria	Evidence	Compliant	Actions
	the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction). [This Criteria addresses potential loss of safety function during D&D and may not be applicable to all work activities].	DMSA-OS-06-FWR No. 6192. (W-201,212,219,240)		
	7. The team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192. ((W-219, 212,240)	Acceptable	None
(WPC-5) Work Planning and control process – The contractor work planning process generates work control documents that accomplish safe, efficient and completed work activities. . (see attachment No.2 evidence work related procedures)	1. The work scope and associated boundaries are clearly defined.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192. (W-201, 321-PWOS)	Acceptable	None
	2. The work control document is written in a clear, concise, and worker friendly manner.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192. (W-201,321-PWOS)	Acceptable see observation 1 for revision changes not identified in office work package	This observation was closed during the assessment
	3. The work steps for activities are properly sequenced.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192. (W-321) (PA-1001)	Acceptable	None
	4. Work control documents adequately incorporate technical and administrative requirements (e.g., contract, safety basis, regulatory, consensus codes, etc.).	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192. W-201,321PA-1001)	Acceptable	None
	5. Work hazard controls identified in the JHA have been incorporated into the work control document.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192 (BJC-EH-2010) W-219)	Acceptable	None

Department of Energy (DOE) Commitment No. 23 Response - Work Control and Work Planning				
Performance Objective	Criteria	Evidence	Compliant	Actions
	6. The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192 (work instruction reviews)	Acceptable	None
(WPC-6) Work Planning and Control Oversight - Contractor personnel perform work in accordance with approved work control documents. (see attach.No.2 evidence work related procedures)	1. First line supervisors and workers are knowledgeable of their work control documents and meets all applicable training and medical requirements.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192. (MA-05-PAD-015,016, 017, 018, 019, PAD-Weskem-1, 2, Pad – Swift &Staley-3,4 &5 (PA-1001)	See personnel training observation 2	Wrote field observation and entered into corrective actions (I/Cats) tracking system.
	2. Operations work control authority reviews and authorizes all work control documents prior to commencement of work. He/she is required to evaluate all work at a facility and or site to ensure work activities of one scope do not adversely affect the safe work of another.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192 (where applicable) W-201-PWOS, ISMS Principles	Acceptable	None
	3. Effective pre-evolutionary briefings are performed.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192. assessment reviews: MA-05-PAD-015,016, 017, 018, 019, PAD-Weskem-I, 2, Pad –Swift &Staley-3,4 &5 (PA-1001	Acceptable	None
	4. First line supervisors and workers follow work control document instructions as written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their change control process. 5. First line supervisors and workers understand their stop work authority.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192 (MA-05-PAD-015,016, 017, 018, 019, PAD-Weskem-1, 2, Pad – Swift &Staley-3,4 &5	Acceptable interviewed line managers and workers. Reviewed prior assessments	None
	6. Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192. Assessments: MA-05-PAD-015,016, 017, 018,	Acceptable	None

Department of Energy (DOE) Commitment No. 23 Response - Work Control and Work Planning				
Performance Objective	Criteria	Evidence	Compliant	Actions
(WPC-7) Work Planning and Control Oversight – The contractor has an established process requiring line management to perform timely assessments/surveillance of work planning and control processes. Contractor performs periodic reviews of active and in development work control documents. (see attachment No.2 evidence work related procedures)	1. The contractor has scheduled and performed independent and self assessment of the work planning and control process. These activities are of sufficient scope, detail, and quantity that the contractor can ascertain the status of their work planning and control process.	019, PAD-Weskem-1, 2, Pad –Swift &Staley-3,4 &5 See attachment No. 3 management assessments performed by contractors or in conjunction with Bechtel Jacobs quality assurance support. Also reviewed Weskem independent assessments: WQA-IA-05-010, 005, 011, WQA-IA-04-0036,WQA-IA-05-017, WQA-IA-05-021, WQA-IA-05-022, WQA-IA-04-052	Acceptable	None
	2. Line managers periodically perform surveillances, which include the observations of job walk downs and JHA walk downs/meetings, pre-evolution briefings, and work performed to work control documents.	Review of BJC Environmental Facility Managers documented facility walk-down surveillances and above noted Weskem assessments)	Acceptable	None
	3. Line managers periodically review in-development and approved work control documents.	WP-05-RM0024 WP-05-RM0042 DMSA-OS-06-FWR No. 6192 (above noted Weskem assessments)	Acceptable	None
	4. The contractor tracks and trends the results of oversight activities performed on their work planning and control process and takes appropriate actions.	WP-05-RM0024, WP-05-RM0042, DMSA-OS-06-FWR No. 6192 – (W-201-PWOS-ISMS) (above noted Weskem assessments)	Acceptable Review of Weskem monthly (Oct.) statistics/trending for work planning/ISMS	None

Attachment No. 2

Work Control and Work Planning Packages and Associated Procedures

Work Package No.	Procedure No. & Rev.
WP-05-RM0042 – Paducah Scrap Metal Disposal Plan	W-540-PWOS- R-5– PWOS Issues Management and Corrective Actions W-545 – PWOS-R3- Non-conforming Items and Services W-201—PWOS-R-1- ISMS W-212 –PWOS- R 4- General Safety Rules W-219-PWOS-R-2- Activity Hazard Review and Activity Hazard Assessment W-240-R-1 - Heat Stress W-162 – R-1- Identification and Safe Handling of Pressurized Waste Containers W-321-PWOS-R-6 - Work Control and Field Work Request W-513-PWOS – R-1- Transportation and loading WPF-0051-R-1 TID Tamper Indicating Devices WPF-0052 –R-1 WESKEM Waste Container Inspection tacking Form- PA-1019- R-5 – Facility Management Program PA-3012 –R-10- Procurement and Inspection of Items Critical for Paducah BJCF-2013-R-4- Paducah Welding, Burning and Hot work BJC-NS-1003 –R-8- Nuclear Criticality Safety BJCF-604- R-7 - Paducah Work Package Coversheet BJCF-605-R-1 -- Paducah Work Instructions BJC-606 – R-7-Paducah Work Package Index BJC-PQ-1107 –R-7- Performance Document Process BJC-PA-1001- R-7-Paducah Work Control Process BJC-EH-2010 –R-6- Hazard Assessment BJC-FS-1026- Personnel Turnovers NCSE-RM-SCRAP-0012- R-5 - Nuclear Criticality Safety Evaluation

Attachment No. 2

Work Control and Work Planning Packages and Associated Procedures

DMSA-OS-06 FW No. 6192 Waste Disposition	PA-3002- R-9 - - Administration of Paducah DOE Material Storage Areas PA-3003 –R-6- NCS Characterization, Movement and Storage & Disposal of Fissionable matter BJCF-NS-1003 –R-8- Nuclear Criticality safety Program PAD-11-WAC-R-4- Paducah Waste Acceptance Criteria BJC-FS-1026 –R-1- Personnel Turnovers BJC-PQ-1107 – R-7 – Performance Document process BJC-PA-1001-R-7 – Paducah Work Control Process BJC-EH-2010 –R-6- Hazard Assessment W-130-R-3 - Repacking and Over packing W-131- R-2- Handling, Transportation and Relocating Waste Containers & Other Support Equipment W-148-R-2 -– Powered Industrial Trucks W-150 –R-5- Sample Chain of Custody W-160-R-0- Sampling Containerized Waste Operations W-188 –R-1- Lead Aid Battery Recycling W-195-R-4 - Waste Type Summary for Paducah DOE Waste Storage Facilities W-201 –PWOS-R-1- Integrated Safety Management System W-212- R-4 – General Safety Rules W-219-PWOS-R-2- Activity hazard Review & Activity Hazard Assessment W-240-R-1 – Heat Stress W-321-PWOS-R-6 - Work Control and Field Work Request W-544-R-1 – Lessons learned W-630 – R-1-Program Decontamination of Sampling Containers and Sampling Devices W-830 –R-1- Conduct of Operations
WP-05-RM0024 – UF 4 Disposition Project	CP2-SS-NM 6033- Rev. 12 NMC&A Scale & Balance Program PA-2005-R-10- Battery Charging Area program PA-3002—R-9- Administration of Paducah DOE Material Storage Areas PA-3003-R-6 - NCS Characterization, Movement and Storage & Disposal of Fissionable matter … PA-2007- R-0 -- Industrial Motorized Truck (forklifts) BJC-PQ-1020 – R-1 - Control and Calibrations of M&TE BJCF-605 – R-7-- Paducah Work Instructions BJCF-604 – R-7- Paducah Work Package Coversheet BJCF- 606 – R-7– Paducah Work Package Index BJC-FS-1026 –R-1- Personnel Turnovers BJC-PQ-1107-R-7 – Performance Document Process BJC-PA-1001-R-7- Paducah Work control Process BJC-EH-2010 –R-6 - Hazard Assessment

Attachment No. 3

Management Assessment Reviews

Subject: Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 23.

In response to the Department of Energy's request the following Bechtel Jacobs Company, LLC management assessments were reviewed and evaluated to determine effectiveness of work planning and work control processes at the activity level. The reviews identified weakness with work package training matrices, lessons learned and project manager involvement in work package development.
The current review of work packages identified that training matrices were not always located in work package. An observation was written and currently tracked for closure. All work packages reviewed during the current assessment contained lessons learned. A lack of project managers involved in the development of the work packages was not identified during the current assessment. Project manager interviews determine that they were knowledgeable of the work planning/control process for their assigned projects. In addition, BJCF-604 Paducah Work Package Cover Sheet does require sign-offs indicating that project managers are members of the planning team.

Note: The observations noted above were closed out during subsequent revisions to PA-1001- Paducah Work Control Process with the exception of training matrices not found in all work packages.

The following chart identifies a selection of Bechtel Jacobs Company LLC; Management Assessments performed in the areas of work planning and work control.

CRITERIA	MANAGEMENT ASSESMENT	RESULTS
Work Control Program –The contractor has developed an effective work planning process	MA-05-PAD-015, 10/04/04 MA-05-PAD-016, 10/12/04 MA-05-PAD-017, 10/12/04 MA-05-PAD-018, 10/12/04 MA-05-PAD-019, 10/12/04 MA-05-PAD-035, 6/2/05 WESKEM PAD-1, 10/29/02 WESKEM PAD-2, 12/30/02 Swift & Staley-PAD-3, 9/30/04 Swift & Staley-PAD-4, 9/29/04 Swift & Staley-PAD-5, 9/27/-29/04	Acceptable
Work Planning and Control Activity – Definition and Hazard Analysis – Work activities are adequately defined and analyzed to identify hazards and associated controls	MA-05-PAD-015, 10/04/04 MA-05-PAD-016, 10/12/04 MA-05-PAD-017, 10/12/04 MA-05-PAD-018, 10/12/04 MA-05-PAD-019, 10/12/04 MA-05-PAD-026, 6/7-8/05 WESKEM PAD-1, 10/29/02 WESKEM PAD-2, 12/30/02 Swift & Staley-PAD-3, 9/30/04 Swift & Staley-PAD-4, 9/29/04 Swift & Staley-PAD-5, 9/27/-29/04	The review of ten of thirteen management assessments identified that project managers were not involved in the development of the work package This observation was closed during subsequent revisions to PA-1001 procedure.

Attachment No. 3

Management Assessment Reviews

Work Planning and control process – The contractor work planning process generates work control documents that accomplish safe, efficient and completed work activities	MA-05-PAD-015, 10/04/04 MA-05-PAD-016, 10/12/04 MA-05-PAD-018, 10/12/04 MA-05-PAD-019, 10/12/04 MA-05-PAD-026, 6/7-8/05 WESKEM PAD-1, 10/29/02 WESKEM PAD-2, 12/30/02 Swift & Staley-PAD-3, 9/30/04 Swift & Staley-PAD-4, 9/29/04 Swift & Staley-PAD-5, 9/27/-29/04	The review of six of thirteen management assessments identified that lessons learned were not included in the work scope. This observation was closed during subsequent revisions to PA-1001 procedure.
Work Planning and Control Oversight – Contractor personnel perform work activities in accordance with approved wok control documents.	MA-05-PAD-015, 10/04/04 MA-05-PAD-016, 10/12/04 MA-05-PAD-018, 10/12/04 MA-05-PAD-019, 10/12/04 MA-05-PAD-026, 6/7-8/05 MA-05-PAD-033, 5/25/05 WESKEM PAD-1, 10/29/02 WESKEM PAD-2, 12/30/02 Swift & Staley-PAD-3, 9/30/04 Swift & Staley-PAD-4, 9/29/04 Swift & Staley-PAD-5, 9/27/-29/04	The review of ten of thirteen management assessments identified that personnel training was not documented or included in the work package. An observation was written for a repeat of this observation during the current assessment.
Work Planning and Control Oversight – The contractor has an established process requiring line management to perform timely assessments/surveillance of work planning and control processes. Contractor performs periodic reviews of active and in development work control documents	MA-05-PAD-015, 10/04/04 MA-05-PAD-016, 10/12/04 MA-05-PAD-018, 10/12/04 MA-05-PAD-019, 10/12/04 MA-05-PAD-026, 6/7-8/05 WESKEM PAD-1, 10/29/02 WESKEM PAD-2, 12/30/02 Swift & Staley-PAD-3, 9/30/04 Swift & Staley-PAD-4, 9/29/04 Swift & Staley-PAD-5, 9/27/-29/04	Acceptable Note: Management assessments noted in this report were performed by line management or in conjunction with the Bechtel Jacobs Company Quality Assurance support group.

Bechtel Jacobs Company, LLC
Management Assessment
MA-06-PAD-001

Defense Nuclear Facilities Safety Board
Recommendation 2004-1, Commitment 23,
Work Planning and Work Control

Site Action Plan

INTRODUCTION

Bechtel Jacobs Company, LLC (BJC) conducted a management assessment in accordance with guidance provided in the November 18, 2005 DOE Environmental Management Memorandum – Work Planning and Work Control (WPC) and Site Action Plan for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, Commitment 23.

Based on DOE guidance documents, BJC developed a quality assessment plan and performed MA-06-PAD-001, Work Control and Work Planning management assessment. An assessment briefing was held and the assessment was initiated on December 15, 2005, and completed on January 3, 2006. Judgment of Needs (JONs), which are equivalent to BJC findings, observations and proficiencies are identified for each Performance Objective (PO) in the accompanying plan sections.

Work Control and Work Planning program deficiencies were entered into the Bechtel Jacobs Company Issues/Corrective Actions Tracking System (ICATS) for assignment and closure tracking.

During the development and implementation of corrective actions for JONs in this assessment and the completion of future assessments, BJC believes it is important to keep in mind the graded approach. Several of the LOIs in the management assessment appears to correlate more to Best Management Practices (BMPs), rather than written directions specified in DOE requirement or guidance documents. BJC believes these LOIs should remain as BMPs, applied through the graded approach. BJC strives to apply BMPs for continual improvement to the extent practical and economical for our limited mission.

WPC – 1 WORK PLANNING AND CONTROL OVERSIGHT (RESERVED FOR DOE COMPLETION)

Performance Objective:

The DOE field element has an established process that ensures effective oversight of the contractor's work planning and control process.

Judgment of Need (JON):

Not Applicable

WPC – 2 WORK PLANNING AND CONTROL OVERSIGHT (RESERVED FOR DOE COMPLETION)

Performance Objective:

The DOE field element performs effective oversight of the contractors work planning and control process.

JON:

Not Applicable.

WPC-3 WORK CONTROL PROGRAM DOCUMENTATION

Performance Objective:

The Contractor has developed an effective work planning and control process.

Judgment of Need (JON):

JON-1: Turnover of line management and/or first line supervisor responsibilities not specified in contractors procedure/instructions.

JON-2: Qualification requirements for Work Control Managers and Planners are not established.

The review of DOE Order 5480.20A, Personnel Selection, Qualification, and Training Requirements, Chapter IV for Non-Reactor Nuclear Facilities does not specifically identify qualification requirements for Work Control Managers and Planners. The review concluded that personnel performing work control and planning are seasoned field engineers, have sufficient education and are familiar with the work control/planning process. This was verified by personnel interviews and review of work control managers/planners "required reading" documents related to the work control program. Also, in support of work control and work planning the BJC Area /Operations Manager conducts weekly field team training briefs. The briefs are attended by work control/planning and associated personnel. A review of a sample of training briefs identify that work control and work planning elements were discussed and documented. The briefs included topics such as; radiation support strategy, FS-1001 (Oak Ridge)

work control program overview, equipment maintenance, records management, sub-contract closure process, and work control feed-back.

JON:-3 Records that document successful completion and qualification of Work Control Managers and Planners not available for audit. (See above information for Work Control Managers and Planners.)

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Action #/Description	Deliverable(s)	Due Date	Owner/Organization
1.Revise PA-1001, "Paducah Work Control Process", to include attachment for Line management and/or first line supervisor responsibility transfer.	Revised PA-1001 procedure includes attachment for Line Management and/or First Line supervisor responsibility transfer.	March 1, 2006	BJC–Randy Crawford Facility/Operations Manager
2 Qualification requirements for Work Control Managers and Planners are not established.	See WPC-3 information		
3. Records that document successful completion and qualification of Work Control Managers and Planners not available for audit.	See WPC-3 information		

WPC – 4 WORK PLANNING AND CONTROL ACTIVITY DEFINITION AND HAZARD IDENTIFICATION

Performance Objective:

Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

Judgment of Need None

WPC – 5 WORK PLANNING AND CONTROL PROCESS

Performance Objective:

The contractor work planning process generates work control documents that lead to safe and effective completion of work activities.

Judgment of Need: None

WPC – 6 WORK PLANNING AND CONTROL PROCESS

Performance Objective:

Contractor personnel perform work in accordance with approved work control documents.

JON-1: The review of project work packages identified that worker training matrices were not always incorporated into the work packages.

Action #/Description	Deliverable(s)	Due Date	Owner/Organization
1.Revise PA-1001, Paducah Work Control Process to include a requirement to incorporate the worker training matrices or document where the matrices are locate	Revised PA-1001, Paducah Work Control Process includes a requirement to incorporate the worker training matrices or document where the matrices are locate	March 1, 2006	BJC–Randy Crawford Facility/Operations Manager

WPC – 7 WORK PLANNING AND CONTROL OVERSIGHT

Performance Objective:

The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents.

Judgment of Need: None

Site Assessment Report
WP&C Commitment 23 – DNFSB Recommendation 2004-1

Work Planning and Work Control
at Portsmouth (LPP)

December 12-15, 2005

Performance Objective WPC -3 Work Control Program Documentation: The contractor has developed an effective work planning and control process.

Evaluation: The Performance Objective is partially met. Controls for preparation of work packages are established and implemented. However, enhancements are being developed.

Results:

This objective was assessed by reviewing LPP procedures that govern the generation of work control documents against the criteria of this objective. Training documentation was also reviewed related to the training and qualification of the Work Control Manager and Planners.

As required by Criteria 1 and 3, LPP work is controlled by either the use of work packages or procedures. Preparation and use of work packages is governed by LPP-PO-1001, *Work Control Process* while LPP-PQ-1107, *Performance Document Process* governs procedures. LPP-PO-1001 establishes level of approval on a work package based on where the work is taking place (i.e.: Category 2 Nuclear Facilities) and the type of hazards (i.e.: radiation) expected to be present (Criteria 2). The procedure also has an action to review the DOE Lessons Learned database during preparation of a work package (Criteria 5) and to perform a documented post-job briefing (Criteria 6). Managers, Superintendents (First Line Supervisors) and Planners were recently trained on LPP-PO-1001 which is required by Criteria 3. Review of LPP-PQ-1107 indicated that criteria 2, 5 and 6 of this objective, are not addressed by this procedure.

Criteria 4 of this objective require LPP to have a documented process for the turnover of responsibilities when line managers or Superintendents are transferred. This documented process does not exist.

Criteria 7 and 8 of this objective address training of work control managers and planners. A Training Position Description (TPD) entitled "Inactive Facility Planner" has been developed which includes training requirements. Currently the two planners in the Inactive Facility Removal organization are linked to this TPD. However none of the individuals performing planning functions in other LPP organizations have a TPD for planning established. Additionally, it was noted that a TPD for the Work Control Manager has not been developed.

Noteworthy Practices: None.

Judgment of Need:

1. LPP-PQ-1107, *Performance Document Process* needs to be revised to fully comply with the work control and work planning requirements.

2. A formal process needs to be developed for the turnover of responsibilities when line managers or Superintendents are transferred.

3. LPP Training Position Descriptions need to be developed and implemented for the Work Control Manager and for all personnel performing planning activities.

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

Evaluation: The Performance Objective is partially met. Hazards for work packages are being identified and controlled.

Results:

This objective was assessed by reviewing LPP procedures that govern generation of work control documents against the criteria of this objective. Line Managers and Superintendents were interviewed and approved work packages were reviewed to determine the level of effectiveness in implementing the criteria.

LPP-PO-1001, *Work Control Process* governs the development, approval and execution of work packages. The procedure requires the scope of the work to be clearly defined (Criteria 1.) The procedure also addresses the establishment of a planning team and performance of a walk down of the work to identify and mitigate hazards (Criteria 2 & 3.) Review of approved work packages and interview of personnel confirms that this is being effectively implemented. A review of a draft of a revision to LPP-PO-1001 shows that the planning team will also review the basic job steps to get the job done (Criteria 3.) However neither the current or draft revision addresses: consideration of upset conditions (Criteria 4;) selection of controls based on an established hierarchy (Criteria 5;) ensuring that the hazards will be adequately addressed though-out performance of the work (Criteria 6) and the possibility of creating an additional hazard due to a selected control (Criteria 7.) Interviews indicate that these criteria (4-7) are generally not being effectively implemented.

LPP-PQ-1107, *Performance Document Process* is the procedure that governs the development and approval of procedures which is one of the two primary types of work control documents used by LPP at Portsmouth. The Purpose and Scope sections of procedures satisfy Criteria 1. Validation of a procedure assures hazards are identified and mitigated (Criteria 2 & 3.) However, Criteria 4 - 7 of this objective are not addressed by LPP-PQ-1107. An interview with a Superintendent that utilizes procedures to perform work indicates that a team is established to develop a procedure. This team performs planning walk downs to identify hazards and the appropriate controls and to develop the sequence of steps to perform the work.

Noteworthy Practices: None.

Judgment of Need:

1. LPP-PQ-1107, *Performance Document Process* needs to be revised to fully comply with the work control and work planning requirements. (Same as Judgment of need in WPC-3)

4. LPP-PO-1001, *Work Control Process* needs to be revised to fully comply with the work control and work planning requirements.

Performance Objective WPC-5: Work Planning and Control Process The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

Evaluation: The Performance Objective is partially met. Work packages generated by LPP assure safe performance of the work.

Results:

This objective was primarily assessed by reviewing approved work control documents for the following areas: Waste Disposition, Maintenance, Groundwater Treatment Facilities and Inactive Facility Removal. To assure consistency during review, a checklist was completed for each package using the following checks.

1. Work Scope and boundaries are clearly defined;
2. Lessons learned are appropriate to the scope;
3. Work steps are clearly written and properly sequenced;
4. Post Job briefing documented;
5. Planning Walk down performed by appropriate personnel;
6. Was the appropriate hierarchy of controls selected;
7. Technical, administrative and hazard controls are incorporated; and
8. Specific activity hazards delineated immediately before the activity step.

(Criteria 1) All work packages had the scope and boundary appropriately described. The amount of detail varied based on the complexity, risk or uniqueness of the work. The scope for inactivity facility removal was several paragraphs while the scope for a routine corrective maintenance item would was generally one sentence. For procedures this criteria is implemented by the Purpose and Scope sections that is required for all procedures.

(Criteria 2 & 3) Work packages that did not reference a procedures to accomplish the scope, generally did not provide work instructions or sequence of steps to complete the scope. This issue appears to be caused by the interpretation by the planners in the use of "skill of the craft" to determine how much information was needed to include in the work package. LPP-PO-1001, *Work Control Process* does not provide direction on how to take "skill of the craft" into account when preparing instructions to the worker.

(Criteria 4) Of the work packages reviewed, the two that had specific technical or administrative requirements associated with the work were adequately addressed. LPP-PQ-1107, *Performance Document Process* requires safety basis requirements to be identified when they are incorporated into a procedure.

(Criteria 5 & 6) As required by LPP-PO-1001, all work packages had a document that identified the hazards associated with the work and the controls to mitigate those hazards. Since this document is part of the work package, the criteria to have hazards incorporated into the work control document is being met. Due to the issue of not having adequate instructions (see Criteria 2 & 3) the criteria to delineate control immediately before a document step could not be assessed for work packages. Procedures uses "Notes", "Cautions" and "Warnings" to warn the user of hazards before performing an action step. However, it is left up to the discretion of the procedure writer as to when to do this.

Noteworthy Practices: None.

Judgment of Need:

5. A document needs to be developed which enables planners and procedure writers to take the complexity and risk of a task and using the knowledge and training of the individuals performing the task, develop appropriate instructions. Once issued, training needs to be held with all personnel that develop work instructions in work packages or procedures to assure a consistent implementation.

Performance Objective WPC-6: Work Planning and Control Oversight Contractor personnel perform work in accordance with approved work control documents.

Evaluation: The Performance Objective is partially met. Work is being performed in accordance with approved work control documents.

Results:

This objective was assessed based on interviews with Line Managers and Superintendents, observations of daily safety briefings and review of approved work control documents.

(Criteria 1 & 3) During morning safety briefings the work to be performed that day was discussed including the work control document that would be used. In the case of maintenance work, the packages were directly reviewed by the Superintendent and the workers. This assures that the personnel are knowledgeable of work control documents. The LPP Training organization uses databases to track any required training that is coming due. Superintendents are provided reports periodically so they are know that workers and themselves meet all applicable training and medical requirements.

(Criteria 2) Facility Managers are the authority that approves and authorizes work. Although not required by LPP-PO-1001, *Work Control Process*, Facility Managers are approving work packages. Authorization to perform the work is being done via their participation in the Plan of the Week meeting which is governed by LPP-GM-N001, *Plan of the Week (POW) and Plan of the Day (POD)*. As part of this meeting they also assure that one scope of work will not

adversely affect the safe work of another. However LPP-GM-N001 does not require this evaluation to take place. Additionally, Facility Managers are not approving procedures for operations that take place in their facility. Approval of procedures by Facility Managers is not addressed in LPP-1107, *Performance Document Process.*

(Criteria 4 & 5) Based on interviews with Superintendents and Line Managers, personnel are aware to stop work if the work cannot be performed and documented in the work control documents. This is assured through the multiple number of briefings that have been held on this subject. Additionally all personnel have been issued a "Stop Work" card that provides them with the documented authority to stop work if they observe an unsafe condition.

(Criteria 6) Work packages that had been in process for an extended period of time did not have documentation that indicated the status of the work. The current revision of LPP-PO-1001 does not require a job status log to be maintained. However, the draft of a planned revision does require the use of a status log. For operational activities status is maintained though the use of narrative logs.

(Criteria 7) LPP-PO-1001 requires the lessons learned data base to be reviewed for subjects that are pertinent to the scope of work. Based on review of the lessons learned contained in the work packages this is being performed. However it is not possible to determine if changes were made during development the work package as a result of the lessons learned information.

Noteworthy Practices: The use of issuing stop work cards with the employee's name and signature is a simple but effective way of assuring that all personnel are aware and are comfortable in issuing a stop work if needed.

Judgment of Need:

4. LPP-PO-1001, *Work Control Process* needs to be revised to fully comply with the work control and work planning requirements. (Same as Judgment of need in WPC-4)

6. LPP-PO-1001 *Work Control Process* and LPP-GM-N001, *Plan of the Week (POW) and Plan of the Day (POD)* need to be revised to reflect the involvement by Facility Managers in approving work packages and subsequent authorization to perform the work.

7. LPP-PO-1107, *Performance Document Process* needs to be revised to involve the appropriate Facility Managers in review and approval of procedures that result in work being performed in their facility.

Performance Objective WPC-7: Work Planning and Control Oversight The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents.

Evaluation: The Performance Objective is partially met. Some oversight is being performed by LPP.

Results:

This objective was assessed by interview of line managers, the QA Engineer performing trend analysis and reviewing approved work packages and the Independent Assessment Schedule for Fiscal Year 2006 (FY 06).

(Criteria 1) LPP's contract for waste management and environmental restoration at Portsmouth started in the third quarter of FY 05. There were no independent assessments of work control during the rest of that year. The Independent Assessment Schedule for FY 06 does not indicate any assessments of work control as the sole focus. There is an assessment scheduled of the Integrated Safety Management System scheduled of which work control is one element. However there is not enough information to determine if work control would be adequately evaluated.

(Criteria 2) Based on interviews with the line managers, evaluating the effectiveness of work control or work planning is usually not considered when performing self assessment of work activities. Review of the FY 06 Oversight Plan indicates that the Project Manager has one Management Assessment scheduled for February on work control. Line managers are involved in the major revision that the work planning and work control program is currently developing. This includes daily evaluations of the administrative controls that are being proposed.

(Criteria 3) All work packages are being approved by the responsible line manager. This is required by LPP-PO-1001, *Work Control Process*. Additionally, LPP-PQ-1107 *Performance Document Process* requires the appropriate line manager to approve procedures. Based on this information this criterion is being effectively implemented.

(Criteria 4) Due to the short amount of time since the start of LPP's contract at Portsmouth, the trending program has not been established. It could not be determined if work control would be one of the elements of the trending program.

Noteworthy Practices: None

Judgment of Need:

8. A systematic approach needs to be developed and implemented to assess the effectiveness of work planning and work control using measurable indicators as much as possible.

Site Action Plan
Portsmouth (LATA/Parallax Portsmouth)
Commitment 23 – DNFSB Recommendation 2004-1

Judgment of Need #1
LPP-PQ-1107, *Performance Document Process* needs to be revised to fully comply with the work control and work planning requirements.

Action	Deliverable(s)	Due Date	Owner / Org
Revise LPP-PQ-1107 to incorporate the appropriate criteria from the Work Planning and Work Control CRADS.	LPP-PQ-1107, *Performance Document Process*	4/30/06	Eric Stacey Procedures

Responsible Manager: Dave Kent

Judgment of Need 2:
A formal process needs to be developed for the turnover of responsibilities when line managers or Superintendents are transferred.

Action	Deliverable(s)	Due Date	Owner /Org
Revise LPP-GM-2000 to incorporate turnover of responsibilities.	LPP-GM-2000, *Conduct of Operations for Facilities, Projects and Activities*	4/30/06	Eric Stacey Procedures

Responsible Manager: Tim Larabee, Work Control Manager

Site Action Plan
Portsmouth (LATA/Parallax Portsmouth)
Commitment 23 – DNFSB Recommendation 2004-1

Judgment of Need 3:

LPP Training Position Descriptions need to be developed and implemented for the Work Control Manager and for all personnel performing planning activities.

Action	Deliverable(s)	Due Date	Owner /Org
Develop approved Training Position Description (TPD) for Work Control Manager Position	Approved TPD for Work Control Manager	2/15/06	Moore Training Dept
Work Control Manager completes required training	Training records that demonstrate completion of training by the Work Control Manager required by TPD	5/1/06	Moore Training Dept
Revise TPD for Planner Position	Approved TPD for Planners	2/15/06	Moore Training Dept
Planners complete required training	Training records that demonstrate completion of training by personnel who perform prepare/plan work packages.	5/1/06	Moore Training Dept

Responsible Manager: Jerry Moore, Training Manager

Judgment of Need 4:
LPP-PO-1001, *Work Control Process* needs to be revised to fully comply with the work control and work planning requirements.

Action	Deliverable(s)	Due Date	Owner /Org
Develop LPP-0043 for improving work control for all LPP activities and operations	LPP-0043 *Work Control Improvement Plan*	1/30/06	Tim Larabee Work Control
Revise LPP-PO-1001 to incorporate the appropriate criteria from LPP-0043, *Work Control Improvement Plan*	LPP-PO-1001 *Work Control Process*	3/13/06	Tim Larabee Work Control

Responsible Manager: Tim Larabee, Work Control Manager

Judgment of Need 5:
A document needs to be developed which enables planners and procedure writers to take the complexity and risk of a task and using the knowledge and training of the individuals performing the task, develop appropriate instructions. Once issued, training needs to be held with all personnel that develop work instructions in work packages or procedures to assure a consistent implementation.

Action	Deliverable(s)	Due Date	Owner /Org
Revise LPP-EH-2010 to incorporate the appropriate criteria from LPP-0043, *Work Control Improvement Plan*	LPP-EH-201 *Hazard Assessment*	03/13/06	Tim Larabee Work Control
Training of appropriate personnel as outlined in LPP-0043, *Work Control Improvement Plan*	Training records that demonstrate completion of training of appropriate personnel to LPP-EH-2010.	3/30/06	Moore Training Dept

Responsible Manager: Tim Larabee, Work Control Manager

Judgment of Need 6:
LPP-PO-1001 *Work Control Process* and LPP-GM-N001, *Plan of the Week (POW) and Plan of the Day (POD)* need to be revised to reflect the involvement by Facility Managers in approving work packages and subsequent authorization to perform the work.

Action	Deliverable(s)	Due Date	Owner /Org
Revise LPP-PO-1001 to incorporate the appropriate criteria from LPP-0043, *Work Control Improvement Plan*	LPP-PO-1001 *Work Control Process*	3/13/06	Tim Larabee Work Control
Revise LPP-PO-1001 to incorporate the appropriate criteria from LPP-0043, *Work Control Improvement Plan*	LPP-GM-N001, *Plan of the Week (POW) and Plan of the Day (POD)*	3/13/06	Tim Larabee Work Control

Responsible Manager: Tim Larabee, Work Control Manager

Site Action Plan
Portsmouth (LATA/Parallax Portsmouth)
Commitment 23 – DNFSB Recommendation 2004-1

Judgment of Need 7:
LPP-PQ-1107, *Performance Document Process* needs to be revised to involve the appropriate Facility Managers in review and approval of procedures that result in work being performed in their facility.

Action	Deliverable(s)	Due Date	Owner /Org
Revise LPP-PQ-1107 to require Facility Manager to approve a Technical Procedure when the operational activity is being performed in their facility.	LPP-PQ-1107, *Performance Document Process*	4/30/06	Eric Stacey Procedures

Responsible Manager: Dave Kent

Judgment of Need 8:A systematic approach needs to be developed and implemented to assess the effectiveness of work planning and work control using measurable indicators as much as possible.

Action	Deliverable(s)	Due Date	Owner /Org
Determine what elements of Work Planning and Work Control are most important to the overall effectiveness of the program	An internal memorandum that identifies the important elements.	2/20/06	Tim Larabee Work Control
Determine the methods that will be used to measure important elements	An internal memorandum to the QA Manager identifying the methods to measure the important elements.	2/20/06	Tim Larabee Work Control
Revise/Develop documents that documents the results of the measurements	Revised oversight plan	3/17/06	Mike MacCrae QA
	Performance Indicator charts	3/17/06	Mike MacCrae QA

Responsible Manager: Mike MacCrae

Site Assessment Report
WP&C Commitment 23 – DNFSB Recommendation 2004-1

Results of Assessment of
Work Planning and Work Control
At
Uranium Disposition Services, LLC, Paducah, KY and Portsmouth, OH Sites

Introduction:

Uranium Disposition Services, LLC (UDS) was contacted by John Saluke (DOE Portsmouth Paducah Project Office [PPPO]) to conduct an assessment in accordance with guidance provided in the 11/9/05 DOE Environmental Management Memorandum – Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1.

Based on DOE guidance documents, UDS developed an Assessment Plan utilizing the Lines of Inquiry (LOIs) provided by DOE. The assessment approach was to use the LOIs and conduct the assessment by: 1. Review of plans and procedures 2. Review of selected documentation, 3. Interviews with key Points of Contact, and 4. Observation of work in progress. The scope of the assessment included both UDS facilities at Paducah, KY and Portsmouth, OH and encompassed operations of the UF6 cylinder storage yards (commenced in 6/05) and construction activities (commenced 7/04). Because of the diversity of the activities performed for UF6 cylinder storage yards and construction activities, separate assessments were performed. However, both assessments are reflected in this report. Attachment 1 is an assessment of operations of UF6 cylinder storage yards and Attachment 2 is an assessment of construction activities. Due to time constraints, observations of work in progress was not accomplished for all locations or activities. Some comments are based on previous observations and experience.

The LOIs results are recorded in Attachment 1 and 2 and summarized at the Performance Objective (PO) level in the following sections. In accordance with DOE guidance provided in 12/14/05 John Saluke e-mail 2004-1 F&I Information, the results for each PO are summarized under the following criteria:

- Evaluation (PO Fully Met, Partially Met or Not Met).
- Results
- Noteworthy Practices (equivalent to UDS strengths and proficiencies)
- Judgment of Need (equivalent to UDS findings, observations and weaknesses)

WPC-3: Contractor Program Documentation

Performance Objective (PO): The contractor has developed an effective work planning and control process.

LOIs: 3-1 through 3-8 (see Attachment 1 and 2)

Evaluation: Fully Met

Results:

Both Operations and Construction groups have implemented processes for initiating, analyzing and developing work control documents. Cylinder Yard Operations are conducted in accordance with written procedures for routine activities performed or specific work plans for non-routine activities. Support activities are performed in accordance with written work instructions or procedures (i.e., RADCON support). Construction subcontractors perform in accordance with the specific requirements for the work being performed based on risk, complexity, etc. Both groups require Activity Hazard Analysis be performed for all activities. Work packages differ in terms of content due to varying safety, operational, and technical safety requirements.

Noteworthy Practices:

Thorough review by ES&H representatives and line management of AHA's and other critical documents.

Judgment of Need (JON):

Criteria 1-7 and 1-8 discuss qualifications for Work Control Managers and Planners. Currently, work control functions are collateral duties of supervisory/management personnel. No formal training has been identified.

Current method is satisfactory based on the activities being performed.

NOTE: DOE Order 433.1 was not added to the UDS contract as part of the recent changes.

WPC-4: Work Planning and Control Activity

Performance Objective (PO): Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

LOIs: 4-1 through 4-7 (see Attachment 1 and 2)

Evaluation: Fully Met

Results: As noted above, a rigorous review process is in practice to ensure AHA's have the proper level of detail and appropriate analysis for the activity to be performed. Additionally, personnel in both operations and construction participate in walk downs of areas/jobs and solicit input from workers on the method and means to accomplish work. Regular meetings such as Plan-of-the Day offer a forum for ensuring that the scope of the work is understood and interfaces identified. Construction management and ES&H conduct weekly coordination meetings so that each subcontractor is aware of other contractors' activities, discuss issues, etc. UDS participates in shared site meetings at both Portsmouth and Paducah to ensure the other site prime contractors understand ongoing and planned activities for operations and construction so that possible impacts may be discussed. UDS is also apprised of the activities of the various site organizations so that UDS can access any impact on UDS activities. At Portsmouth, UDS participates in a daily "stand up" meeting along with United States Enrichment Corporation, the infrastructure contractor and the environmental management contractor.

Noteworthy Practices: Plan-of-the-day meetings, stand up meetings and shared site meetings

Judgment of Need (JON): None

WPC-5: Work Planning and Control Process

Performance Objective (PO): The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

LOIs: 5-1 through 5-6 (see Attachment 1 and 2)

Evaluation: Partially Met

Results: For operations activities, routine work is performed using procedures. Non-routine work is performed using work packages developed for the specific task. The work packages are generated using an approved work control process. Some weaknesses were noted in the procedures adopted from the previous contractor. As a result, operations at both sites are upgrading all operations procedures as part of the transition of the UF6 cylinder management activity to UDS control. For construction, an occurrence at Portsmouth in November 2004, identified weaknesses in development of AHA's. As a result a more rigorous review process has been implemented and appears to be working well at both sites.

Noteworthy Practices: Active involvement of cylinder yard crews in the review of the operating procedures.

Judgment of Need (JON): None, though not complete, work on cylinder yard procedures is progressing well and target date for completion is February 2006.

WPC-6: Work Planning and Control Oversight

Performance Objective (PO): Contractor personnel perform work in accordance with approved work control documents.

LOIs: 6-1 through 6-7 (see Attachment 1 and 2)

Evaluation: Fully Met

Results: For both construction and operations at both sites, there have been incidents that demonstrate that workers are following the prescribed process and when an off-normal condition occurs, it is recognized and reported.

Noteworthy Practices: None

Judgment of Need (JON): None

WPC-7: Work Planning and Control Oversight

Performance Objective (PO): The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents.

LOIs: 7-1 through 7-4 (see Attachment 1 and 2)

Evaluation: Fully Met

Results: Since the June 2005 transition of cylinder storage yards to UDS, one independent assessment has been performed at both sites and several management assessments of implementation of operating procedures have been performed. In addition, a detailed review was performed as part of the Implementation Verification Review of the Technical Specification Requirements pertaining to the yards demonstrating that the critical safety elements of the safety basis are flowed into operating procedures. Construction Management has also performed management assessments. Condition reports are routinely initiated and would identify any work control issues.

Noteworthy Practices: Frequent safety surveillances and quality assessments of construction activities at both sites.

Judgment of Need (JON): None

SUMMARY:

Current process is functioning well and is adequate for the type of work activities being performed. The Best Management Practices identified in the CRAD's will be reviewed as UDS progresses into operation of the conversion facilities.

DNSFB Recommendation 2004-1 Implementation Plan

Draft Site Action Plan

Commitment 23, Work Planning to Control

_____

Approved, Manager, XXXXX Site Office

Note: Change Control for this Site Action Plan (SAP) resides with the Site Office Manager, with a cc to NA-10.

Section I- PPPO Actions

Performance Objective WPC-1: Work Planning and Control Oversight

The PPPO is developing a formal process that will ensure effective oversight of the contractors' work planning and control processes.

Judgment of Need #1

Action	Deliverable(s)	Due Date	Owner / Org
Revise existing PPPO requirements to clearly identify PPPO staff roles and responsibilities to conduct oversight of all stages of the Contractors' work planning and work control process on a routine basis.	Specific documents to be revised – TBD.	4/28/06	J. Zimmerman/ PPPO R. Underwood/ PPPO

Judgment of Need #2

Action	Deliverable(s)	Due Date	Owner /Org
Develop PPPO procedure(s) to implement work planning and work control oversight to include the methods for documenting oversight activities and results.	Specific procedures to be revised – TBD.	4/28/06	J. Zimmerman/ PPPO R. Underwood/ PPPO

Judgment of Need #3

Action	Deliverable(s)	Due Date	Owner /Org
Provide training, unless exempted by previous experience and knowledge, to PPPO staff designated to conduct work planning and work control oversight. Training should include surveillance/assessment techniques and the methods for documenting surveillance/assessment results.	Training activities - TBD	5/26/06	L. Maghrak/ PPPO J. Saluke/ PPPO

Judgment of Need #4

Action	Deliverable(s)	Due Date	Owner / Org
Integrate DOE O 226.1, *Implementation of Department of Energy Oversight Policy*, into PPPO procedures.	1. Revise PPPO-M-414.1, Quality Assurance Program Plan.	5/26/06	J. Gambrell/ PPPO

Performance Objective WPC-2: Work Planning and Control Oversight

The PPPO is developing formal process that will ensure that scheduled oversight activities are conducted during all stages of the Contractor's work planning and control process and results are used to improve the process.

Judgment of Need #1

Action	Deliverable(s)	Due Date	Owner /Org
Incorporate PPPO oversight activities for the Contractors' work planning and work control process into the PPPO surveillance schedule.	1. Prepare and implement the surveillance schedule.	3/31/06	R. Underwood/ PPPO

Judgment of Need #2

Action	Deliverable(s)	Due Date	Owner / Org
Develop process or procedure to track and trend oversight results with a goal to improve the work planning and work control process.		5/26/06	R. Underwood/ PPPO

Judgment of Need #3

Action	Deliverable(s)	Due Date	Owner / Org
Revise the PORTS and PAD contracts to include DOE O 226.1, *Implementation of Department of Energy Oversight Policy.*	1. Add DOE O 226.1 to List B in the PPPO contracts.	5/26/06	R. Blumenfeld/ PPPO

Section II – UDS Actions

Performance Objectives WPC-3 through WPC-7

Current process is functioning well and is adequate for the type of work activities being performed. The Best Management Practices identified in the CRAD's will be reviewed further as UDS transitions into operation of the conversion facilities.

No UDS Judgment of Needs identified during the assessment.

Performance Objective WPC-3: Work Control Program Documentation

Judgment of Need #1 [PPPO observation pending discussion with the PORTS contractor – deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner / Org
1. PPPO Contractors' applying a graded approach, review and revise their work control procedure to include a formal documented process for turning over requirements when line management and/or first line supervisor responsibilities are transferred. Their procedures should also provided direction for documenting work status and unexpected conditions.			
2. PPPO Contractors' applying a graded approach, review and revise their			

work control procedure to include a formal documented process for turning over requirements when line management and/or first line supervisor responsibilities are transferred. Their procedures should also provided direction for documenting work status and unexpected conditions.			
3. PPPO Contractors' applying a graded approach revise their work control procedures to improve the transfer of lessons learned following completion of work to a readily accessible resource for future work planning.			
4. WPC-3 (4) – "line management/or first line supervisor responsibility transfers." The review noted that BJC-FS-1026 (prime) does delineate turnover responsibilities but it appears from document reviews and personnel interviews that this responsibility is not specifically mentioned in sub-contractor procedures.			
5. WPC-3 (7) – "qualification requirements for work control managers and planners" could not be verified by document reviews and personnel interviews.			

Responsible Manager:

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification

Judgment of Need #1: [PPPO observation pending discussion with the PORTS contractor - deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner /Org
PPPO Contractors develop and implement a routine assessment process for all stages of work control document planning.			

Responsible Manager:

Performance Objective WPC-6: Work Planning and Control Process

Judgment of Need #1: : [PPPO observation pending discussion with the PORTS contractor- deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner /Org
PPPO Contractors' develop and implement work control improvements that facilitate documenting work status within the work control document.			
PPPO Contractors'' initiate and mentor personnel in the practice of documenting work status including unexpected conditions and the resolution to those conditions.			

Responsible Manager:

Performance Objective WPC-7: Work Planning and Control Oversight

Judgment of Need #1 : [PPPO observation pending discussion with the PORTS contractor- deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner /Org
1. Incorporate into the PPPO Contractors' surveillance/assessment schedule oversight activities for the Contractors' work planning and work control process for all stages of work planning and work control. [PPPO observation]			
2. PPPO Contractors' develop and implement improvements associated with implementing work planning and work control process improvements based on tracking and trending of surveillance/assessment results. [PPPO observation]			

Responsible Manager:

Section III – LPP Actions

Performance Objective WPC-3: Work Control Program Documentation

Controls for preparation of work packages are established and implemented. However, enhancements are being developed.

Judgment of Need #1
LPP-PQ-1107, *Performance Document Process* needs to be revised to fully comply with the work control and work planning requirements.

Action	Deliverable(s)	Due Date	Owner /Org
Revise LPP-PQ-1107 to incorporate the appropriate criteria from the Work Planning and Work Control CRADS.	LPP-PQ-1107, *Performance Document Process*	4/30/06	Eric Stacey Procedures

Responsible Manager: Dave Kent

Judgment of Need 2:
A formal process needs to be developed for the turnover of responsibilities when line managers or Superintendents are transferred.

Action	Deliverable(s)	Due Date	Owner /Org
Revise LPP-GM-2000 to incorporate turnover of responsibilities.	LPP-GM-2000, *Conduct of Operations for Facilities, Projects and Activities*	4/30/06	Eric Stacey Procedures

Responsible Manager: Tim Larabee, Work Control Manager

Judgment of Need 3:

LPP Training Position Descriptions need to be developed and implemented for the Work Control Manager and for all personnel performing planning activities.

Action	Deliverable(s)	Due Date	Owner /Org
Develop approved Training Position Description (TPD) for Work Control Manager Position	Approved TPD for Work Control Manager	2/15/06	Moore Training Dept
Work Control Manager completes required training	Training records that demonstrate completion of training by the Work Control Manager required by TPD	5/1/06	Moore Training Dept
Revise TPD for Planner Position	Approved TPD for Planners	2/15/06	Moore Training Dept
Planners complete required training	Training records that demonstrate completion of training by personnel who perform prepare/plan work packages.	5/1/06	Moore Training Dept

Responsible Manager: Jerry Moore, Training Manager

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification

Enhancements are being developed to address consideration of upset conditions, selection of controls based on an established hierarchy, ensuring that the hazards are adequately addressed though-out performance of the work, and the possibility of creating an additional hazard due to a selected control.

Judgment of Need 4:
LPP-PO-1001, *Work Control Process* needs to be revised to fully comply with the work control and work planning requirements.

Action	Deliverable(s)	Due Date	Owner /Org
Develop LPP-0043 for improving work control for all LPP activities and operations	LPP-0043 *Work Control Improvement Plan*	1/30/06	Tim Larabee Work Control
Revise LPP-PO-1001 to incorporate the appropriate criteria from LPP-0043, *Work Control Improvement Plan*	LPP-PO-1001 *Work Control Process*	3/13/06	Tim Larabee Work Control

Responsible Manager: Tim Larabee, Work Control Manager

Performance Objective WPC-5: Work Planning and Control Process

Enhancements and training are needed to ensure consistent work instructions with respect to the work task complexity and risk.

Judgment of Need 5:
A document needs to be developed which enables planners and procedure writers to take the complexity and risk of a task and using the knowledge and training of the individuals performing the task, develop appropriate instructions. Once issued, training needs to be held with all personnel that develop work instructions in work packages or procedures to assure a consistent implementation.

Action	Deliverable(s)	Due Date	Owner /Org
Revise LPP-EH-2010 to incorporate the appropriate criteria from LPP-0043, *Work Control Improvement Plan*	LPP-EH-201 *Hazard Assessment*	03/13/06	Tim Larabee Work Control
Training of appropriate personnel as outlined in LPP-0043, *Work Control Improvement Plan*	Training records that demonstrate completion of training of appropriate personnel to LPP-EH-2010.	3/30/06	Moore Training Dept

Responsible Manager: Tim Larabee, Work Control Manager

Performance Objective WPC-6: Work Planning and Control Oversight

Enhancements are needed to address Facility manager approval of work packages.

Judgment of Need 6:
LPP-PO-1001 *Work Control Process* and LPP-GM-N001, *Plan of the Week (POW) and Plan of the Day (POD)* need to be revised to reflect the involvement by Facility Managers in approving work packages and subsequent authorization to perform the work.

Action	Deliverable(s)	Due Date	Owner /Org
Revise LPP-PO-1001 to incorporate the appropriate criteria from LPP-0043, *Work Control Improvement Plan*	LPP-PO-1001 *Work Control Process*	3/13/06	Tim Larabee Work Control
Revise LPP-PO-1001 to incorporate the appropriate criteria from LPP-0043, *Work Control Improvement Plan*	LPP-GM-N001, *Plan of the Week (POW) and Plan of the Day (POD)*	3/13/06	Tim Larabee Work Control

Responsible Manager: Tim Larabee, Work Control Manager

Judgment of Need 7:
LPP-PQ-1107, *Performance Document Process* needs to be revised to involve the appropriate Facility Managers in review and approval of procedures that result in work being performed in their facility.

Action	Deliverable(s)	Due Date	Owner /Org
Revise LPP-PQ-1107 to require Facility Manager to approve a Technical Procedure when the operational activity is being performed in their facility.	LPP-PQ-1107, *Performance Document Process*	4/30/06	Eric Stacey Procedures

Responsible Manager: Dave Kent

Performance Objective WPC-7: Work Planning and Control Oversight

Include work planning and work control in self assessment activities.

Judgment of Need 8:A systematic approach needs to be developed and implemented to assess the effectiveness of work planning and work control using measurable indicators as much as possible.

Action	Deliverable(s)	Due Date	Owner /Org
Determine what elements of Work Planning and Work Control are most important to the overall effectiveness of the program	An internal memorandum that identifies the important elements.	2/20/06	Tim Larabee Work Control
Determine the methods that will be used to measure important elements	An internal memorandum to the QA Manager identifying the methods to measure the important elements.	2/20/06	Tim Larabee Work Control
Revise/Develop documents that documents the results of the measurements	Revised oversight plan	3/17/06	Mike MacCrae QA
	Performance Indicator charts	3/17/06	Mike MacCrae QA

Responsible Manager: Mike MacCrae

Performance Objective WPC-3: Work Control Program Documentation

Judgment of Need #1 [PPPO observation pending discussion with the PORTS contractor- deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner / Org
1. PPPO Contractors' applying a graded approach, review and revise their work control procedure to include a formal documented process for turning over requirements when line management and/or first line supervisor responsibilities are transferred. Their procedures should also provided direction for documenting work status and unexpected conditions.			
2. PPPO Contractors' applying a graded approach, review and revise their work control procedure to include a formal documented process for turning over requirements when line management and/or first line supervisor responsibilities are transferred. Their procedures should also provided direction for documenting work status and unexpected conditions.			
3. PPPO Contractors' applying a graded approach revise their work control procedures to improve the transfer of lessons learned following completion			

of work to a readily accessible resource for future work planning.			
4. WPC-3 (4) – "line management/or first line supervisor responsibility transfers." The review noted that BJC-FS-1026 (prime) does delineate turnover responsibilities but it appears from document reviews and personnel interviews that this responsibility is not specifically mentioned in sub-contractor procedures.			
5. WPC-3 (7) – "qualification requirements for work control managers and planners" could not be verified by document reviews and personnel interviews.			

Responsible Manager:

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification

Judgment of Need #1: [PPPO observation pending discussion with the PORTS contractor- deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner /Org
PPPO Contractors develop and implement a routine assessment process for all stages of work control document planning.			

Responsible Manager:

Performance Objective WPC-6: Work Planning and Control Process

Judgment of Need #1: : [PPPO observation pending discussion with the PORTS contractor- deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner /Org
1. PPPO Contractors' develop and implement work control improvements that facilitate documenting work status within the work control document.			
2. PPPO Contractors'' initiate and mentor personnel in the practice of documenting work status including unexpected conditions and the resolution to those conditions.			

Responsible Manager:

Performance Objective WPC-7: Work Planning and Control Oversight

Judgment of Need #1 : [PPPO observation pending discussion with the PORTS contractor- deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner /Org
1. Incorporate into the PPPO Contractors' surveillance/assessment schedule oversight activities for the Contractors' work planning and work control process for all stages of work planning and work control. [PPPO observation]			
2. PPPO Contractors' develop and implement improvements associated with implementing work planning and work control process improvements based on tracking and trending of surveillance/assessment results. [PPPO observation]			

Responsible Manager:

Section IV – TPMC Actions

TPMC SUMMARY: During the development and implementation of corrective actions for Judgment of Needs (JONs) in this assessment, and for the completion of future assessments, TPMC believes it is important to keep in mind the graded approach. Several of the Lines of Inquiry (LOIs) in this assessment appear to correlate more with Best Management Practices (BMPs), rather than with written directions specified in DOE requirement or guidance documents. TPMC believes these LOIs should remain as BMPs, applied through the graded approach. Although the Infrastructure Contract scope for TPMC is primarily non-nuclear and routine maintenance, TPMC will always strive to apply BMPs for continual improvement to the extent practical and economical for our scope of work. TPMC believes making these BMPs future specific requirements in DOE documents, will not provide an appreciable reduction in risk for the increased costs, and will create rigor beyond the mission of TPMC and other similar contracts.

Performance Objective WPC-3: Work Control Program Documentation

JON-1: Performance documents were coversheeted from the previous Contractor and have not been revised to be fully integrated into the TPMC system to accurately reflect organization roles and other administrative differences.

Action #/Description	Deliverable(s)	Due Date	Owner/Organization
1. Managers prioritize (0, 1, 2 and 3, with 1 as the highest priority) assigned performance documents for revision, and provide lists to Procedure Manager.	Prioritized lists of assigned performance documents.	January 16, 2006	Managers (collectively under Buck Sheward, President)
2. Procedure Manager combine Manager prioritized lists into one list.	Combined prioritized list of performance documents	January 23, 2006	Chip Stanizzo, Procedure Manager, Environmental, Safety, Health and Quality
3. Procedure Manager meet with Managers to develop Performance Documents Work-Off Plan to revise prioritized performance documents	Performance Documents Work-Off Plan	February 15, 2006	Chip Stanizzo, Procedure Manager, Environmental, Safety, Health and Quality

Action #/Description	Deliverable(s)	Due Date	Owner/Organization
[Priority 1 and 2, including those needed to implement the Integrated Safety Management System (ISMS), by June 30, 2006, and Priority 3 by December 31, 2006].			
4. Quality Assurance (QA) Specialist enter rolling 30-day look-ahead action assignments to implement the Performance Documents Work-Off Plan into the Commitment Tracking System (Tracker) for closure tracking.	Tracker 30-day look-ahead Performance Documents Work-Off Plan action assignments.	February 20, 2006	Cathy Forshey, QA Specialist, Environmental, Safety, Health and Quality
5. Complete Priority 1 and 2 performance document revisions.	Tracker action assignments closure documentation.	June 30, 2006	Managers (collectively under Buck Sheward, President), and Chip Stanizzo, Procedure Manager, Environmental, Safety, Health and Quality
6. Complete Priority 3 performance document revisions.	Tracker action assignments closure documentation.	December 31, 2006	Managers (collectively under Buck Sheward, President), and Chip Stanizzo, Procedure Manager, Environmental, Safety, Health and Quality

Performance Objective WPC – 6. Work Planning And Control Process

JON-1: Some documentation, such as pre-job safety meetings attendance and job walkdowns, is inconsistent. Some documents fully reflect attendance and subjects of discussion and others appear incomplete or unavailable, when it can be independently confirmed that the activity took place. Formal activities (meetings, walkdowns, etc.) described in the work control and supporting procedures need to be fully documented (agendas, attendance sheets, meeting notes, etc.), and reflect all personnel in attendance to ensure objective evidence of completion.

Action #/Description	Deliverable(s)	Due Date	Owner/Organization
1. Operations and Maintenance (O&M) Manager work with Supervisors to identify work control activities requiring written documentation, and aids (e.g., logs, forms, etc.) for providing documentation.	Memo to file of list of work control activities requiring written documentation, and aids for providing documentation.	January 27, 2006	Chris Ondera, O&M Manager, Operations and Maintenance
2. O&M Manager work with Supervisors to develop and implement aids (e.g., logs, forms, etc.) for the activities requiring written documentation.	Memo to file of development and implementation of aids.	March 6, 2006	Chris Ondera, O&M Manager, Operations and Maintenance
3. QA Program Lead conduct assessment to verify aids (e.g., logs, forms, etc.) for the activities requiring written documentation have been implemented and are effective.	Assessment report.	April 21, 2006	Dan Longpre, QA Program Lead, Environmental, Safety, Health and Quality

Performance Objective WPC – 7. Work Planning And Control Oversight

JON-1: The Oversight Plan is in "Draft" completion and will be issued by January 2006.

Action #/Description	Deliverable(s)	Due Date	Owner/Organization
1. QA Program Lead issue Oversight Plan	Oversight Plan	January 31, 2006	Dan Longpre, QA Program Lead, Environmental, Safety, Health and Quality

JON-2: The QA Trending Program is in development and will periodically (expected Quarterly, beginning March 2006) compile selected assurance data into a summary report for review by management and DOE to help in focusing on improvement areas, where needed.

Action #/Description	Deliverable(s)	Due Date	Owner/Organization
1. QA Program Lead meet with Managers and DOE to identify trending criteria.	Memo to file of list of Trending Criteria	February 3, 2006	Dan Longpre, QA Program Lead, Environmental, Safety, Health and Quality
2. QA Program Lead meet with Information Technology (IT) Programmer and QA Specialist to develop Trending System Plan.	Trending System Plan	February 20, 2006	Dan Longpre, QA Program Lead, Environmental, Safety, Health and Quality
3. IT Programmer work with QA Specialist to complete Trending System Plan, and enter trending data into database, as appropriate.	Tracker action assignments closure documentation.	April 3, 2006	Tim Burton, Computing and Telecommunications Manager
4. QA Specialist work with IT Programmer to generate first Quarterly Trending Report	Trending Report	April 17, 2006	Cathy Forshey, QA Specialist, Environmental, Safety, Health and Quality

Performance Objective WPC-3: Work Control Program Documentation

Judgment of Need #1 [PPPO observation pending discussion with the PORTS contractor- deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner / Org
1. PPPO Contractors' applying a graded approach, review and revise their work control procedure to include a formal documented process for turning over requirements when line management and/or first line supervisor responsibilities are transferred. Their procedures should also provided direction for documenting work status and unexpected conditions.			
2. PPPO Contractors' applying a graded approach, review and revise their work control procedure to include a formal documented process for turning over requirements when line management and/or first line supervisor responsibilities are transferred. Their procedures should also provided direction for documenting work status and unexpected conditions.			
3. PPPO Contractors' applying a graded approach revise their work control procedures to improve the transfer of lessons learned following completion			

of work to a readily accessible resource for future work planning.			
4. WPC-3 (4) – "line management/or first line supervisor responsibility transfers." The review noted that BJC-FS-1026 (prime) does delineate turnover responsibilities but it appears from document reviews and personnel interviews that this responsibility is not specifically mentioned in sub-contractor procedures.			
5. WPC-3 (7) – "qualification requirements for work control managers and planners" could not be verified by document reviews and personnel interviews.			

Responsible Manager:

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification

Judgment of Need #1: [PPPO observation pending discussion with the PORTS contractor- deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner /Org
PPPO Contractors develop and implement a routine assessment process for all stages of work control document planning.			

Responsible Manager:

Performance Objective WPC-6: Work Planning and Control Process

Judgment of Need #1: : [PPPO observation pending discussion with the PORTS contractor- deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner /Org
PPPO Contractors' develop and implement work control improvements that facilitate documenting work status within the work control document.			
PPPO Contractors'' initiate and mentor personnel in the practice of documenting work status including unexpected conditions and the resolution to those conditions.			

Responsible Manager:

Performance Objective WPC-7: Work Planning and Control Oversight

Judgment of Need #1 : [PPPO observation pending discussion with the PORTS contractor- deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner /Org
3. Incorporate into the PPPO Contractors' surveillance/assessment schedule oversight activities for the Contractors' work planning and work control process for all stages of work planning and work control. [PPPO observation]			
4. PPPO Contractors' develop and implement improvements associated with implementing work planning and work control process improvements based on tracking and trending of surveillance/assessment results. [PPPO observation]			

Responsible Manager:

Section V – BJC Actions

BJC SUMMARY: During the development and implementation of corrective actions for JONs in this assessment and the completion of future assessments, BJC believes it is important to keep in mind the graded approach. Several of the LOIs in the management assessment appears to correlate more to Best Management Practices (BMPs), rather than written directions specified in DOE requirement or guidance documents. BJC believes these LOIs should remain as BMPs, applied through the graded approach. BJC strives to apply BMPs for continual improvement to the extent practical and economical for our limited mission.

Performance Objective WPC-3: Work Control Program Documentation

Judgment of Need (JON):

JON-1: Turnover of line management and/or first line supervisor responsibilities not specificd in contractors procedure/instructions.

JON-2: Qualification requirements for Work Control Managers and Planners are not established.

The review of DOE Order 5480.20A, Personnel Selection, Qualification, and Training Requirements, Chapter IV for Non-Reactor Nuclear Facilities does not specifically identify qualification requirements for Work Control Managers and Planners. The review concluded that personnel performing work control and planning are seasoned field engineers, have sufficient education and are familiar with the work control/planning process. This was verified by personnel interviews and review of work control managers/planners "required reading" documents related to the work control program. Also, in support of work control and work planning the BJC Area /Operations Manager conducts weekly field team training briefs. The briefs are attended by work control/planning and associated personnel. A review of a sample of training briefs identify that work control and work planning elements were discussed and documented. The briefs included topics such as; radiation support strategy, FS-1001 (Oak Ridge) work control program overview, equipment maintenance, records management, sub-contract closure process, and work control feed-back.

JON-3: Records that document successful completion and qualification of Work Control Managers and Planners not available for audit. (See above information for Work Control Managers and Planners.)

Action #/Description	Deliverable(s)	Due Date	Owner/Organization
1.Revise PA-1001, "Paducah Work Control Process", to include attachment for Line management and/or first line supervisor responsibility transfer.	Revised PA-1001 procedure includes attachment for Line Management and/or First Line supervisor responsibility transfer.	March 1, 2006	BJC–Randy Crawford Facility/Operations Manager
2 Qualification requirements for Work Control Managers and Planners are not established.	See WPC-3 information		
3. Records that document successful completion and qualification of Work Control Managers and Planners not available for audit.	See WPC-3 information		

Performance Objective WPC–6: Work Planning And Control Process

JON-1: The review of project work packages identified that worker training matrices were not always incorporated into the work packages.

Action #/Description	Deliverable(s)	Due Date	Owner/Organization
1.Revise PA-1001, Paducah Work Control Process to include a requirement to incorporate the worker training matrices or document where the matrices are locate	Revised PA-1001, Paducah Work Control Process includes a requirement to incorporate the worker training matrices or document where the matrices are locate	March 1, 2006	BJC–Randy Crawford Facility/Operations Manager

Performance Objective WPC-3: Work Control Program Documentation

Judgment of Need #1 [PPPO observations added per discussion with the PAD contractor- deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner / Org
1. PPPO Contractors' applying a graded approach, review and revise their work control procedure to include a formal documented process for turning over requirements when line management and/or first line supervisor responsibilities are transferred. Their procedures should also provided direction for documenting work status and unexpected conditions.			
2. PPPO Contractors' applying a graded approach, review and revise their work control procedure to include a formal documented process for turning over requirements when line management and/or first line supervisor responsibilities are transferred. Their procedures should also provided direction for documenting work status and unexpected conditions.			
3. PPPO Contractors' applying a graded approach revise their work control procedures to improve the transfer of lessons learned following completion of work to a readily accessible resource for future work planning.			

4. WPC-3 (4) – "line management/or first line supervisor responsibility transfers." The review noted that BJC-FS-1026 (prime) does delineate turnover responsibilities but it appears from document reviews and personnel interviews that this responsibility is not specifically mentioned in sub-contractor procedures.			
5. WPC-3 (7) – "qualification requirements for work control managers and planners" could not be verified by document reviews and personnel interviews.			

Responsible Manager:

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification

Judgment of Need #1: [PPPO observations added per discussion with the PAD contractor- deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner /Org
PPPO Contractors develop and implement a routine assessment process for all stages of work control document planning.			

Responsible Manager:

Performance Objective WPC-6: Work Planning and Control Process

Judgment of Need #1: : [[PPPO observations added per discussion with the PAD contractor- deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner /Org
PPPO Contractors' develop and implement work control improvements that facilitate documenting work status within the work control document.			
PPPO Contractors'' initiate and mentor personnel in the practice of documenting work status including unexpected conditions and the resolution to those conditions.			

Responsible Manager:

Draft Site Action Plan
Commitment 23 - Work Planning and Control – DNFSB Recommendation 2004-1

Performance Objective WPC-7: Work Planning and Control Oversight

Judgment of Need #1 : [[PPPO observations added per discussion with the PAD contractor- deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner /Org
1. Incorporate into the PPPO Contractors' surveillance/assessment schedule oversight activities for the Contractors' work planning and work control process for all stages of work planning and work control. [PPPO observation]			
2. PPPO Contractors' develop and implement improvements associated with implementing work planning and work control process improvements based on tracking and trending of surveillance/assessment results. [PPPO observation]			

Responsible Manager:

Section VI – S&S Actions

S&S SUMMARY: Overall, the SST work planning and work control programs are functioning well. Work remains to convert temporary procedures into SST procedures. The observations noted in this assessment serve to provide direction and focus on continuous improvement of this important aspect of the Integrated Safety Management System. The three observations concerned:

- Turnover requirements for transfer of line management/first line supervisor responsibilities not specifically identified in work control documents.
- SST does not specify work sequences in all work control documents.
- Audit and assessment results not being tracked in a database suitable for tracking, retrieval, and trending.

Performance Objective WPC-3: Work Control Program Documentation

Judgment of Need #1 SST Procedure 6.1.1 does not specifically call out turnover requirements with respect to transfer of line management/first line supervisor responsibilities.

Action	Deliverable(s)	Due Date	Owner / Org
Add turnover requirements when the procedure is next revised.	Revise procedure 6.1.1.		

Responsible Manager:

Performance Objective WPC-7: Work Planning and Control Oversight

Judgment of Need #1 Currently, audit and assessment results (findings and observations) are not being tracked in a database suitable for tracking, retrieval, and trending.

Action	Deliverable(s)	Due Date	Owner /Org
Backfit assessment results into CATS.			

Responsible Manager:

Performance Objective WPC-3: Work Control Program Documentation

Judgment of Need #1 [PPPO observation added per discussion with the PAD contractor - deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner / Org
1. PPPO Contractors' applying a graded approach, review and revise their work control procedure to include a formal documented process for turning over requirements when line management and/or first line supervisor responsibilities are transferred. Their procedures should also provided direction for documenting work status and unexpected conditions.			

2. PPPO Contractors' applying a graded approach, review and revise their work control procedure to include a formal documented process for turning over requirements when line management and/or first line supervisor responsibilities are transferred. Their procedures should also provided direction for documenting work status and unexpected conditions.			
3. PPPO Contractors' applying a graded approach revise their work control procedures to improve the transfer of lessons learned following completion of work to a readily accessible resource for future work planning.			
4. WPC-3 (4) – "line management/or first line supervisor responsibility transfers." The review noted that BJC-FS-1026 (prime) does delineate turnover responsibilities but it appears from document reviews and personnel interviews that this responsibility is not specifically mentioned in sub-contractor procedures.			
5. WPC-3 (7) – "qualification requirements for work control managers and planners" could not be verified by document reviews and personnel interviews.			

Responsible Manager:

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification

Judgment of Need #1: [PPPO observation added per discussion with the PAD contractor - deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner /Org
PPPO Contractors develop and implement a routine assessment process for all stages of work control document planning.			

Responsible Manager:

Performance Objective WPC-6: Work Planning and Control Process

Judgment of Need #1: : [PPPO observation added per discussion with the PAD contractor - deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner /Org
PPPO Contractors' develop and implement work control improvements that facilitate documenting work status within the work control document.			
PPPO Contractors'' initiate and mentor personnel in the practice of documenting work status including unexpected conditions and the resolution to those conditions.			

Responsible Manager:

Performance Objective WPC-7: Work Planning and Control Oversight

Judgment of Need #1 : [PPPO observation added per discussion with the PAD contractor - deliverables, dates & owner are TBD]

Action	Deliverable(s)	Due Date	Owner /Org
3. Incorporate into the PPPO Contractors' surveillance/assessment schedule oversight activities for the Contractors' work planning and work control process for all stages of work planning and work control. [PPPO observation]			
4. PPPO Contractors' develop and implement improvements associated with implementing work planning and work control process improvements based on tracking and trending of surveillance/assessment results. [PPPO observation]			

Responsible Manager:

SST.FS-0001
December 30, 2005

DNFSB 2004-1, Commitment 23
Self-Assessment of SST Work Control / Work Planning

Conducted By: ____(approved copy on file)_____
Scott Smith
Operations & Maintenance Manager
Swift & Staley Team

Approved By: ____(approved copy on file)_____
Steve Polston
President and Program Manager
Swift & Staley Team

Prepared for the
U.S. Department of Energy
Portsmouth / Paducah Project Office
Under Contract DE-AC24-05OH20178

CONTENTS

Executive Summary

This assessment was performed in response to direction received from the Under Secretary of Energy, Science, and Environment in his November 9, 2005 memorandum "Defense Nuclear Facilities Safety Board Recommendation 2004-1." Specifically, this assessment focused on Commitment 23, improve work planning and work control. The Criteria and Review Approach Document (CRAD), which accompanied the memorandum, was utilized in the assessment and is reprinted in italics below. The Swift & Staley Team (SST) response to each criterion is below the associated criterion.

The SST assumed infrastructure contract performance for DOE at the Paducah Gaseous Diffusion Plant (PGDP) on June 27, 2005. Prior to that time, Bechtel Jacobs Company LLC (BJC) was the management & integrating contractor at PGDP. Swift & Staley Mechanical Contractors, Inc. (as the SST was known prior to June 27, 2005) was a subcontractor to BJC. Due to this contractual relationship, BJC's assessment of working planning and work control will include Swift & Staley through June 26, 2005. This assessment covers SST programs and activities since that time.

This assessment was conducted by the SST Operations & Maintenance Manager, with input from the Environmental, Safety & Health Manager, Quality Assurance Manager and various subject matter experts. The assessment resulted in three observations.

The three observations concerned:

- Turnover requirements for transfer of line management/first line supervisor responsibilities not specifically identified in work control documents.
- SST does not specify work sequences in all work control documents.
- Audit and assessment results not being tracked in a database suitable for tracking, retrieval, and trending.

Overall, the SST work planning and work control programs are functioning well. Work remains to convert temporary procedures into SST procedures. The observations noted in this assessment serve to provide direction and focus on continuous improvement of this important aspect of the Integrated Safety Management System.

Performance Objective WPC-1: Work Planning and Control Oversight
The DOE field element has an established process that ensures effective oversight of the contractor's work planning and control process.

This Performance Objective assessed by the DOE field element.

Performance Objective WPC-2: Work Planning and Control Oversight
The DOE field element performs effective oversight of the contractor's work planning and control process.

This Performance Objective assessed by the DOE field element.

Performance Objective WPC-3: Work Control Program Documentation
The contractor has developed an effective work planning and control process.

Criteria:
1. Contractor work control manual/procedure for initiating, analyzing, and developing work control documents, including job hazard analysis, is approved and implemented.

SST performed Temporary Immediate Procedure Changes (TIPC) on the following BJC procedures which govern the work control and hazard analyses processes: The applicable procedures have been implemented: SST Procedure 6.1.1, "Paducah Work Control Process," approval date 10/3/05; and Procedure 3.2.3, "Hazard Assessment," approval date 8/3/05.

As part of the TIPC process, SST is in process of revising these procedures.

2. The contractor's work control process establishes the level of review and approval for different types of work control documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work activity.

The SST work control process is governed by SST Procedure 6.1.1. Section 5.2 of this procedure specifies the steps for categorizing the work scope and determining the appropriate work control documents. Work categories are defined as "routine," "non-routine," "facility operation," and "immediate action (urgent)." These categories correspond to the degree of risks, hazards, and complexity of the work activity.

3. The contractor has established work planning/control requirements for all personnel performing work at their site, including subcontractors. Affected personnel are trained on these requirements.

Work planning/control requirements are specified in SST Procedure 6.1.1. The "Scope" section of the procedure identifies the work activities which are covered by the procedure and includes a requirement for subcontractors to either adopt this procedure or develop their own for review and approval by SST.

Section 3.1 of the procedure specifies that the procedure is mandatory required reading for employees and subcontractors involved in the developing, planning, reviewing,

approving, or supervising SST field work activities. SST's Required Reading Program was verified to include the appropriate personnel have completed the reading. tws

Required reading is established for a wide range of procedures for work planning and supervisory personnel. Completed records of required reading are maintained in the employee's training folder by Technical and Field Engineering, Inc. (TFE). SST has also developed a Training/Qualification Matrix for all employees. Qualifications and certifications are established at the job function and individual levels by the supervisor and Functional Manager. The Matrix is administered by TFE. tws

4. The contractor's work control manual/procedure includes turnover requirements when line management and/or first line supervisor responsibilities are transferred.

SST Procedure 6.1.,1Paragraph 5.6.5 requires that additional pre-job briefings be performed for any individual added to the Execution Team (i.e., work group) and/or any team member or back up who missed the initial pre-job briefing before that team member may execute work.

OBSERVATION 3.4-1: SST Procedure 6.1.1 does not specifically call out turnover requirements with respect to transfer of line management/first line supervisor responsibilities. SST will add those requirements when the procedure is next revised.

5. The contractor's work control manual/procedure includes a process for lessons learned/feedback during the execution of work control activities, including incorporation of lessons learned into active and in-development work control documents.

SST Procedure 6.1.1, Paragraph 5.8.1 requires first line supervision to interview execution team members for possible lessons learned or work process enhancements. Paragraph 5.8.4 of the procedure requires first line supervision to incorporate a written summary of possible lessons learned or work process enhancements into the work package and to submit pertinent lessons learned for sharing with other organizations.

Paragraph 5.4.13 requires the Planning Team to coordinate a review with Quality Assurance of the existing lessons learned for subject matter pertinent to the work scope and to ensure that applicable lessons learned are incorporated into the planning process.

6. The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or work control manual/procedure.

SST Procedure 6.1.1, Paragraph 5.8.1 requires first line supervision to interview Execution Team members for possible lessons learned or work process enhancements. Paragraph 5.8.4 requires first line supervision to incorporate a written summary of possible lessons learned or work process enhancements into the work package and to submit pertinent lessons learned for sharing with other organizations.

Paragraph 5.4.13 requires the Planning Team to coordinate a review with Quality Assurance of the existing lessons learned for subject matter pertinent to the work scope

and to ensure that applicable lessons learned are incorporated into the planning process.

7. The qualification requirements for Work Control Managers and Planners are established.

The SST Position Description for Work Control Manager specifies the qualification requirements for the position. The SST Work Control Manager also functions as the Planner.

8. Records that document the successful completion and qualification of Work Control Managers and Planners are retained and auditable.

Currently, records denoting qualifications of work control supervisors are maintained in the employee's personnel and training files. These records are sufficient for these positions since they represent successful completion of all required training (i.e., required reading) specified by SST management. In the near future, SST, in conjunction with TFE, will establish a fully retrievable Personnel Training/Qualification Matrix with complete documentation. These records will consist of course completion documents, required reading documents, and qualification approvals. tws

Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification
Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

Criteria:
1. Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries are understood.

SST Procedure 6.1.1, Paragraph 5.4.1 specifies that the Planning Team will consist of the owner/preparer, front line supervisor, facility manager or designee, worker representative(s) per classification, ES&H representative, and security representative. Additional Planning Team members from other disciplines may be added depending on the project or task to be performed.

2. A team (team) comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health Subject Matter Experts, etc.) is selected by line management to participate in the development of the work control document.

Section 5.4 of SST Procedure 6.1.1 specifies the requirements, personnel involved, and steps associated with work package planning and development.

3. The team performs effective walk downs and Job Hazard Analyses in order to develop work steps/techniques and identify possible hazards and their associated controls.

Paragraph 5.4.6 of SST Procedure 6.1.1 requires that an evaluation of the work area/task be performed by the Planning Team members. Paragraph 5.4.11 requires the

Planning Team members to work with ES&H personnel and identified workers to develop an Activity Hazard Analysis (AHA) for the work.

All work activities have a detailed analysis of the hazards and risks performed prior to initiation of work. Worker and management walkdowns occur and then the existing AHA is reviewed for any additions or changes to the controls or procedures. If any changes to the proposed work or if any unsuspected conditions or hazards are identified after work begins, then all workers and managers are trained and expected to stop the job and re-evaluate/establish new controls, where necessary. jm

4. The team considers potential upset conditions, accidents, and "what if" scenarios and their consequences during the walk downs and JHAs.

Walkdowns are conducted with personnel who are considered subject matter experts in the fields of health, safety, fire protection, environmental protection and radiation protection. Additionally, personnel are included in the walkdowns who are familiar with the operation of specific types of equipment and procedural requirements for the tasks to be performed. Each of these persons consider potential scenarios that could occur and are proficient in the predicting, identifying and preventing possible accident or upset scenarios. What-if considerations are included in the development of the resultant AHA to help ensure that hazards are identified and eliminated, reduced or mitigated. jm

5. The team selects controls based upon the following hierarchy: (1) hazard elimination/reduction, (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.

The SST Environmental, Safety and Health Plan (ES&H Plan) specifies in section 1.1 that hazard and risk reduction will be instituted in every aspect of SST work. The ES&H Plan further specifies that there are preferred methods to the reduction of risk and hazards to the personnel, public and environment. The first option would be to eliminate or mitigate the hazard, institute engineered controls or changes, institute administrative controls and lastly provide the worker with protective equipment. jm

6. The team ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction). [This Criterion addresses potential loss of safety function during D&D and may not be applicable to all work activities].

SST ensures that the prescribed protective measures are maintained throughout the tasks being performed by empowering each worker with the right to stop work. If the procedure being utilized is not adequate, if changes to the work environment or task are encountered, if unsuspected hazards are identified, then every SST employee is empowered and expected to stop the job to establish the proper level of safety required to perform the task. Additionally, first line managers, senior managers and the health and safety staff are frequently involved with or at the job site to help ensure that work is performed safely. SST's most commonly heard saying in and around the job site is "follow the procedure or stop the job". Change control is routinely emphasized, whereby the workers are reminded and encouraged to be on the look out for potential changes in scope or conditions that need to be further considered and reviewed. jm

7. The team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.

The SST Health, Safety, Environmental and RadCon trained professionals are constantly mindful of hazards that can be created through the implementation of overly prescriptive, cumbersome, or redundant safeguards. Heat and cold stress, loss of mobility, loss of visual or hearing ability, cumbersome/redundant gloves are examples of hazards that can be created by PPE prescriptive measures that do not pay adequate attention to their impact upon the work being performed. SST work controls, pre-job briefings and the development of safety measures are given significant input by the SST ES&H staff to help identify and prevent creation of additional work stresses and hazards. jm

Performance Objective WPC-5: Work Planning and Control Process
The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

Criteria:
1. The work scope and associated boundaries are clearly defined.

SST Procedure 6.1.1, Section 5.4 specifies requirements for ensuring the work scope and boundaries are clearly identified. Section 5.4 states "The planning of a work package is important to ensure that the scope of the work is clearly specified. This ensures that ES&H hazards and security risks are identified/mitigated and the intended work steps are adequately communicated to the workers." Paragraph 5.4.19 requires work control documents to clearly identify "hold points" required to adequately control work activities.

2. The work control document is written in a clear, concise, and worker friendly manner.

Work Packages are in a standardized format which includes an index sheet that identifies the documents contained within the package. Workers are involved in preparing the work packages.

3. The work steps for activities are properly sequenced.

OBSERVATION 5.3-1: SST does not specify in the work control documents the work steps for activities unless the activity is associated with work on a system that requires proper sequencing to safely perform the tasks. Work sequencing is discussed during the planning stage of the work and during the pre-job briefings.

4. Work control documents adequately incorporate technical and administrative requirements (e.g., contract, safety basis, regulatory, consensus codes, etc.).

Work control documents include specific requirements in the Activity Hazard Assessment (AHA) which implement technical, regulatory, and administrative requirements. Specific requirements associated with Technical Safety Requirements (TSRs) and Safety Basis documents are identified on the Work Package cover page.

5. Work hazard controls identified in the JHA have been incorporated into the work control document.

The Activity Hazard Assessment for the specific work task is a required document in the Work Package.

6. The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.

Controls for specific hazards are identified in the AHA.

Performance Objective WPC-6: Work Planning and Control Oversight
Contractor personnel perform work in accordance with approved work control documents.

Criteria:
1. First line supervisors and workers are knowledgeable of their work control documents and meet all applicable training and medical requirements.

SST Procedure 6.1.1 is mandatory required reading for employees and subcontractors involved in the developing, planning, reviewing, approving, or supervising SST field work activities. Records of required reading completion are maintained by TFE.

All SST employees are provided an annual medical examination by the SST occupational medicine provider. Records of medical examination results are retained by SST.

2. Operations work control authority reviews and authorizes all work control documents prior to commencement of work. He/she is required to evaluate all work at a facility and/or site to ensure work activities of one scope do not adversely affect the safe work of another.

The SST Work Control Supervisor prepares Work Packages based on input from the Planning Team. Once the Work Package is prepared, it is approved by the Maintenance Supervisor. The AHA, as part of the work package, is approved by ES&H prior to inclusion in the Work Package. If a Work Package involves work in a category 1 or 2 nuclear facility, the responsible Facility Manager approves the Work Package prior to work initiation.

3. Effective pre-evolutionary briefings are performed

SST Procedure 6.1.1, Section 5.6 requires attendance at a pre-job briefing by all Execution Team members. Paragraph 5.6.4 requires the pre-job briefing to be documented in the Work Package. Paragraph 5.6.5 requires that additional pre-job briefings be performed for any individual added to the Execution Team and/or any team member or back up who missed the initial pre-job briefing before that team member may execute work. Additionally, health, safety, environmental and RadCon subject matter experts are involved, as necessary, in the pre-job briefings.

4. First line supervisors and workers follow work control document instructions as written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their change control process.

SST Procedure 6.1.1, Paragraph 5.6.10 requires the Execution Team to perform the work activities in accordance with the approved Work Package. Paragraphs 5.6.11 and 5.6.12 specify steps to take in the event changes that may affect the work are identified.

Section 5.7 specifies the action steps for work scope changes, impacts, or enhancements. Paragraph 5.7.2 specifies "IF work activities or changed conditions jeopardize personnel or the environment, THEN suspend the work activities in accordance with SST Procedure 3.1.3, "Suspension of Work (Safety-Related)."

5. First line supervisors and workers understand their stop work authority.

All Work Packages delineate suspend/stop work authority on the cover page of the document. Also included on the cover page is the requirement to "Follow the procedure or stop the job." SST personnel have been issued badge lanyards which have the requirement "Follow the procedure or stop the job" imprinted on them.

6. Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.

SST Procedure 6.1.1, Paragraph 5.7.6 requires personnel to document work package changes, impacts, or enhancements in the work package. Paragraph 5.7.10 requires that all correspondence related to changes, impacts, or enhancements be incorporated into the work package as needed.

7. Lessons learned/feedback is incorporated into active and in-development work control documents in a timely manner.

SST Procedure 6.1.1, Paragraph 5.8.1 requires first line supervision to interview Execution Team members for possible lessons learned or work process enhancements. Paragraph 5.8.4 requires first line supervision to incorporate a written summary of possible lessons learned or work process enhancements into the work package and to submit pertinent lessons learned for sharing with other organizations.

Paragraph 5.4.13 requires the Planning Team to coordinate a review with Quality Assurance of the existing lessons learned for subject matter pertinent to the work scope

PCL XL error

Subsystem: KERNEL

Error: IllegalTag

Operator: 0x2d

Position: 54566

TPMC
Theta Pro2Serve Management Company, LLC

Issued By: ESH&Q
Issue Date: 11/10/05
Revision Number: 1

MANAGEMENT/SELF ASSESSMENT REPORT

Theta Pro2Serve Management Company, LLC - Infrastructure Services
Portsmouth Gaseous Diffusion Plant
Contract Number DE-AC24-05OH20193

Assessment Type/Tracking # (specify walkthrough/surveillance/review/interview/inspection/other type of oversight activity and tracking number, as applicable):	**Assessment Title/Assessed Organization/Project** (provide assessment title from plan, other; name of organization, project, etc. being assessed, and project number, as applicable):
EQ-QA-MA-06-010	Work Planning and Work Control
Date Conducted (provide date(s) assessment was performed):	**Location** (facility or place where assessment was performed):
12/5/05 to 12/22/05	X-1000 and X-3000 Facilities at the Portsmouth Gaseous Diffusion Plant, Piketon, OH
Assessing Organization (name of organization performing assessment):	**Assessment Team** (name and signature of person(s) performing assessment):
Theta Pro2Serve Management Company, LLC (TPMC)	Carl Hunt, Pro2Serve, Graphic Designer Dan Longpre, TPMC, QA Program Lead

Scope of Assessment (describe why assessment was performed and what was covered):

TPMC was contacted by John Saluke (U.S. Department of Energy [DOE] Portsmouth Paducah Project Office [PPPO]) on 12/1/05 to conduct a Work Planning and Work Control (WPC) assessment in accordance with guidance provided in the 11/18/05 DOE Environmental Management Memorandum – Work Planning and Work Control Assessment and Site Action Plan for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 23.

TPMC developed and issued an Assessment Plan and Lines of Inquiry (LOIs) based on DOE guidance documents on 12/5/05. An assessment In-Briefing was held and the assessment was initiated on 12/5/05. The assessment approach was to use the LOIs and conduct the assessment by: (1.) Review Requirements and Performance Documents, (2.) Review selected logs and other documentation, (3.) Interview key points of contact, and (4.) Observe work in progress. The LOIs results are summarized at the Performance Objective level in Attachment 1, provided in full in Attachment 2, and corrective actions identified in the Site Action Plan in Attachment 3.

Basis (provide full reference to documents where requirements, specifications, other criteria forming basis characteristics of assessment were identified):

DOE (listed in 11/18/05 DOE Environmental Management Memorandum – Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 23). **Note: * requirements not in TPMC Contract; ** requirement in TPMC Contract as DOE O414.1A, Chg. 1, CRD; DOE O 5480.19, Chg. 2.**

DOE O 226.1 Implementation of Department of Energy Oversight Policy*
DOE O 414.1c Quality Assurance**
DOE Manual 426-1A, Chg 1, Federal Technical Capability Manual

DOE O 440.1a Federal Employee Occupational Safety and Health Program
DOE Policy 450.4 Integrated Safety Management
DEAR Clause 970.5223-1, Integration of Environmental, Safety, and Health into Work Planning and Execution.
DOE 5480.19 Conduct of Operations Requirements for DOE Facilities**
10CFR830 Nuclear Safety Management

TPMC (requirements that flow down or have correlation to DOE LOIs and requirements). **Note: TPMC procedures are coversheeted from the previous Contractor Bechtel Jacobs Company LLC (BJC) and Sub-Contractor WASTREN, Inc. and are in the review and revision process to be fully integrated into the TPMC performance document system.**

2

TPMC-QAPP-0001, Quality Assurance Program Plan
TPMC-Policy-0010, Discipline and Rigor of Operations
TPMC-PROC-0057, Work Packages
TPMC-PROC-0059, Integrated Work Control
TPMC-PROC-0066, Accident/Incident Reporting and Record Keeping
TPMC-HR-0702, Training Program
TPMC-HR-0750, Required Reading Program
TPMC-OS-1001, Records Management, Including Document Control
TPMC-QA-1001, Integrated Assessment and Oversight Program Description
TPMC-QA-1107, Performance Document Process
TPMC-QA-1166, Revision Order Process to Transition Procedure Documents
TPMC-QA-1210, Issues Management Program
TPMC-QA-1240, Lessons Learned Program
TPMC-GM-1400, Environmental Safety and Health Plan
TPMC-GM-1400, Integrated Safety Management System Plan
TPMC-QA-1401, Independent Assessments
TPMC-QA-1420, Management Assessment
TPMC-QA-1440, Control of Nonconforming Items and Services
TPMC-FO-1502, Communications
TPMC-FO-1503, Narrative Logs
TPMC-FO-1505, Operator Aids
TPMC-FO-1510, Shift Routines and Operating Practices
TPMC-FO-1511, Conducting Shift Turnover
TPMC-FO-1517, Independent Verification
TPMC-QA-1520, Readiness Reviews for Radiological, Non-Nuclear, and Other Industrial Facilities/Activities
TPMC-QA-1610, Price-Anderson Amendments Act (PAAA) Noncompliance Determination and Reporting
TPMC-QA-1650, Graded Approach
TPMC-OR-1745, Worker Safety and Health Program Description
TPMC-GM-2000, Conduct of Operations for Projects, Facilities, and Activities
TPMC-SH-2010, Hazard Review
TPMC-EH-2011, Safety Meetings
TPMC-EH-2015, Safety Concern (I Care/We Care)
TPMC-EH-2018, Suspension of Work (Safety Related)
TPMC-PORT-5001, Site Operations Review Committee
TPMC-QA-5027, Reporting Incidents/Event Fact Sheet/Incident Review Board
TPMC-SH-5140, Hazard Communications
TPMC FY06 Oversight Plan (In Development - "Draft" Completion)

Lines of Inquiry (specify checklist, guidance cards, basis document excerpts, other basis characteristics tracking tools used and attach):

See Attachments 1 and 2.

Personnel Contacted (list who was interviewed and consulted during the assessment and their organization and title):

Mark Pelfrey, TPMC, Utilities Supervisor
Phil Moore, TPMC, General Facilities Supervisor
Rusty Barnett, TPMC, Custodial Supervisor
Gene Collins, Pro2Serve (P2S), Subcontractor Field Coordinator
Shane Mougey, TPMC, Field Safety Lead
Chris Ondera, TPMC, Operations and Maintenance Manager
Larry Lamerson ,TPMC, Maintenance Supervisor (Electrical)
Mark Anglemyer, TPMC, Grounds Supervisor
Brian Summers, TPMC, Maintenance Supervisor (Mechanical)
Dan Longpre, QA Program Lead

3

Results Summary (see Instructions): list Remarks (results) in relation to Characteristics (requirements); use attached summary and provide backup materials; clearly Identify Acceptable (meets requirements), Findings (a direct deviation from a written requirement), Observations (a marginally acceptable condition if left unchanged may lead to a Finding – may not violate a written requirement, but requires resolution), Recommendations (suggestions for improvement), and Proficiencies (an exemplary practice or area of performance excellence). Identify in Status if corrected at the time of the assessment or unresolved. Identify Trending Codes in ISMS, Quality Criteria and Apparent Cause.

RESULTS SUMMARY

WPC PO. & LOI #	Characteristic (Requirement)	A, F, O, R or P	*QA Use Only!* OR, PAAA, LL, Signif. Screen.	ISMS		QC	Remarks (Results)/ Status (Corrected or Unresolved)	Appar. Cause
				Funct.	Prin.			
Note: the LOIs results are summarized at the Performance Objective level in Attachment 1 and provided in full in Attachment 2. Findings, Observations, and Recommendations are provided below and correlate to the LOIs.								
3-#1	Contractor work control manual(s)/procedure(s) for initiating, analyzing, and developing work control documents, including job hazard analysis, is approved and implemented.	O	NA	1	4	1	Performance documents were coversheeted from the previous Contractor and have not been revised to be fully integrated into the TPMC system to accurately reflect organization roles and other administrative differences. The progress of revising coversheeted procedures is slower than anticipated. **(Note: this Observation may have some applicability to other LOIs, but is noted in this LOI as one (1) Observation (Yellow-Weakness) because of the association with "procedures").**	4

RESULTS SUMMARY								
WPC PO. & LOI #	Characteristic (Requirement)	A, F, O, R or P	*QA Use Only!* OR, PAAA, LL, Signif. Screen.	ISMS		QC	Remarks (Results)/ Status (Corrected or Unresolved)	Appar. Cause
				Funct.	Prin.			
6 - #6	Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.	O	NA	4	4	4	Some documentation, such as pre-job safety meetings attendance and job walkdowns, is inconsistent. Some documents fully reflect attendance and subjects of discussion and others appear incomplete or unavailable, when it can be independently confirmed the activity took place. Formal activities (meetings, walkdowns, etc.) described in the work control and supporting procedures need to be fully documented (agendas, attendance sheets, meeting notes, etc.) and reflect all personnel in attendance to ensure objective evidence of completion. **(Note: this Observation may have some applicability to other LOIs, but is noted in this LOI as one (1) Observation (Yellow-Weakness) because of the association with "documentation". It does not lessen the effective work control execution and safety of the work reviewed, but is identified as an opportunity for improvement).**	4

4

RESULTS SUMMARY								
WPC PO. & LOI #	**Characteristic (Requirement)**	**A, F, O, R or P**	***QA Use Only!* OR, PAAA, LL, Signif. Screen.**	**ISMS**		**QC**	**Remarks (Results)/ Status (Corrected or Unresolved)**	**Appar. Cause**
				Funct.	**Prin.**			
7 - #1 7 - #2	The contractor has scheduled and performed independent and self-assessment of the work planning and control process. These activities are of sufficient scope, detail and quantity that Management can ascertain the status of the work planning and control process. Line managers periodically perform surveillances, which include the observations of job walkdowns and JHA walk downs/meetings, pre-evolution briefings, and work performed to work control documents.		NA	1	4	1	The Oversight Plan is in "Draft" completion and will be issued by January 2006. **(Note: this Observation is noted in other LOIs as appropriate, but is shown here as a roll-up of one (1) Observation [Yellow – Weakness]).** Although the Oversight Plan has not been issued, 36 assessments (including the currently in progress Work Control and Work Planning and Feedback and Improvement assessments) have been conducted by various Work Groups. Several other assessments by the Work Groups are currently being documented and will be submitted for incorporation into the Oversight Plan and Assessment Log by January 2006.	4

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RESULTS SUMMARY

WPC PO. & LOI #	Characteristic (Requirement)	A, F, O, R or P	*QA Use Only!* OR, PAAA, LL, Signif. Screen.	ISMS Funct.	ISMS Prin.	QC	Remarks (Results)/ Status (Corrected or Unresolved)	Appar. Cause
7 - #4	The contractor tracks and trends the results of oversight activities performed on the work planning and control process and takes appropriate actions.	O	NA	1	4	1	The QA Trending Program (in development) will periodically (expected Quarterly, beginning March 2006) compile selected assurance data into a summary report for review by management and DOE to help in focusing on improvement areas, where needed. **(Note: this Observation may have some applicability to other LOIs, but is noted in this LOI as one (1) Observation (Yellow-Weakness) because of the association with "trending").**	4

Number of Characteristics	Number Acceptable	Number of Findings	Number of Observ.	Number of Recom.	Number of Proficiencies
32 without #1 and 2 (DOE Only) (See Attachments #1 and 2)	28	0	4	0	2

Legend:
A: Acceptable – meets requirements
F: Finding – a direct deviation from a written requirement
Recommendation – suggestions for improvement
P: Proficiency – an exemplary practice or area of performance
Excellence
PAAA – screened for Price Anderson Amendments Act
Signif. – screened for Significance for formal causal analysis
WPC – Work Planning and Work Control
O: Observation – a condition if left unchanged may lead to a Finding (may not violate a written requirement, but requires resolution)
GFS – Government Furnished Service
LL – screened for Lessons Learned
OR – screened for Occurrence Report
PO – Performance Objective: 1. Work Planning and Control Oversight (Applicable to DOE Only), 2. Work Planning and Control

Oversight (Applicable to DOE Only), 3. Work Control Program Documentation, 4. Work Planning and Control Activity Definition and Hazard Identification, 5. Work Planning and Control Process, 6. Work Planning and Control Oversight, 7. Work Planning and Control Oversight
QC – Quality Criteria

Instructions:

Management/Self Assessments Reports (MAs) – in accordance with TPMC-QA-1420, Management Assessments, MAs are planned and documented and may include walkthroughs, surveillances, reviews, interviews, inspections, evaluations and other types of oversight activities where work is checked for conformance to requirements. **MAs are provided to Dan Longpre, Quality Assurance Program Lead, or Cathy Forshey, QA Specialist, for tracking and trending.**

7

Nonconformance Reports (NCRs) – in accordance with TPMC-QA-1440, Control Of Nonconforming Items and Services, NCRs must be completed and attached to this report whenever an item (i.e., generally equipment and material) discovered during the MA is tagged out as unusable until corrected.

Findings and Observations (Issues) – in accordance with TPMC-QA-1210, Issues Management, issues will be entered into the TPMC Commitment Tracking System (CTS), tracked through closure and require a closure evidence package.

Tracking Numbers: MA tracking numbers are assigned by Work Group where each Work Group maintains a Log of MA numbers in the following format: Work Group-Work Area-MA-Fiscal Year-Consecutive Number (Example: CP-CS-MA-06-001)

Work Groups:

CP – Critical Programs
CT – Computing and Telecommunications
EQ – Environmental, Safety, Health and Quality
FN – Finance
GM – General Management (President and Vice Presidents)
HR – Human Resources
OA – Office Administration
OM – Operations and Maintenance
PC – Project Controls
PR – Contracts and Procurement
RM – Records Management
SE – Security
TR – Training

Work Areas:

CS – Cold Standdown
DS – DOE Support (GFS, other)
EC – Environmental Compliance
EM – Emergency Management
FO – Facility Operations
FP – Fire Protection
HO – Hoisting and Rigging
IH – Industrial Hygiene
IS – ISMS
MN – Maintenance
OS – Occupational Safety
OT – Other
QA – Quality Assurance (EMS, PAAA, other)
RP – Radiation Protection
SB – Safety Basis
SC – Subcontractor Coordination
TS – Technical Support
WC – Work Control
WD – Waste Disposition

Trending Codes:

ISMS Functions:	ISMS Principles:	Quality Criteria (10CFR830.122):	Apparent Cause
1: Define the Scope of Work	1: Line Management Responsibility for Safety	1: Program	1: Design/Engineering Problem
2: Analyze the Hazards	2: Clear Roles and Responsibilities	2: Personal Training and Qualifications	2: Equipment/Material Problem
3: Develop and Implement Hazard Controls	3: Competence Commensurate with Responsibility	3: Quality Improvement	3: Human Performance Less Than Adequate
4: Perform Work Within Controls	4: Balanced Priorities	4: Documents and Records	4: Management Problem
5: Provide Feedback and Continuous Improvement	5: Identification of Safety Standards and Requirements	5: Work Processes	5: Communications Less Than Adequate
	6: Hazard Control Tailored to Work Being Performed	6: Design	6: Training Deficiency
	7: Operations Authorization	7: Procurement	7: Other Problem
	8: Worker involvement	8: Inspection and Acceptance Testing	
		9: Management Assessment	
		10: Independent Assessment	
		11: Rad Protection (10CFR835)	

8

Attachment 1

9

Theta Pro2Serve Management Company LLC

Management Assessment EQ-QA-MA-06-010
Work Planning and Work Control

Performance Objective Results Summary

Attachment 2

Theta Pro2Serve Management Company LLC

Management Assessment EQ-QA-MA-06-010
Work Planning and Work Control

Lines of Inquiry (LOIs)

Attachment 2
Theta Pro2Serve Management Company LLC
EQ-QA-MA-06-010, Work Planning and Work Control
Lines of Inquiry (LOIs)
Date Started/Completed: 12/5 to 12/22/05 **Assessor: Carl Hunt and Dan Longpre**

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
11/18/05 DOE Environmental Management Memorandum – Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 23													
WPC-1 Performance Objective: Work Planning and Control Oversight (Applicable to DOE only)													
1	There is documentation that delineates the roles and responsibilities for DOE field element personnel performing oversight of the contractor's work planning and control process.												
2	DOE field element management has established the requirement for oversight of all stages (e.g., planning walk downs, Job Hazard Analysis (JHA) meetings, field execution, etc.) of the work planning and control process												
3	The DOE field element management has designated appropriate personnel (e.g., safety and health, facility representatives, project, etc.)												

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	to perform oversight of the contractor's work planning and control process. Designated personnel have received adequate training or were selected based on their experience and knowledge of the work planning/control process.												
4	The field element has a formal system that documents the efforts of their personnel performing oversight of the contractor's work planning and control process.												
WPC-2 Performance Objective: Work Planning and Control Oversight (Applicable to DOE only)													
1	The field element has scheduled periodic oversight activities (e.g., assessments, surveillances, observations, etc.) of the contractor's work planning and control process. These activities are of sufficient scope, detail and quantity that the field element can ascertain the status of the contractor's work planning and control process.												
2	The scheduled oversight activities are conducted during all stages of the work												

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	planning and control process (e.g., planning walk downs, JHA meetings, field execution, etc.), and are chosen based upon the degree of risks, hazards, and complexity of the work activity.												
3	The field element tracks and trends the results of oversight activities performed on the contractor's work planning and control process and takes appropriate actions.												
WPC-3 Performance Objective: Work Control Program Documentation													

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
1	Contractor work control manual(s)/procedure(s) for initiating, analyzing, and developing work control documents, including job hazard analysis, is approved and implemented.	TPMC-Policy-0010, Discipline and Rigor of Operations TPMC-GM-2000, Conduct of Operations for Projects, Facilities and Activities TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control TPMC-SH-2010, Hazard Review TPMC-QA-1520, Readiness Reviews for Radiological, Non-Nuclear, and Other Industrial Facilities/Activities	X								The Conduct of Operations Policy and procedure (TPMC-Policy-0010 and TPMC-GM-2000, respectively) ensure operations shall have the appropriate level of discipline and rigor applied. The Work Packages and Integrated Work Control procedures (TPMC-PROC-0057 and TPMC-PROC-0059, respectively) take a formal approach to work control through the supporting reference documents, such as the procedures for hazard review, lessons learned, training requirements, document control and quality. Parts 1, 2, and 3 of the Readiness Review for Radiological Non-Nuclear and Other Industrial Facilities/Activities procedure (TPMC-QA-1520) detail the requirements and steps necessary to complete the reviews and documentation utilizing a graded approach.	. Procedures effectively describe processes. Effective job hazard walkdowns. Effective readiness reviews conducted (e.g., Boiler/RHW Leak)	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											Performance documents were cover sheeted from the previous Contractor and have not been revised to be fully integrated into the TPMC system to accurately reflect organizational roles and other administrative differences **(Note: this Observation may have some applicability to other LOIs, but is noted in this LOI as one (1) Observation (Yellow-Weakness) because of the association with "procedures").**		The process of reviewing and revising coversheeted procedures is slower than anticipated.

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
2	The contractor's work control process establishes the level of review and approval for different types of work control documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work activity.	TPMC-PROC-0057 Work Packages TPMC-PROC-0059 Integrated Work Control TPMC-SH-2010, Hazard Review TPMC-QA-1520, Readiness Reviews for Radiological, Non-Nuclear, and Other Industrial Facilities/Activities	X								The Integrated Work Control procedure (TPMC-PROC-0059) establishes the level of review and approvals for different types of work. Section 8 categorizes the work and Attachment D lists the categories and work control documents required. Section 5 provides protocol for selecting the appropriate hazard review process. Section 6 provides protocol for the pre-task hazard review Parts 1, 2, and 3 of the Readiness Reviews for Radiological, Non-Nuclear, and Other Industrial Facilities/Activities procedure (TPMC-QA-1520) details requirements and steps necessary to complete the reviews and documentation through a graded approach.	Procedures effectively describe processes. Effective readiness reviews conducted (e.g., Boiler/ RHW Leak). Good records maintained by Subcontractor Field Lead.	
3	The contractor has established work planning/control requirements for all personnel performing work at the site, including subcontractors. Affected personnel are trained	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated	X								Work Packages procedure (TPMC-PROC-0057) specifies training requirements in Sections 3.1, 3.2, 3.3, 6.1, and 7.2. Integrated Work Control procedure		

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	on these requirements.	Work Control TPMC-HR-0702, Training Program TPMC-HR-0750, Required Reading Program TPMC-QA-1520, Readiness Reviews for Radiological, Non-Nuclear, and Other Industrial Facilities/Activities Readiness Review Checklist Boiler/RHW Leak Readiness Review										(TPMC-PROC-0059) specifies training requirements in Sections 3.1 and 3.2. The training program described in the Training Program and Required Reading Program procedures (TPMC-HR-0702 and TPMC-HR-0750, respectively) is maintained by the Human Resources (HR) - Training work group. Training Position Descriptions (TPDs) are developed for personnel identifying training requirements. Strict personnel records on training status are kept up to date within the training database. Personnel work restrictions are issued in advance of training due dates when requirements may be inadvertently missed. Required reading assignments are periodically distributed to employees and documented to maintain appropriate training. The training program documents the level of training and ensures personnel assigned to a job meet the requirements necessary to perform the work. Parts 1, 2, and 3 of the Readiness Reviews for Radiological, Non-Nuclear, and Other Industrial Facilities/Activities (TPMC-QA-1520)	Effective training program, database and records.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											detail the requirements and steps necessary to complete the reviews and documentation utilizing a graded approach. Appendix G illustrates the Readiness Process Flow Chart. An extensive readiness review checklist is applied with 185 items of evaluation..	Comprehensive evaluation checklist applied.	
4	The contractor's work control manual/procedure includes turnover requirements when line management and/or first line supervisor responsibilities are transferred.	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control TPMC-FO-1510, Shift Routines and Operating Practices TPMC-FO-1511, Conducting Shift Turnover	X								The Integrated Work Control Procedure (TPMC-PROC-0059) addresses project Close out in Section 13.1.1. It states that for off shift activities, formal shift turnover may be substituted for post-job briefing. Appendix B, page 1, of Conducting Shift Turnover procedure (TPMC-FO-1511) states the Shift Turnover checklist for Supervisors should include sufficient details on equipment , operations and ongoing activities to enable the on-coming supervisor to understand the overall aspect of the operation or process.		
5	The contractor's work control manual/procedure includes a process for lessons learned/feedback during the	TPMC-PROC-0057, Work Packages	X				X				Worker feedback is routinely solicited in morning planning meetings, job walkdowns, performance document revisions, PTHR and AHA	Multiple worker feedback mechanisms and effective	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	execution of work control activities, including incorporation of lessons learned into active and in-development work control documents.	TPMC-PROC-0059, Integrated Work Control TPMC-QA-1240, Lessons Learned Program TPMC-QA-1520, Readiness Reviews for Radiological, Non-Nuclear, and Other Industrial Facilities/Activities TPMC-QA-5027, Reporting Incidents/Event Fact Sheet/Incident Review Board									development, customer questionnaires, Fact Sheets, safety meetings, I Care/We Care, HR Employee Concerns, assessments, safety investigations, etc. Workers are unafraid to voice issues, as observed in morning meetings, All-Hands meetings, HR Employee Concerns program and other forums. Workers have the responsibility and authority to stop work without retaliation if there is a safety concern. Employee feedback, when received, is acted upon to more effectively control hazards and increase efficiency and productivity within the framework of the TPMC mission and scope of work. The Integrated Work Control procedure (TPMC-PROC-0059) states in Section 8.4 to develop work control documentation based on risk and repetition. Lessons learned feedback from the SOMAX work control database and the DOE lessons learned database are incorporated into work package development. The Lessons Learned Program procedure (TPMC-QA-1240) defines the program for identifying, disseminating, and utilizing positive	Stop Work authority. Effective lessons learned program.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											and negative operating experiences (i.e. Lesson Learned), which may be applied to other organizations. Attachment D, Lessons Learned Priority Descriptions, provides an overview of information contained within a typical lessons learned document. Lessons learned are routinely compiled from the DOE database that receives lessons learned from the DOE complex and other sources, and distributed to managers and supervisors by the Lessons Learned Coordinator. When TPMC lessons learned are developed, they are placed in the database for application by the DOE complex, as appropriate. Lessons learned are reviewed for subcontracted work during readiness reviews. More than 70 lessons learned and 72 items of interest have been distributed to managers and supervisors, reviewed, and flowed down to workers, as appropriate. One TPMC lessons learned (Boiler/RHW Leak) is in development.		

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
6	The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or work control manual/procedure.	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control TPMC-QA-1240, Lessons Learned Program	X								See WPC-3-5, above. Section 9, Closeout Completion of Work Packages, of Work Packages procedure (TPMC-PROC-57) states the Planner enters feedback comments into the SOMAX work control database for tracking and future implementation. The work package closeout process also ensures that materials and labor are charged correctly. Sections 13.1.1, 13.1.4, 13.1.5, 13.4, 13.5, & 13.6 of Integrated Work Control procedure (TPMC-PROC-59) define the steps required to ensure feedback comments are effectively summarized in SOMAX. Lessons learned are routinely compiled from the DOE database and distributed to managers and supervisors by the Lessons Learned Coordinator. Lessons learned are reviewed for subcontracted work during readiness reviews. More than 70 lessons learned and 72 items of interest have been distributed to managers and supervisors, reviewed, and flowed down to workers, as appropriate. One TPMC lessons learned (Boiler/RHW		

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											Leak) is in development.		
7	The qualification requirements for Work Control Managers and Planners are established.	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control TPMC-HR-0702, Training Program TPMC-HR-0750, Required Reading Program Example Training Records	X								See WPC-3-3, above. Work Packages procedure (TPMC-PROC-0057) specifies training requirements in Sections 3.1, 3.2, 3.3, 6.1, and 7.2. Integrated Work Control procedure (TPMC-PROC-0059) specifies training requirements in Sections 3.1 and 3.2. Training Position Descriptions (TPDs) are developed for personnel identifying training requirements. Strict personnel records on training status are kept up to date within the training database. Personnel work restrictions are issued in advance of training due dates when requirements may be inadvertently missed. Required reading assignments are periodically distributed to employees and documented to		

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											maintain appropriate training. The training program documents the level of training and ensures personnel assigned to a job meet the requirements necessary to perform the work.		
8	Records that document the successful completion and qualification of Work Control Mangers and Planners are retained and auditable.	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control TPMC-PROC-0012, Field Logbooks and Data Forms TPMC-HR-0702, Training Program TPMC-OS-1001, Records Management, Including Document Control Example Training Records	X								See WPC-3-3 and 5, above. Training Position Descriptions (TPDs) are developed for personnel identifying training requirements. Strict personnel records on training status are kept up to date within the training database. Personnel work restrictions are issued in advance of training due dates when requirements may be inadvertently missed. Required reading assignments are periodically distributed to employees and documented to maintain appropriate training. Records are retained and auditable.		
WPC-4 Performance Objective: Work Planning and Control Activity													
1	Initial discussion/walk down	TPMC-PROC-	X								Sections 6.4, Devise Work Method, and		

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that the boundaries are understood.	0057, Work Packages TPMC-PROC-0059, Integrated Work Control TPMC-PROC-0073, Excavation/ Penetration Permit Example Walkdown Notes									6.5, Perform Pre-Job Walkdown of the Integrated Work Control procedure (TPMC-PROC-59) define the steps required to analyze the work conditions within the area of the task to be performed.		
2	A team comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health subject matter experts, etc.) is selected by line management to participate in the development of the work control document.	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control Example Walkdown Notes	X								Section 7, Preparing Special Work Packages, of the Work Packages procedure (TPMC-PROC-0057) states Planners/Supervisors/ Project Engineers shall interface with affected Managers to select a writing team. Sections 6.5.2, 8.3, 8.4, and 8.5 of Integrated Work Control procedure (TPMC-PROC-0059) also address this LOI. Utilizing the graded approach more rigor is applied to the development of a special work package (i.e., an infrequent, more complex activity such as installation of a chiller) than a	Effective rigor applied to Special Work Package development.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											routine (i.e., frequently performed, simple activity such as changing light bulbs) work package.		
3	The team performs effective walkdowns and Job Hazard Analysis in order to develop work steps/techniques and identify possible hazards and their associated controls.	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control TPMC-SH-5140, Hazard Communications TPMC-SH-2010, Hazard Review Example Walkdown Notes, PTHR or AHA	X								See WPC-4-2, above. Section 7 of the Work Packages procedure (TPMC-PROC-0057) defines the walkdown process and the level of documentation required. Sections 6.3, 6.4, 6.5, 8.3, and 8.4 of the Integrated Work Control Procedure (TPMC-PROC-0059) define the Scope, Method, Pre-Job Walkdown, Analyze Hazard, and the development of Work Control Documents. Lessons learned feedback from completed work packages is entered into the SOMAX work control database, and the feedback contained in the SOMAX and DOE lessons learned databases is incorporated into new work package development, as appropriate.	Effective job walkdowns and job hazard analyses performed using graded approach.	
4	The team considers potential upset conditions, accidents, and "what if" scenarios and their consequences during the walk downs and JHA.	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated	X								In accordance with Sections 6.5.6 and 6.5.7 of the Integrated Work Control Procedure (TPMC-PROC-59), the Planner, Supervisor, and Project Manager review work scope and planned work method by asking a pre-	Effective hazards review conducted.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
		Work Control TPMC-SH-2010, Hazard Review Example Walkdown Notes, PTHR or AHA									determined set of questions, and document the walkdown attendance. Sections 5 and 6 of Hazard Review procedure (TPMC SH-A-2010) state a hazard review shall be conducted prior to the beginning of each task to identify potential hazards and establish controls. The supervisor revises the Pre-task review if a change is proposed to the scope, or a accident or incident occurs, and documents the appropriate hazard level.		
5	The team selects controls based upon the following hierarchy: (1) hazard elimination/reduction, (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control TPMC-SH-5140, Hazard Communications TPMC-SH-2010, Hazard Review Example Walkdown Notes, PTHR or AHA	X								See WPC-4-2, above. Sections 7.5 and 7.13 of the Work Packages procedure (TPMC-PROC-0057) emphasize the appropriate selection of materials for hazard avoidance and waste minimization. Examples of material types may include specialized equipment such as non-sparking wrenches, electric fork lifts, and special types of packaging or shipping containers. Section 6.5.8 of the Integrated Work Control procedure (TPMC-PROC-0059) states to adjust work method, as needed, to reduce hazards, and Section 8.3.5 states that ideally, hazards should	Effective selection of hazard controls in work packages, based on graded approach.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											be eliminated (e.g., through substitution). Failing elimination, preferred controls are passive engineered safeguards, active engineering safeguards, administrative controls, and lastly Personal Protective Equipment (PPE). It is noted that PPE may introduce new hazards (such as heat stress) that must be controlled.		
6	The team ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction). **(This criteria addresses potential loss of safety function during D&D and may not be applicable to all work activities.)**	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control TPMC-SH-2010, Hazard Review Example PTHR or AHA	X								The purpose of the Hazard Review procedure (TPMC-SH-2010) is to establish a graded approach for systematically reviewing planned work to identify hazards and establish mitigating controls. The control of hazards may is accomplished through a graded approach based on the complexity of the work to be performed and the potential hazard involved. This is accomplished through the completion of a pre-task hazard review (PTHR) during a pre-job walkdown, for routine (i.e., frequently performed, simple activity) work, and an activity hazard analysis (AHA) for special work having critical steps, significant potential for injury or illness, and work involving new equipment and new hazards.		
7	The team evaluates the possibility of creating	TPMC-PROC-0057, Work	X								See WPC-4-5 and 6, above.		

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.	Packages TPMC-PROC-0059, Integrated Work Control TPMC-SH-5140, Hazard Communications TPMC-SH-2010, Hazard Review Example PTHR or AHA									Failing elimination, preferred hazard controls are passive engineered safeguards, active engineering safeguards, administrative controls, and lastly Personal Protective Equipment (PPE). It is noted in Section 6.5.8 of the Integrated Work Control procedure (TPMC-PROC-0059) and Sections 7.6 through 7.9 of the Hazard Review procedure (TPMC-SH-2010), that PPE may introduce new hazards (such as heat stress) that must be controlled.		
WPC-5 Performance Objective: Work Planning and Control Process													
1	The work scope and associated boundaries are clearly defined.	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control TPMC-PR-1007, Acquisition Process TPMC-QA-1520, Readiness Reviews	X								Section 6.3.1 of the Integrated Work Control procedure (TPMC-PROC-0059) clearly defines the Scope and associated boundaries required to perform work.		

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
		for Radiological, Non-Nuclear, and Other Industrial Facilities/Activities Example Work Package, Requisition, Readiness Review											
2	The work control document is written in a clear, concise, and worker friendly manner.	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control Example Work Package, Requisition	X								The Integrated Work Control procedure (TPMC-PROC-0059) has a well defined format for a work control document. The requirements established within this procedure address every aspect of Work Control, Hazard Review, clearly stated organizational lines of management and responsibilities, documentation, and records management.	Effective (sequential, logical) work control documents developed.	
3	The work steps for activities are properly sequenced.	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control Example Work Package, Requisition	X								The Integrated Work Control procedure (TPMC-PROC-0059) steps are designed to flow as if approaching the work for the first time, one step at a time, completing the step and then proceeding to the next step. The steps are in a very logical order and are easily followed. The hazard review, pre-job briefing and walkdown appropriately follow in sequence to define the actual work to take place.	Effective (sequential, logical) work control documents developed.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
4	Work control documents adequately incorporate technical and administrative requirements (e.g., contract, safety basis, regulatory, consensus codes, etc.).	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control Example Work Packages	X								The work control documentation generated by the Work Packages and Integrated Work Control procedures (TPMC-PROC-0057 and 0059, respectively) adequately incorporate administrative requirements that support a high level of Environmental, Safety, Health and Quality. The review of three (3) completed work packages and observation of one 1 in process work package revealed that all documents are in order and required procedures are being followed by the craft.	Effective (sequential, logical) work control documents developed.	
5	Work hazard controls identified in the JHA have been incorporated into the work control document.	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control TPMC-SH-2010, Hazard Review TPMC-SH-5140, Hazard Communications Example Work	X								The Work Package Procedure (TPMC-PROC-57) describes the steps required to compile a Work Control Package and its supporting documentation. Hazard reviews are completed in the early stages of work, and documentation such as Job Hazard Analysis (JHA), AHA, PTHR, pre-job briefing and walkdown sign off sheets are incorporated into the Work Package. Lessons learned feedback is entered into the SOMAX work control database for tracking and future implementation. The Hazard Review procedure (TPMC-		

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
		Packages, JHA or PTHR									SH-2010) describes the process of identifying and controlling hazards that are present at the job site. The review of three (3) completed work packages and observation of one 1 in process work package revealed that all documents are in order and required procedures are being followed by the craft.	Effective (sequential, logical) work control documents developed.	
6	The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control TPMC-SH-5140, Hazard Communications TPMC-SH-2010, Hazard Review Example Work Packages, PTHR or AHA	X								See WPC-5-3 and 5, above. Sections 8.3 and 8.4 of the Work Packages procedure (TPMC-PROC-0057) detail the steps required to obtain all approvals prior the start of any work. These approvals ensure work package development steps are appropriately followed and hazards are effectively identified and controlled. The Hazard Communications procedure (TPMC-SH-5140) provides guidance on the identification of hazardous materials with a color coded tetra triangle illustrating the level of hazard, and the use of Material Safety Data Sheets (MSDS). MSDS describe the hazard and personal protective		

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											equipment required to work with various substances.		
WPC-6 Performance Objective: Work Planning and Control Oversight													
1	First line supervisors and workers are knowledgeable of their work control documents and meet all applicable training and medical requirements.	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control TPMC-HR-0702, Training Program TPMC-HR-0750, Required Reading Program Example Training Records	X								Section 8.4.2 of the Integrated Work Control procedure (TPMC-PROC-0059) states develop or identify a training matrix for each affected job function. Supervisors and workers are knowledgeable of work control documents through the work package development and approval process, pre-job and daily safety briefings, and morning coordination meetings. . Training Position Descriptions (TPDs) are developed for personnel identifying training requirements. Strict personnel records on training status are kept up to date within the training database. Personnel work restrictions are issued in advance of training due dates when requirements may be inadvertently missed. Required reading assignments are periodically distributed to employees and documented to maintain appropriate training. The training program documents the level of training and ensures personnel	Effective training program, database and records.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											assigned to a job meet the requirements necessary to perform the work.		
2	Operations work control authority reviews and authorizes all work control documents prior to Commencement of work. He/she is required to evaluate all work at a facility and/or site to ensure work activities of one scope do not adversely affect the safe work of another.	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control Example Approved Documents									See WPC-5-6 and WPC-6-1, above. In accordance with Sections 8.3 and 8.4 of the Work Package procedure (TPMC-PROC-0057), the Planner/Supervisor/Project Engineer submit the work package to the affected building operator for signature concurrence Sections 8.6 and 9.4.1.1 of the Integrated Work Control Procedure (TPMC-PROC-0059) clearly state do not schedule work such that separate jobs can introduce hazards or quality problems to one another.		
3	Effective pre-evolutionary briefings are performed.	Field Observation of Work Example Walkdowns	X								The observation of a job task being performed verified the craft were performing their tasks according to requirements in the work package, and work control procedures.	Effective work package completion observed.	
4	First line supervisors and workers follow work control document instructions as written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their	Field Observation of Work TPMC-SH-A-2018, Suspension of Work (Safety Related)	X								See WPC-3-5, above. The Suspension of Work (Safety Related) procedure (TPMC-SH-A-2018) emphasizes front line managers are able to stop work and review the new requirement or situation and adjust		

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	change control process.										their work by following the change control process outlined in the Integrated Work Control procedure (TPMC-PROC-059).		
5	First line supervisors and workers understand their stop work authority.	Field Observation of Work TPMC-SH-A-2018, Suspension of Work (Safety Related)	X								Se WPC-3-5, above. Workers understand they have the responsibility and authority to stop work without retaliation if there is a safety concern.		
6	Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.	TPMC-PROC-0057, Work Packages TPMC-PROC-0059, Integrated Work Control Example Work Packages Example Documentation	X								Sections 11 and 12 of the Integrated Work Control procedure (TPMC-PROC-0059) thoroughly describe performing work within controls, and that applicable work permits shall be followed. If work is performed utilizing a Special Work Package, the Supervisor must be present at the job site prior to work start to ensure all conditions are met. Section 12 discusses responding to changing conditions, and states to initiate corrective action or emergency actions to respond to changing conditions, including evacuate area in case of emergency and notify Plant shift Superintendent (PSS).		
											Some documentation, such as pre-job safety meetings attendance and job walkdowns, is inconsistent. Some		Consistent, complete documentation

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											documents fully reflect attendance and subjects of discussion and others appear incomplete or unavailable, when it can be independently confirmed the activity took place. Formal activities (meetings, walkdowns, etc.) described in the work control and supporting procedures need to be fully documented (agendas, attendance sheets, meeting notes, etc.) and reflect all personnel in attendance to ensure objective evidence of completion. **(Note: this Observation may have some applicability to other LOIs, but is noted in this LOI as one (1) Observation (Yellow-Weakness) because of the association with "documentation". It does not lessen the effective work control execution and safety of the work reviewed, but is identified as an opportunity for improvement.).**		is needed to ensure objective evidence of completion.
7	Lessons learned/feedback is incorporated into active and in-development work control documents in a timely manner.	TPMC-QA-1240, Lessons Learned Program Example Work Packages, Pre-Job briefing, Walkdown									See WPC-3-5 and 6, above. Worker feedback is routinely solicited in morning planning meetings, job walkdowns, performance document revisions, PTHR and AHA development, customer questionnaires, Fact Sheets, safety meetings, I Care/We Care, HR Employee Concerns,		

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											assessments, safety investigations, etc. .Lessons learned are routinely compiled from the DOE database that receives lessons learned from the DOE complex and other sources, and distributed to managers and supervisors by the Lessons Learned Coordinator. Lessons learned feedback from completed work packages is entered into the SOMAX work control database, and the feedback contained in the SOMAX and DOE lessons learned databases is incorporated into new work package development, as appropriate.		
WPC-7 Performance Objective: Work Planning and Control Oversight													

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
1	The contractor has scheduled and performed independent and self-assessment of the work planning and control process. These activities are of sufficient scope, detail and quantity that Management can ascertain the status of the work planning and control process.	TPMC-QAPP-001, Quality Assurance Program Plan TPMC-QA-1001, Integrated Assessment and Oversight Program Description TPMC-QA-1420, Management Assessment Management Assessment Form and Awareness E-Mail TPMC-QA-1401, Independent Assessment TPMC FY06 Oversight Plan (In Development - "Draft" Completion) Assessment Log and Management Assessment Plan Printouts	X								Self-assessments of work control activities have been performed by Operations and Maintenance (O & M) Supervisors. Environmental, Safety, Hhealth and Quality (ESH&Q), which is independent of O & M, had scheduled and was in the planning phase of a work control assessment when DOE requested this assessment be conducted to the criteria provided in the Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, Commitment 23.		
											The Oversight Plan is in "Draft" completion and will be issued by January 2006. **(Note: this Observation will be noted in other LOIs as appropriate, but will be shown as a roll-up of one (1) Observation [Yellow – Weakness] in the assessment report).** Although the Oversight Plan has not been issued, 36 assessments (including the currently in progress Work Control and Work Planning and Feedback and Improvement assessments) have been		More coherency of planned to completed assessments could be maintained if the Oversight Plan was issued in the first month of the Fiscal Year.

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											conducted by various Work Groups. Several other assessments by the Work Groups are currently being documented and will be submitted for incorporation into the Oversight Plan and Assessment Log by January 2006.		
2	Line managers periodically perform surveillances, which include the observations of job walkdowns and JHA walk downs/meetings, pre-evolution briefings, and work performed to work control documents.	TPMC FY06 Oversight Plan (In Development - "Draft" Completion) Assessment Log and Management Assessment Plan Participating in Craft Walkthrough and observing Lockout/Tag Out being Performed Reviewing completed Work Packages Observation of in process Work being Performed to Procedures	X								See WPC-7-1, above. Self-assessments of work control activities have been performed by Operations and Maintenance (O & M) Supervisors. Managers frequently observe and participate in work control activities as verified in this assessment by attending a pre-job briefing and walkdown, observing Lessons Learned being incorporated in the pre-job briefing, observing work processes in action, and interviews with key point contacts.		
											The Oversight Plan is in "Draft" completion and will be issued by January 2006. **(Note: this Observation is a roll-up of one (1) Observation [Yellow – Weakness] into LOI WPC-7-1).**		
3	Line managers periodically	TPMC-PROC-57	X								See WPC-7-2, above.		

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	review in-development and approved work control documents.	Work Packages TPMC-PROC-59 Integrated Work Control Example Reviewed and Approved Document									Supervisors monitor in-process operations to: 1. Ensure personnel perform defined scope of work in accordance with applicable instructions and permits. 2. Identify changing conditions. 3. Verify compliance with technical and ESH&Q requirements. 4. Ensure safe work and good housekeeping practices are applied, and initiate mitigating actions, as needed.		
4	The contractor tracks and trends the results of oversight activities performed on the work planning and control process and takes appropriate actions.	TPMC-QA-1210, Issues Management Program TPMC-QA-1220, Occurrence Notification and Reporting TPMC-QA-5027, Reporting Incidents/Event Fact Sheet/Incident Review Board TPMC-QA-1240, Lessons Learned	X				X				Issues are primarily reported through Non-conformance Reports (NCRs), assessments, Fact Sheets, Senior Review Board and Senior Management direction (deliverables, project milestones, customer support, etc.), screened for occurrence and PAAA reportability, significance (causal analysis) and lessons learned by the QA Program Lead and entered into the Commitment Tracking System (Tracker) by the QA Specialist for action assignment and closure tracking, as appropriate. Tracker action entries approximately include 0 from NCRs, 0	Comprehensive Tracker system with issues color coded for priority and closure status.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
		Program TPMC/PORTS-26 Fiscal Year 2005 Integrated Safety Management System Declaration Commitment Tracking System (Tracker) Printout QA Trending Program (In Development)									from Occurrence Reports, 1 non-NTS reportable PAAA, 36 from assessments, 17 from causal analysis, 36 from Fact Sheets, 19 from Senior Review Board and many from Senior Management direction. Since Contract inception, approximately 788 deliverables, issues and actions have been entered into four Trackers with 331 closed, and 457 open and in various states of closure.		
											The QA Trending Program (in development) will periodically (expected Quarterly, beginning March 2006) compile selected assurance data into a summary report for review by management and DOE to help in focusing on improvement areas, where needed. **(Note: this Observation may have some applicability to other LOIs, but is noted in this LOI as one (1) Observation (Yellow-Weakness) because of the association with "trending").**		Trending is currently conducted manually. An automated system will be beneficial as the database increases.

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
39 (32 w/o DOE WP C-1 and WP C-2	**Total**				0	28	2	4	0	0			

Legend:
NA – Not Applicable
A – Acceptable - meets requirements
F – Finding - a direct deviation from a written requirement
O – Observation - a condition if left unchanged may lead to a Finding (may not violate a written requirement, but requires Resolution)
R – Recommendation - suggestions for improvement
P – Proficiency - an exemplary practice or area of performance excellence
w/o – with out

Requirements:

DOE (listed in 11/18/05 DOE Environmental Management Memorandum – Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 23)

DOE P 226.1 Implementation of Department of Energy Oversight Policy*
DOE O 414.1c Quality Assurance**
DOE M 426.1-1a, Chg. 1, Federal Technical Capability Manual*
DOE O 440.1A Federal Employee Occupational Safety and Health Program
DOE P 450.4 Integrated Safety Management
DOE 5480.19 Conduct of Operations Requirements for DOE Facilities**
10CFR830.122b Quality Assurance

DEAR Clause 970.5223-1 Integration of Environment, Safety and Health into Work planning and Execution

Note: * requirements not in TPMC Contract; ** requirement in TPMC Contract as DOE O414.1A, Chg. 1, CRD; DOE O 5480.19, Chg. 2.

TPMC (requirements that flow down or have correlation to DOE LOIs and requirements)

TPMC-QAPP-001, Quality Assurance Program Plan
TPMC-Policy-0010, Discipline and Rigor of Operations
TPMC-PROC-0012, Field Logbooks and Data Forms
TPMC-PROC-0057, Work Packages
TPMC-PROC-0059, Integrated Work Control
TPMC-PROC-0066, Accident/Incident Reporting and Record Keeping
TPMC-PROC-0073, Excavation/Penetration Permit
TPMC-HR-0702, Training Program
TPMC-HR-0750, Required Reading Program
TPMC-OS-1001, Records Management, Including Document Control
TPMC-QA-1001, Integrated Assessment and Oversight Program Description
TPMC-QA-1107, Performance Document Process
TPMC-QA-1166, Revision Order Process to Transition Procedure Documents
TPMC-QA-1210, Issues Management Program
TPMC-QA-1240, Lessons Learned Program
TPMC-GM-1400, Environmental Safety and Health Plan
TPMC-GM-1400, Integrated Safety Management System Plan
TPMC-QA-1401, Independent Assessments
TPMC-QA-1420, Management Assessment
TPMC-QA-1440, Control of Nonconforming Items and Services
TPMC-FO-1502, Communications
TPMC-FO-1503, Narrative Logs
TPMC-FO-1505, Operator Aids
TPMC-FO-1510, Shift Routines and Operating Practices
TPMC-FO-1511, Conducting Shift Turnover
TPMC-FO-1517, Independent Verification
TPMC-QA-1520, Readiness Reviews for Radiological, Non-Nuclear, and Other Industrial Facilities/Activities
TPMC-QA-1610, Price-Anderson Amendments Act (PAAA) Noncompliance Determination and Reporting
TPMC-QA-1650, Graded Approach
TPMC-OR-1745, Worker Safety and Health Program Description

TPMC-GM-2000, Conduct of Operations for Projects, Facilities and Activities
TPMC-SH-2010, Hazard Review
TPMC-EH-2011, Safety Meetings
TPMC-EH-2015, Safety Concern (I Care/We Care)
TPMC-EH-2018, Suspension of Work (Safety Related)
TPMC-PORT-5001, Site Operations Review Committee
TPMC-QA-5027, Reporting Incidents/Event Fact Sheet/Incident Review Board
TPMC-SH-5140, Hazard Communications
TPMC FY06 Oversight Plan (In Development - "Draft" Completion)

Note: TPMC procedures are coversheeted from the previous Contractor BJC and Sub-Contractor WASTREN and are in the review and revision process to be fully integrated into the TPMC performance document system.

Attachment 1

Theta Pro2Serve Management Company LLC
Management Assessment
EQ-QA-MA-06-010
Work Planning and Work Control
Performance Objective Results Summary

INTRODUCTION

While planning for a Work Control Management Assessment, Theta Pro2Serve Management Company, LLC (TPMC) was contacted by John Saluke (U.S. Department of Energy [DOE] Portsmouth Paducah Project Office [PPPO]) on December 1, 2005 to conduct an assessment in accordance with guidance provided in the November 18, 2005 DOE Environmental Management Memorandum – Work Planning and Work Control (WPC) and Site Action Plan for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, Commitment 23.

Based on DOE guidance documents, TPMC developed and issued an Assessment Plan and Lines of Inquiry (LOIs) on December 5, 2005. An assessment In-Briefing was held and the assessment was initiated on December 5, 2005. The assessment approach was to use the LOIs and conduct the assessment by: (1.) Review Requirements and Performance Documents, (2.) Review selected logs and other documentation, (3.) Interview key points of contact, and (4.) Observe work in progress. The LOIs results are recorded in Attachment 2 and summarized at the WPC Performance Objective (PO) level in the following sections. In accordance with DOE guidance provided in the December 14, 2005 John Saluke e-mail 2004-1 Feedback and Improvement (F&I) Information, the results for each PO are summarized under the following headings:

- Evaluation (PO Fully Met, Partially Met or Not Met).
- Results
- Noteworthy Practices (equivalent to TPMC strengths and proficiencies)
- Judgment of Need (equivalent to TPMC findings, observations and weaknesses)

Corrective actions for the Judgment of Needs are identified in the Site Action Plan provided in Attachment 3.

WPC – 1. WORK PLANNING AND CONTROL OVERSIGHT (RESERVED FOR DOE COMPLETION)

Performance Objective:

The DOE field element has an established process that ensures effective oversight of the contractor's work planning and control process.

LOIs:

1.1 through 1.4

Evaluation:

Not Applicable

Results:

Not Applicable

Noteworthy Practices:

Not Applicable

Judgment of Need (JON):

Not Applicable

WPC – 2. WORK PLANNING AND CONTROL OVERSIGHT (RESERVED FOR DOE COMPLETION)

Performance Objective:

The DOE field element performs effective oversight of the contractors work planning and control process.

LOIs:

2.1 through 2.3

Evaluation:

Not Applicable

Results:

Not Applicable

Noteworthy Practices:

Not Applicable

JON:

Not Applicable

WPC-3. WORK CONTROL PROGRAM DOCUMENTATION

Performance Objective:

The Contractor has developed an effective work planning and control process.

LOIs:

3.1 through 3.8

Evaluation:

Partially Met

Results:

The Work Planning and Control Program supports the integration of Quality, Safety, Lessons Learned, Hazard Control, Conduct of Operations, and Training, into all aspects of work. The program plans and performance documents fully describe a system designed to monitor and evaluate all work performed from concept to completion. The interview of ten key points of contact, review of three closed work packages, and the observation of one work order being performed, revealed a well-organized program.

Worker feedback is routinely solicited in morning planning meetings, job walkdowns, performance document revisions, Pre-Task Hazard Review (PTHR) and Activity Hazard Analysis (AHA) development, customer questionnaires, Fact Sheets, safety meetings, I Care/We Care, Human Resources Employee Concerns, assessments, safety investigations, etc. Workers are unafraid to voice issues, as observed in morning meetings, All-Hands meetings, Employee Concerns, and other forums. Workers have the responsibility and authority to stop work without retaliation if there is a safety concern. Employee feedback, when received, is acted upon to more effectively control hazards and increase efficiency and productivity.

Lessons learned are routinely compiled from the DOE database and distributed to managers and supervisors by the Lessons Learned Coordinator. More than 70 lessons learned and 72 items of interest have been distributed to managers and supervisors, reviewed, and flowed down to workers, as appropriate.

Work control data is documented in work packages created using the Work Packages and Integrated Work Control procedures (TPMC-PROC-0057 and TPMC-PROC-0059, respectively). The level of rigor is determined at the onset of the task by performing pre-job briefings and walk downs, and hazard analysis. Worker feedback and lessons learned are incorporated into work packages describing the tasks to be performed and entered into SOMAX, a computerized maintenance management system for scheduling, tracking, and completion. Work package closeout feedback is entered into SOMAX to improve new work packages, and track and trend performance.

Subcontracted work is evaluated using the Radiological, Non-Nuclear, and Other Industrial Facilities/Activities procedure (TPMC-QA-1520). An extensive readiness review checklist is applied with 185 items of evaluation. A lessons learned search is conducted, reviewed, and relevant lessons learned incorporated into work processes, and flowed down to workers, as appropriate. Four readiness reviews have been completed, with one involving major repairs to the X-6002 Boiler/RHW System that was completed without safety incident.

The training program documents the level of training and ensures personnel assigned to a job meet the requirements necessary to perform the work. The program is maintained by the Human Resources (HR) - Training work group, and is described in the Training Program and Required Reading Program procedures (TPMC-HR-0702 and TPMC-HR-0750, respectively). Training Position Descriptions (TPDs) are developed for personnel identifying training requirements. Strict personnel records on training status are kept up to date within the training database. Personnel work restrictions are issued in advance of training due dates when requirements may be inadvertently missed. Required reading assignments are periodically distributed to employees and documented to maintain appropriate training.

Noteworthy Practices:

Comprehensive work planning and control program performance documents. Multiple worker feedback mechanisms and effective Stop Work authority. Effective lessons learned program. Effective job hazard walkdowns. Effective readiness reviews conducted utilizing comprehensive evaluation checklist, and records maintained (e.g., Boiler/RHW Leak). Effective training program, database and records.

Judgment of Need (JON):

JON-1: Performance documents were coversheeted from the previous Contractor and have not been revised to be fully integrated into the TPMC system to accurately reflect organization roles and other administrative differences. **(Note: this Observation may have some applicability to other LOIs, but is noted in this LOI as one (1) Observation (Yellow-Weakness) because of the association with "procedures").**

WPC – 4. WORK PLANNING AND CONTROL ACTIVITY DEFINITION AND HAZARD IDENTIFICATION

Performance Objective:

Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

LOIs:

4.1 through 4.7

Evaluation:

Fully met

Results:

Work activities are effectively defined and analyzed, and hazards identified and controlled using the Work Packages and Integrated Work Control procedures (TPMC-PROC-0057 and TPMC-PROC-0059, respectively), and associated performance documents.

Lessons learned feedback from completed work packages is entered into the SOMAX work control database, and the feedback contained in the SOMAX and DOE lessons learned databases is incorporated into new work package development, as appropriate. The planner, supervisor, and project manager review work scope and planned work method by asking a pre-determined set of questions to identify hazards and establish mitigating controls. The level of rigor is determined at the onset of the task by performing pre-job briefings and walk downs, and hazard analysis. The control of hazards is accomplished through a graded approach based on the complexity of the work to be performed and the potential hazard involved. Utilizing the graded approach, more rigor is applied to the development of a special work package (i.e., an infrequent, more complex activity such as installation of a chiller) than a routine (i.e., frequently performed, simple activity such as changing light bulbs) work package. This is accomplished through the completion of a pre-task hazard review (PTHR) during a pre-job walkdown, for routine work, and an activity hazard analysis (AHA) for special work having critical steps, significant potential for injury or illness, and work involving new equipment and new hazards. The appropriate selection of materials for hazard avoidance and waste minimization is emphasized. Failing elimination, preferred controls are passive engineered safeguards, active engineering safeguards, administrative controls, and lastly Personal Protective Equipment (PPE). The supervisor revises the work package, and PTHR or AHA if a change is proposed to the scope, unexpected conditions arise as work is performed, or an incident occurs, and documents the revised hazard level.

Noteworthy Practices:

Multiple worker feedback mechanisms. Effective lessons learned program. Effective work packages hazards review conducted and controls selected, based on a graded approach. Effective job walkdowns and job hazard analyses performed. Effective rigor applied to Special Work Package development.

JON:

None

WPC – 5. WORK PLANNING AND CONTROL PROCESS

Performance objective:

The contractor work planning process generates work control documents that lead to safe and effective completion of work activities.

LOIs

5.1 through 5.6

Evaluation:

Fully Met

Results:

Safe and effective work control documents are generated using the Work Packages and Integrated Work Control procedures (TPMC-PROC-0057 and TPMC-PROC-0059, respectively), and associated performance documents. The review of three completed work packages and observation of one in process work package revealed that all documents were in order and required procedures were being followed.

The requirements established within the procedures provide a well defined format for a work control document, and address every aspect of work control, hazard review, clearly stated organizational lines of management and responsibilities, documentation, and records management. The steps are designed to flow as if approaching the work for the first time, one step at a time, completing the step and then proceeding to the next step. The steps are in a very logical order and are easily followed. The hazard review, pre-job briefing and walkdown appropriately follow in sequence to define the actual work to take place. Hazard reviews are completed in the early stages of work, and documentation such as walkdown notes, PTHR and AHA, and pre-job briefing attendance are incorporated into the Work Package. Lessons learned feedback from completed work packages is entered into the SOMAX work control database, and the feedback contained in the SOMAX and DOE lessons learned databases is incorporated into new work package development, as appropriate. Proper approvals are obtained before work package implementation to ensure work package development steps are appropriately followed and hazards are effectively identified and controlled.

Worker feedback is routinely solicited in morning planning meetings, job walkdowns, performance document revisions, PTHR and AHA development, customer questionnaires, Fact Sheets, safety meetings, I Care/We Care, Human Resources Employee Concerns, assessments, safety investigations, etc. Workers are unafraid to voice issues, as observed in morning meetings, All-Hands meetings, Employee Concerns, and other forums. Workers have the responsibility and authority to stop work without retaliation if there is a safety concern. Employee feedback, when received, is acted upon to more effectively control hazards and increase efficiency and productivity.

Noteworthy Practices:

Multiple worker feedback mechanisms. Effective lessons learned program. Effective work packages hazards review conducted and controls selected, based on a graded approach. Effective job walkdowns and job hazard analyses performed. Effective (sequential, logical) work control documents developed.

Judgment of Need:

None

WPC – 6. WORK PLANNING AND CONTROL PROCESS

Performance Objective:

Contractor personnel perform work in accordance with approved work control documents.

LOIs:

6.1 through 6.7

Evaluation:

Partially Met

Results:

The review of performance documents, three closed work packages, and observation of work being performed verified personnel were performing their tasks according to requirements in the work package, and the Work Packages and Integrated Work Control procedures (TPMC-PROC-0057 and TPMC-PROC-0059, respectively), and associated performance documents. These documents thoroughly describe performing work within controls, and that applicable work permits shall be followed. The points of contact interviewed are trained in the work planning and work control program and respond to lessons learned and feedback to better enhance the program.

Worker feedback is routinely solicited in morning planning meetings, job walkdowns, performance document revisions, PTHR and AHA development, customer questionnaires, Fact Sheets, safety meetings, I Care/We Care, HR Employee Concerns, assessments, safety investigations, etc. Workers are unafraid to voice issues, as observed in morning meetings, All-Hands meetings, Employee Concerns, and other forums. Workers understand they have the responsibility and authority to stop work without retaliation if there is a safety concern. Employee feedback, when received, is acted upon to more effectively control hazards and increase efficiency and productivity.

Lessons learned are routinely compiled from the DOE database and distributed to managers and supervisors by the Lessons Learned Coordinator for review and flowdown to workers, as appropriate. Lessons learned feedback from completed work packages is entered into the SOMAX work control database, and the feedback contained in the SOMAX and DOE lessons learned databases is incorporated into new work package development, as appropriate.

Supervisors and workers are knowledgeable of work control documents through the work package development and approval process, pre-job and daily safety briefings, and morning coordination meetings. The training program documents the level of training and ensures personnel assigned to a job meet the requirements necessary to perform the work. TPDs are developed for personnel identifying training requirements. Strict personnel records on training status are kept up to date within the training database. Personnel work restrictions are issued in advance of training due dates when requirements may be inadvertently missed. Required reading

assignments are periodically distributed to employees and documented to maintain appropriate training.

Supervisors regularly oversee the implementation of special and routine work packages. Special packages require the Supervisor to be present at the job site prior to work start to ensure all conditions are met. Workers and supervisors ensure corrective action or emergency actions are initiated to response to changing conditions.

Noteworthy Practices:

Multiple worker feedback mechanisms. Effective lessons learned program. Effective (sequential, logical) work control documents developed. Effective work package completion observed. Effective training program, database and records.

JON-1: Some documentation, such as pre-job safety meetings attendance and job walkdowns, is inconsistent. Some documents fully reflect attendance and subjects of discussion and others appear incomplete or unavailable, when it can be independently confirmed the activity took place. Formal activities (meetings, walkdowns, etc.) described in the work control and supporting procedures need to be fully documented (agendas, attendance sheets, meeting notes, etc.) and reflect all personnel in attendance to ensure objective evidence of completion. **(Note: this Observation may have some applicability to other LOIs, but is noted in this LOI as one (1) Observation (Yellow-Weakness) because of the association with "documentation". It does not lessen the effective work control execution and safety of the work reviewed, but is identified as an opportunity for improvement.).**

WPC – 7. WORK PLANNING AND CONTROL OVERSIGHT

Performance Objective:

The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents.

LOIs:

7.1 through 7.4

Evaluation:

Partially Met

Results:

Self-assessments of work control activities have been performed by Operations and Maintenance (O & M) Supervisors. Environmental, Safety, Health and Quality (ESH&Q), which is independent of O & M, had scheduled and was in the planning phase of a work control assessment when DOE requested this assessment be conducted. Supervisors and managers frequently observe and participate in work control activities as verified in this assessment by

attending pre-job briefings and walkdowns, incorporating Lessons Learned in work packages, and observing work processes in action.
The Quality Assurance Program Plan (QAPP), Integrated Safety Management System (ISMS) Plan, Environmental Safety and Health Plan, and supporting performance documents, fully describe a system designed to monitor and evaluate all work performed, including subcontractors, utilizing a graded approach based on risk. A four-tiered assessment program has been developed to ensure comprehensive oversight. Subcontractor work is also evaluated through the performance of readiness reviews overseen by the Senior Review Board and field oversight by the Subcontractor Field Coordinator.

Assurance data is documented in assessments, checklists, evaluation of suppliers, readiness reviews, fact sheets, occurrence reports, lessons learned, non-conformance reports (NCRs), logs, issues management Tracker, Senior Review Board (SRB) and other meeting minutes, and forms of documentation appropriate for the activities. Since contract inception, 36 assessments have been performed; 18 fact sheets, 0 NCRs, and 0 occurrence reports have been issued; more than 100 purchasing requisitions have been screened and more than 30 supplier evaluations conducted; 4 readiness reviews performed (one involving major repairs to the X-6002 Boiler/RHW System); 11 Senior Review Boards (SRB) conducted and meeting minutes completed; 70 lessons learned and 72 items of interest have been distributed; and 1 lesson learned is in development.

Issues are primarily reported through Non-conformance Reports (NCRs), assessments, Fact Sheets, Senior Review Board and Senior Management direction (deliverables, project milestones, customer support, etc.), screened for occurrence and PAAA reportability, significance (causal analysis) and lessons learned by the QA Program Lead and entered into the Commitment Tracking System (Tracker) by the QA Specialist for action assignment and closure tracking, as appropriate. Tracker action entries approximately include 0 from NCRs, 0 from Occurrence Reports, 1 non-NTS reportable PAAA, 36 from assessments, 17 from causal analysis, 36 from Fact Sheets, 19 from Senior Review Board and many from Senior Management direction. Since Contract inception, approximately 788 deliverables, issues and actions have been entered into four Trackers with 331 closed, and 457 open and in various states of closure. The Tracker is provided to DOE as requested, and reviewed weekly by the TPMC President, Vice President and Managers to monitor and promote timely action closure.

Assurance data for assessments are trended to ISMS Functions and Principles, 10 Quality Criteria in 10 CFR 830.120, and Apparent Cause by the assessors in the assessment report and the data is screened for occurrence and Price Anderson Amendments Act (PAAA) reportability, significance (causal analysis) and lessons learned, and entered in the assessment log. All assessments are reviewed by the QA Program Lead for accuracy, completeness, and readability.

Noteworthy Practices:

Comprehensive program plans and performance documents are completed describing assurance system. Fact Sheets provide a rapid way to document incidents and ensure that they are screened for other assurance needs and receive appropriate management attention. Multiple sources of assurance data are entered into the Tracker with issues color coded for priority and closure status. Basic trending is completed by assessors as assessments are completed. Personnel are appropriately trained and qualified. Complete and effective causal analysis performed for Boiler/RHW System leak.

Judgment of Need:

JON-1: The Oversight Plan is in "Draft" completion and will be issued by January 2006. **(Note: this Observation is noted in other LOIs as appropriate, but is shown as a roll-up of one (1) Observation [Yellow – Weakness]).**

Although the Oversight Plan has not been issued, 36 assessments (including the currently in progress Work Control and Work Planning and Feedback and Improvement assessments) have been conducted by various Work Groups. Several other assessments by the Work Groups are currently being documented and will be submitted for incorporation into the Oversight Plan and Assessment Log by January 2006.

JON-2: The QA Trending Program (in development) will periodically (expected Quarterly, beginning March 2006) compile selected assurance data into a summary report for review by management and DOE to help in focusing on improvement areas, where needed. **(Note: this Observation may have some applicability to other LOIs, but is noted in this LOI as one (1) Observation (Yellow-Weakness) because of the association with "trending").**

Attachment 3

Theta Pro2Serve Management Company, LLC
Management Assessment
EQ-QA-MA-06-010

Defense Nuclear Facilities Safety Board
Recommendation 2004-1, Commitment 23,
Work Planning and Work Control

Site Action Plan

INTRODUCTION

While planning for a Work Control Management Assessment, Theta Pro2Serve Management Company, LLC (TPMC) was contacted by John Saluke [U.S. Department of Energy (DOE) Portsmouth Paducah Project Office (PPPO)] on December 1, 2005 to conduct an assessment in accordance with guidance provided in the November 18, 2005 DOE Environmental Management Memorandum – Work Planning and Work Control (WPC) and Site Action Plan for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, Commitment 23.

Based on DOE guidance documents, TPMC developed and issued an Assessment Plan and Lines of Inquiry (LOIs) on December 5, 2005. An assessment In-Briefing was held and the assessment was initiated on December 5, 2005, and completed on December 30, 2005. The LOIs results are summarized at the WPC Performance Objective (PO) level in Attachment 1 and provided in full in Attachment 2. Judgment of Needs (JONs), which are equivalent to TPMC findings, observations, and weaknesses are identified for each PO in Attachment 1.

In accordance with guidance provided in the December 13, 2005 DOE Environmental Management (EM) e-mail, 2004-1 Feedback and Improvement Team - Site Action Plan (SAP) Updated Template, the corrective actions for the JONs are identified in the Site Action Plan discussed in the following sections. **[Note: when the same JON is identified for more than one PO, it is recorded in the first PO as a roll-up of one (1) Observation (Yellow – Weakness), and noted in the other applicable POs].**

Corrective actions will be entered into the TPMC Commitment Tracking System (Tracker) for action assignment and closure tracking. **[Note: corrective actions that will also satisfy JONs in the DNFSB Recommendation 2004-1, Commitment 25, Feedback & Improvement assessment (EQ-QA-MA-06-011) Site Action Plan, will be entered once in the Tracker and will identify associated JONs].**

CONTRACTOR STATEMENT

During the development and implementation of corrective actions for JONs in this assessment, and for the completion of future assessments, TPMC believes it is important to keep in mind the graded approach. Several of the LOIs in this assessment appear to correlate more with Best Management Practices (BMPs), rather than with written directions specified in DOE requirement or guidance documents. TPMC believes these LOIs should remain as BMPs, applied through the graded approach. Although the Infrastructure Contract scope for TPMC is primarily non-nuclear and routine maintenance, TPMC will always strive to apply BMPs for continual improvement to the extent practical and economical for our scope of work. TPMC believes making these BMPs future specific requirements in DOE documents, will not provide an appreciable reduction in risk for the increased costs, and will create rigor beyond the mission of TPMC and other similar contracts.

WPC – 1. WORK PLANNING AND CONTROL OVERSIGHT (RESERVED FOR DOE COMPLETION)

Performance Objective:

The DOE field element has an established process that ensures effective oversight of the contractor's work planning and control process.

Judgment of Need (JON):

Not Applicable.

WPC – 2. WORK PLANNING AND CONTROL OVERSIGHT (RESERVED FOR DOE COMPLETION)

Performance Objective:

The DOE field element performs effective oversight of the contractors work planning and control process.

JON:

Not Applicable.

WPC-3. WORK CONTROL PROGRAM DOCUMENTATION

Performance Objective:

The Contractor has developed an effective work planning and control process.

JON:

JON-1: Performance documents were coversheeted from the previous Contractor and have not been revised to be fully integrated into the TPMC system to accurately reflect organization roles and other administrative differences.

Action #/Description	Deliverable(s)	Due Date	Owner/Organization
1. Managers prioritize (0, 1, 2 and 3, with 1 as the highest priority) assigned performance documents for revision, and provide lists to Procedure Manager.	Prioritized lists of assigned performance documents.	January 16, 2006	Managers (collectively under Buck Sheward, President)
2. Procedure Manager combine Manager prioritized lists into one list.	Combined prioritized list of performance documents	January 23, 2006	Chip Stanizzo, Procedure Manager, Environmental, Safety, Health and Quality
3. Procedure Manager meet with Managers to develop Performance Documents Work-Off Plan to revise prioritized performance documents [Priority 1 and 2, including those needed to implement the Integrated Safety Management System (ISMS), by June 30, 2006, and Priority 3 by December 31, 2006].	Performance Documents Work-Off Plan	February 15, 2006	Chip Stanizzo, Procedure Manager, Environmental, Safety, Health and Quality

Action #/Description	Deliverable(s)	Due Date	Owner/Organization
4. Quality Assurance (QA) Specialist enter rolling 30-day look-ahead action assignments to implement the Performance Documents Work-Off Plan into the Commitment Tracking System (Tracker) for closure tracking.	Tracker 30-day look-ahead Performance Documents Work-Off Plan action assignments.	February 20, 2006	Cathy Forshey, QA Specialist, Environmental, Safety, Health and Quality
5. Complete Priority 1 and 2 performance document revisions.	Tracker action assignments closure documentation.	June 30, 2006	Managers (collectively under Buck Sheward, President), and Chip Stanizzo, Procedure Manager, Environmental, Safety, Health and Quality
6. Complete Priority 3 performance document revisions.	Tracker action assignments closure documentation.	December 31, 2006	Managers (collectively under Buck Sheward, President), and Chip Stanizzo, Procedure Manager, Environmental, Safety, Health and Quality

WPC – 4. WORK PLANNING AND CONTROL ACTIVITY DEFINITION AND HAZARD IDENTIFICATION

Performance Objective:

Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

JON:

None.

WPC – 5. WORK PLANNING AND CONTROL PROCESS

Performance Objective:

The contractor work planning process generates work control documents that lead to safe and effective completion of work activities.

JON:

None.

WPC – 6. WORK PLANNING AND CONTROL PROCESS

Performance Objective:

Contractor personnel perform work in accordance with approved work control documents.

JON:

JON-1: Some documentation, such as pre-job safety meetings attendance and job walkdowns, is inconsistent. Some documents fully reflect attendance and subjects of discussion and others appear incomplete or unavailable, when it can be independently confirmed that the activity took place. Formal activities (meetings, walkdowns, etc.) described in the work control and supporting procedures need to be fully documented (agendas, attendance sheets, meeting notes, etc.), and reflect all personnel in attendance to ensure objective evidence of completion.

Action #/Description	Deliverable(s)	Due Date	Owner/Organization
1. Operations and Maintenance (O&M) Manager work with Supervisors to identify work control activities requiring written documentation, and aids (e.g., logs, forms, etc.) for providing documentation.	Memo to file of list of work control activities requiring written documentation, and aids for providing documentation.	January 27, 2006	Chris Ondera, O&M Manager, Operations and Maintenance
2. O&M Manager work with Supervisors to develop and implement aids (e.g., logs, forms, etc.) for the activities requiring written documentation.	Memo to file of development and implementation of aids.	March 6, 2006	Chris Ondera, O&M Manager, Operations and Maintenance

Action #/Description	Deliverable(s)	Due Date	Owner/Organization
3. QA Program Lead conduct assessment to verify aids (e.g., logs, forms, etc.) for the activities requiring written documentation have been implemented and are effective.	Assessment report.	April 21, 2006	Dan Longpre, QA Program Lead, Environmental, Safety, Health and Quality

WPC – 7. WORK PLANNING AND CONTROL OVERSIGHT

Performance Objective:

The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents.

JON:

JON-1: The Oversight Plan is in "Draft" completion and will be issued by January 2006.

Action #/Description	Deliverable(s)	Due Date	Owner/Organization
1. QA Program Lead issue Oversight Plan	Oversight Plan	January 31, 2006	Dan Longpre, QA Program Lead, Environmental, Safety, Health and Quality

JON-2: The QA Trending Program is in development and will periodically (expected Quarterly, beginning March 2006) compile selected assurance data into a summary report for review by management and DOE to help in focusing on improvement areas, where needed.

Action #/Description	Deliverable(s)	Due Date	Owner/Organization
1. QA Program Lead meet with Managers and DOE to identify trending criteria.	Memo to file of list of Trending Criteria	February 3, 2006	Dan Longpre, QA Program Lead, Environmental, Safety, Health and Quality

Action #/Description	Deliverable(s)	Due Date	Owner/Organization
2. QA Program Lead meet with Information Technology (IT) Programmer and QA Specialist to develop Trending System Plan.	Trending System Plan	February 20, 2006	Dan Longpre, QA Program Lead, Environmental, Safety, Health and Quality
3. IT Programmer work with QA Specialist to complete Trending System Plan, and enter trending data into database, as appropriate.	Tracker action assignments closure documentation.	April 3, 2006	Tim Burton, Computing and Telecommunications Manager
4. QA Specialist work with IT Programmer to generate first Quarterly Trending Report	Trending Report	April 17, 2006	Cathy Forshey, QA Specialist, Environmental, Safety, Health and Quality

Site Assessment Report
WP&C Commitment 23 – DNFSB Recommendation 2004-1

Results of Assessment of
Work Planning and Work Control
At
Uranium Disposition Services, LLC, Paducah, KY and Portsmouth, OH Sites

Introduction:

Uranium Disposition Services, LLC (UDS) was contacted by John Saluke (DOE Portsmouth Paducah Project Office [PPPO]) to conduct an assessment in accordance with guidance provided in the 11/9/05 DOE Environmental Management Memorandum – Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1.

Based on DOE guidance documents, UDS developed an Assessment Plan utilizing the Lines of Inquiry (LOIs) provided by DOE. The assessment approach was to use the LOIs and conduct the assessment by: 1. Review of plans and procedures 2. Review of selected documentation, 3. Interviews with key Points of Contact, and 4. Observation of work in progress. The scope of the assessment included both UDS facilities at Paducah, KY and Portsmouth, OH and encompassed operations of the UF6 cylinder storage yards (commenced in 6/05) and construction activities (commenced 7/04). Because of the diversity of the activities performed for UF6 cylinder storage yards and construction activities, separate assessments were performed. However, both assessments are reflected in this report. Attachment 1 is an assessment of operations of UF6 cylinder storage yards and Attachment 2 is an assessment of construction activities. Due to time constraints, observations of work in progress was not accomplished for all locations or activities. Some comments are based on previous observations and experience.

The LOIs results are recorded in Attachment 1 and 2 and summarized at the Performance Objective (PO) level in the following sections. In accordance with DOE guidance provided in 12/14/05 John Saluke e-mail 2004-1 F&I Information, the results for each PO are summarized under the following criteria:

- Evaluation (PO Fully Met, Partially Met or Not Met).
- Results
- Noteworthy Practices (equivalent to UDS strengths and proficiencies)
- Judgment of Need (equivalent to UDS findings, observations and weaknesses)

WPC-3: Contractor Program Documentation

Performance Objective (PO): The contractor has developed an effective work planning and control process.

LOIs: 3-1 through 3-8 (see Attachment 1 and 2)

Evaluation: Fully Met

Results:

Both Operations and Construction groups have implemented processes for initiating, analyzing and developing work control documents. Cylinder Yard Operations are conducted in accordance with written procedures for routine activities performed or specific work plans for non-routine activities. Support activities are performed in accordance with written work instructions or procedures (i.e., RADCON support). Construction subcontractors perform in accordance with the specific requirements for the work being performed based on risk, complexity, etc. Both groups require Activity Hazard Analysis be performed for all activities. Work packages differ in terms of content due to varying safety, operational, and technical safety requirements.

Noteworthy Practices:

Thorough review by ES&H representatives and line management of AHA's and other critical documents.

Judgment of Need (JON):

Criteria 1-7 and 1-8 discuss qualifications for Work Control Managers and Planners. Currently, work control functions are collateral duties of supervisory/management personnel. No formal training has been identified.

Current method is satisfactory based on the activities being performed.

NOTE: DOE Order 433.1 was not added to the UDS contract as part of the recent changes.

WPC-4: Work Planning and Control Activity

Performance Objective (PO): Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

LOIs: 4-1 through 4-7 (see Attachment 1 and 2)

Evaluation: Fully Met

Results: As noted above, a rigorous review process is in practice to ensure AHA's have the proper level of detail and appropriate analysis for the activity to be performed. Additionally, personnel in both operations and construction participate in walk downs of areas/jobs and solicit input from workers on the method and means to accomplish work. Regular meetings such as Plan-of-the Day offer a forum for ensuring that the scope of the work is understood and interfaces identified. Construction management and ES&H conduct weekly coordination meetings so that each subcontractor is aware of other contractors' activities, discuss issues, etc. UDS participates in shared site meetings at both Portsmouth and Paducah to ensure the other site prime contractors understand ongoing and planned activities for operations and construction so that possible impacts may be discussed. UDS is also apprised of the activities of the various site organizations so that UDS can access any impact on UDS activities. At Portsmouth, UDS participates in a daily "stand up" meeting along with United States Enrichment Corporation, the infrastructure contractor and the environmental management contractor.

Noteworthy Practices: Plan-of-the-day meetings, stand up meetings and shared site meetings

Judgment of Need (JON): None

WPC-5: Work Planning and Control Process

Performance Objective (PO): The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

LOIs: 5-1 through 5-6 (see Attachment 1 and 2)

Evaluation: Partially Met

Results: For operations activities, routine work is performed using procedures. Non-routine work is performed using work packages developed for the specific task. The work packages are generated using an approved work control process. Some weaknesses were noted in the procedures adopted from the previous contractor. As a result, operations at both sites are upgrading all operations procedures as part of the transition of the UF6 cylinder management activity to UDS control. For construction, an occurrence at Portsmouth in November 2004, identified weaknesses in development of AHA's. As a result a more rigorous review process has been implemented and appears to be working well at both sites.

Noteworthy Practices: Active involvement of cylinder yard crews in the review of the operating procedures.

Judgment of Need (JON): None, though not complete, work on cylinder yard procedures is progressing well and target date for completion is February 2006.

WPC-6: Work Planning and Control Oversight

Performance Objective (PO): Contractor personnel perform work in accordance with approved work control documents.

LOIs: 6-1 through 6-7 (see Attachment 1 and 2)

Evaluation: Fully Met

Results: For both construction and operations at both sites, there have been incidents that demonstrate that workers are following the prescribed process and when an off-normal condition occurs, it is recognized and reported.

Noteworthy Practices: None

Judgment of Need (JON): None

WPC-7: Work Planning and Control Oversight

Performance Objective (PO): The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in-development work control documents.

LOIs: 7-1 through 7-4 (see Attachment 1 and 2)

Evaluation: Fully Met

Results: Since the June 2005 transition of cylinder storage yards to UDS, one independent assessment has been performed at both sites and several management assessments of implementation of operating procedures have been performed. In addition, a detailed review was performed as part of the Implementation Verification Review of the Technical Specification Requirements pertaining to the yards demonstrating that the critical safety elements of the safety basis are flowed into operating procedures. Construction Management has also performed management assessments. Condition reports are routinely initiated and would identify any work control issues.

Noteworthy Practices: Frequent safety surveillances and quality assessments of construction activities at both sites.

Judgment of Need (JON): None

SUMMARY:

Current process is functioning well and is adequate for the type of work activities being performed. The Best Management Practices identified in the CRAD's will be reviewed as UDS progresses into operation of the conversion facilities.

ATTACHMENT 1
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of UF_6 Cylinder Storage Yards Operations

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
WPC-3									
1	Contractor work control manual(s)/procedure(s) for initiating, analyzing, and developing work control documents, including job hazard analysis, is approved and implemented.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations					Processes have been implemented for initiating, analyzing and developing work control documents. Cylinder Yard Operations are conducted in accordance with written procedures for all activities performed. Support activities are performed in accordance with written work instructions or procedures (i.e., RADCON support).	Thorough review by ES&H representatives and line management of AHA's and other critical documents.	
2	The contractor's work control process establishes the level of review and approval for different types of work control documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work activity.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations					Activity Hazard Analysis are required to be performed for all activities. Work packages differ in terms of content due to varying safety, operational, and technical safety requirements.		
3	The contractor has established work planning/control requirements for all personnel performing work at the site, including subcontractors. Affected personnel are trained on these requirements.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations					See WPC-3, #1		
4	The contractor's work control manual/procedure includes turnover requirements when line management and/or first line supervisor responsibilities are transferred.	UDS-GFP-001, Rev.0, Portsmouth - Cylinder Yard Management UDS-GFP-002, Rev. 0, Paducah Yard Management					Due to the Technical Safety Requirements (TSR's) applicable to the yards, a formal, documented turnover of the Facility Manager's responsibility is routinely performed.		

ATTACHMENT 1
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of UF_6 Cylinder Storage Yards Operations

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
5	The contractor's work control manual/procedure includes a process for lessons learned/feedback during the execution of work control activities, including incorporation of lessons learned into active and in-development work control documents.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations					See WPC-3, #1		
6	The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or work control manual/procedure.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations					See WPC-3, #1		
7	The qualification requirements for Work Control Managers and Planners are established.		X				The functions of work control managers and planners are collateral duties performed by supervisors and facility managers		
8	Records that document the successful completion and qualification of Work Control Mangers and Planners are retained and auditable.		X				No formal training has been identified for supervisors and facility managers		

WPC-4 Performance Objective: Work Planning and Control Activity

ATTACHMENT 1
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of UF_6 Cylinder Storage Yards Operations

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
1	Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that the boundaries are understood.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations					A rigorous review process is in practice to ensure AHA's have the proper level of detail and appropriate analysis for the activity to be performed. Additionally, personnel participate in walk downs of areas and solicit input from workers on the method and means to accomplish work. UDS participates in shared site meetings at both Portsmouth and Paducah to ensure the other site prime contractors understand ongoing and planned activities for operations so that possible impacts may be discussed. UDS is also apprised of the activities of the various site organizations so that UDS can access any impact on UDS activities. At Portsmouth, UDS participates in a daily "stand up" meeting along with United States Enrichment Corporation, the infrastructure contractor and the environmental management contractor.	Daily crew meetings, stand up meetings and shared site meetings	
2	A team comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health subject matter experts, etc.) is selected by line management to participate in the development of the work control document.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations					WPC-4, #1		

ATTACHMENT 1
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of UF_6 Cylinder Storage Yards Operations

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
3	The team performs effective walkdowns and Job Hazard Analysis in order to develop work steps/techniques and identify possible hazards and their associated controls.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations					WPC-4, #1		
4	The team considers potential upset conditions, accidents, and "what if" scenarios and their consequences during the walkdowns and JHA.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations					Due to the Technical Safety Requirements (TSR's) applicable to the yards, a USQD is performed if a change of condition occurs or a new activity is to be performed. The safety evaluation will include discussion of different scenarios.		
5	The team selects controls based upon the following hierarchy: (1) hazard elimination/reduction, (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management Systems Operations					WPC-3, #1 and 2		
6	The team ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction). **(This criteria addresses potential loss of safety function during D&D and may not be applicable to all work activities.)**	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations					WPC-3, #1 and 2		
7	The team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.						Due to the Technical Safety Requirements (TSR's) applicable to the yards, a USQD is performed if a change of condition occurs or a new activity is to be performed. The safety evaluation will include discussion of effect on other operations.		

ATTACHMENT 1
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of UF_6 Cylinder Storage Yards Operations

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
WPC-5 Performance Objective: Work Planning and Control Process									
1	The work scope and associated boundaries are clearly defined.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations					Procedures are an integral part of the work control process for cylinder storage yard operations. Both sites are upgrading all yard specific procedures as part of the transition of the yards to UDS control.	Active involvement of cylinder yard crews in the review of the operating procedures.	
2	The work control document is written in a clear, concise, and worker friendly manner.						Active involvement of cylinder yard crews in the review of the operating procedures.		
3	The work steps for activities are properly sequenced.						Active involvement of cylinder yard crews in the review of the operating procedures.		
4	Work control documents adequately incorporate technical and administrative requirements (e.g., contract, safety basis, regulatory, consensus codes, etc.).	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations					A detailed review of work control documents and flowdown of requirements was performed as part of the Implementation Verification Review of the Technical Specification Requirements pertaining to the yards		
5	Work hazard controls identified in the JHA have been incorporated into the work control document.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations					A detailed review of work control documents and flowdown of requirements was performed as part of the Implementation Verification Review of the Technical Specification Requirements pertaining to the yards		

ATTACHMENT 1
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of UF_6 Cylinder Storage Yards Operations

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
6	The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.						Procedure process includes use of "Caution" boxes to emphasize where the hazard is encountered		
WPC-6 Performance Objective: Work Planning and Control Oversight									
1	First line supervisors and workers are knowledgeable of their work control documents and meet all applicable training and medical requirements.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations					WPC-3, #1 & 3		
2	Operations work control authority reviews and authorizes all work control documents prior to commencement of work. He/she is required to evaluate all work at a facility and/or site to ensure work activities of one scope do not adversely affect the safe work of another.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations					WPC-4, #1		
3	Effective pre-evolutionary briefings are performed.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations					WPC-4, #1		
4	First line supervisors and workers follow work control document instructions as written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their change control process.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations UDS-QAP-022 Stop Work					There have been incidents at both sites that demonstrate that workers are following the prescribed process and when an off-normal condition occurs, it is recognized and reported.		

ATTACHMENT 1
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of UF_6 Cylinder Storage Yards Operations

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
5	First line supervisors and workers understand their stop work authority.	UDS-GFP-108, Rev.1, Work Control Process DUF6-UDS-PLN-040 Integrated Safety Management System - Operations UDS-QAP-022 Stop Work					There have been incidents at both sites that demonstrate that workers are following the prescribed process and when an off-normal condition occurs, it is recognized and reported.		
6	Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.						The cylinder Yard supervisors maintain log books that document status, etc.		
7	Lessons learned/feedback is incorporated into active and in-development work control documents in a timely manner.						Lessons lamed and feedback are part of the daily crew briefings and also a "standing orders" document is utilized to convey important information		
WPC-7 Performance Objective: Work Planning and Control Oversight									
1	The contractor has scheduled and performed independent and self-assessment of the work planning and control process. These activities are of sufficient scope, detail and quantity that Management can ascertain the status of the work planning and control process.						One independent assessment has been performed at each site since transition of UF6 Cylinder Storage Yards to UDS on 6/27/05. Management assessments have also been performed ar both sites.		
2	Line managers periodically perform surveillances, which include the observations of job walkdowns and JHA walk downs/meetings, pre-evolution briefings, and work performed to work control documents.						Supervisors and facility managers are very involved in the operations and perform walkdowns, conduct daily briefings, etc.		

ATTACHMENT 1
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of UF_6 Cylinder Storage Yards Operations

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
3	Line managers periodically review in-development and approved work control documents.						Line managers routinely review all work control documents		
4	The contractor tracks and trends the results of oversight activities performed on the work planning and control process and takes appropriate actions.	UDS-QAP-019 Trend Analysis					Limited operating experience (cylinder yard operations commenced 6/05 at both Paducah and Portsmouth) and the statistically insignificant number of events that have occurred to date precludes performing trend analysis.	Trending program has not been implemented	

LEGEND:	A: Acceptable - Fully meets requirements
	O: Observation - Partially Met; a condition if left unchanged may lead to a finding
	F: Finding - Not met; a direct deviation from a written requirement
	N/A criteria not applicable to UDS contract

ATTACHMENT 2
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of Construction Activities

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
WPC-3									
1	Contractor work control manual(s)/procedure(s) for initiating, analyzing, and developing work control documents, including job hazard analysis, is approved and implemented.	UDS-VRD-101 Work Coordination and Hazard Control DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase UDS-CMP-013 Construction Safety					Processes have been implemented for initiating, analyzing and developing work control documents. Construction subcontractors perform in accordance with the specific requirements for the work being performed based on risk, complexity, etc. Detailed schedules are reviewed in weekly management meetings.	Thorough review by ES&H representatives and construction line management of AHA's and other critical documents.	
2	The contractor's work control process establishes the level of review and approval for different types of work control documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work activity.	UDS-VRD-101 Work Coordination and Hazard Control DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase UDS-CMP-013 Construction Safety					Activity Hazard Analysis are required to be performed for all activities. A rigorous review process is in practice to ensure AHA's have the proper level of detail and appropriate analysis for the activity to be performed.		

ATTACHMENT 2
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of Construction Activities

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
3	The contractor has established work planning/control requirements for all personnel performing work at the site, including subcontractors. Affected personnel are trained on these requirements.	UDS-VRD-101 Work Coordination and Hazard Control DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase UDS-CMP-013 Construction Safety					See WPC-3, #1		
4	The contractor's work control manual/procedure includes turnover requirements when line management and/or first line supervisor responsibilities are transferred.	UDS-VRD-101 Work Coordination and Hazard Control DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase UDS-CMP-013 Construction Safety					See WPC-3, #1		

ATTACHMENT 2
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of Construction Activities

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
5	The contractor's work control manual/procedure includes a process for lessons learned/feedback during the execution of work control activities, including incorporation of lessons learned into active and in-development work control documents.	UDS-VRD-101 Work Coordination and Hazard Control DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase UDS-CMP-013 Construction Safety					See WPC-3, #1		
6	The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or work control manual/procedure.	UDS-VRD-101 Work Coordination and Hazard Control DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase UDS-CMP-013 Construction Safety					See WPC-3, #1		
7	The qualification requirements for Work Control Managers and Planners are established.		X				Functions are collateral duties for construction management and subcontractors. Detailed schedules are issued by support personnel		
8	Records that document the successful completion and qualification of Work Control Mangers and Planners are retained and auditable.		X				No formal training has been identified.		

ATTACHMENT 2
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of Construction Activities

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
WPC-4 Performance Objective: Work Planning and Control Activity									
1	Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that the boundaries are understood.	UDS-VRD-101 Work Coordination and Hazard Control DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase UDS-CMP-013 Construction Safety		[redacted]			A rigorous review process is in practice to ensure AHA's have the proper level of detail and appropriate analysis for the activity to be performed. Additionally, personnel participate in walk downs of areas and solicit input from workers on the method and means to accomplish work. UDS participates in shared site meetings at both Portsmouth and Paducah to ensure the other site prime contractors understand ongoing and planned construction activities so that possible impacts may be discussed. UDS is also apprised of the activities of the various site organizations so that UDS can access any impact on UDS activities.	Plan-of-the-Day crew meetings, stand up meetings and shared site meetings	
2	A team comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health subject matter experts, etc.) is selected by line management to participate in the development of the work control document.			[redacted]			Regular meetings such as Plan-of-the Day offer a forum for ensuring that the scope of the work is understood and interfaces identified. Construction management and ES&H conduct weekly coordination meetings so that each subcontractor is aware of other contractors' activities, discuss issues, etc		

ATTACHMENT 2
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of Construction Activities

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
3	The team performs effective walkdowns and Job Hazard Analysis in order to develop work steps/techniques and identify possible hazards and their associated controls.	UDS-VRD-101 Work Coordination and Hazard Control DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase UDS-CMP-013 Construction Safety					WPC-4, #1		
4	The team considers potential upset conditions, accidents, and "what if" scenarios and their consequences during the walkdowns and JHA.	DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase UDS-CMP-013 Construction Safety					WPC-4, #1		
5	The team selects controls based upon the following hierarchy: (1) hazard elimination/reduction, (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.	DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase					WPC-4, #1		

ATTACHMENT 2
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of Construction Activities

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
6	The team ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction). **(This criteria addresses potential loss of safety function during D&D and may not be applicable to all work activities.)**	DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase					WPC-4, #1		
7	The team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.	DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase					WPC-4, #1		
WPC-5 Performance Objective: Work Planning and Control Process									
1	The work scope and associated boundaries are clearly defined.	UDS-VRD-101 Work Coordination and Hazard Control DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase UDS-CMP-013 Construction Safety UDS-CMP-005 Constructibility Reviews					WPC-4, #1 & 2		

ATTACHMENT 2
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of Construction Activities

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
2	The work control document is written in a clear, concise, and worker friendly manner.	UDS-VRD-101 Work Coordination and Hazard Control DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase UDS-CMP-013 Construction Safety		[redacted]			WPC-3, #2 WPC-4, #1 & 2		
3	The work steps for activities are properly sequenced.	UDS-VRD-101 Work Coordination and Hazard Control DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase UDS-CMP-013 Construction Safety UDS-CMP-005 Constructibility Review UDS-CMP-011, 0 Pre-Construction Meeting Minutes		[redacted]			WPC-3, #2 WPC-4, #1 & 2		

ATTACHMENT 2
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of Construction Activities –

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
4	Work control documents adequately incorporate technical and administrative requirements (e.g., contract, safety basis, regulatory, consensus codes, etc.).	UDS-VRD-101 Work Coordination and Hazard Control DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase UDS-CMP-013 Construction Safety UDS-CMP-005 Constructibility Review UDS-CMP-011, 0 Pre-Construction Meeting Minutes					WPC-3, #2 WPC-4, #1 & 2		
5	Work hazard controls identified in the JHA have been incorporated into the work control document.	UDS-VRD-101 Work Coordination and Hazard Control DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase UDS-CMP-013 Construction Safety UDS-CMP-005 Constructibility Review					WPC-3, #2 WPC-4, #1 & 2		

ATTACHMENT 2
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of Construction Activities

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
6	The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.	UDS-VRD-101 Work Coordination and Hazard Control DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase UDS-CMP-013 Construction Safety					WPC-3, #2		
WPC-6 Performance Objective: Work Planning and Control Oversight									
1	First line supervisors and workers are knowledgeable of their work control documents and meet all applicable training and medical requirements.						An occurrence at Portsmouth in November 2004, identified weaknesses in development of AHA's. As a result a more rigorous review process has been implemented and appears to be working well at both sites.		
2	Operations work control authority reviews and authorizes all work control documents prior to commencement of work. He/she is required to evaluate all work at a facility and/or site to ensure work activities of one scope do not adversely affect the safe work of another.						Same as above		
3	Effective pre-evolutionary briefings are performed.						WPC-4, #2		

ATTACHMENT 2
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of Construction Activities

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
4	First line supervisors and workers follow work control document instructions as written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their change control process.						There have been incidents at both sites that demonstrate that workers are following the prescribed process and when an off-normal condition occurs, it is recognized and reported.		
5	First line supervisors and workers understand their stop work authority.	UDS-VRD-104 Suspension of Work					Same as above		
6	Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.	UDS-CMP-021, Rev. 0 Daily Contractor's Report UDS-CMP-021, Rev. 0 Daily Construction Supervisor's Report					Daily reports provide a method to keep all parties assessed of work status, issues, etc.		
7	Lessons learned/feedback is incorporated into active and in-development work control documents in a timely manner.	UDS-CMP-021, Rev. 0 Daily Contractor's Report UDS-CMP-021, Rev. 0 Daily Construction Supervisor's Report					Same as above		
WPC-7 Performance Objective: Work Planning and Control Oversight									
1	The contractor has scheduled and performed independent and self-assessment of the work planning and control process. These activities are of sufficient scope, detail and quantity that Management can ascertain the status of the work planning and control process.						Frequent safety surveillances and quality assessments of construction activities at both sites. One third party review was conducted in 1/05.		

ATTACHMENT 2
UDS Lines of Inquiry (LOIs)
Work Planning and Work Control Assessment
of Construction Activities

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
2	Line managers periodically perform surveillances, which include the observations of job walkdowns and JHA walk downs/meetings, pre-evolution briefings, and work performed to work control documents.						Construction management and ES&H representatives perform walkdowns, conduct daily briefings, etc.		
3	Line managers periodically review in-development and approved work control documents.						WPC-3, #2		
4	The contractor tracks and trends the results of oversight activities performed on the work planning and control process and takes appropriate actions.	UDS-QAP-019 Trend Analysis					Limited operating experience (construction commenced 7/04 at both Paducah and Portsmouth) and the statistically insignificant number of events that have occurred to date precludes performing trend analysis.		Trending program has not been implemented

LEGEND:	A: Acceptable - Fully meets requirements								
	O: Observation - Partially Met; a condition if left unchanged may lead to a finding								
	F: Finding - Not met; a direct deviation from a written requirement								
	N/A criteria not applicable to UDS contract								

SEPARATION

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United States Government | **Department of Energy**
Portsmouth/Paducah Project Office

memorandum

DATE: JAN 13 2006

REPLY TO ATTN OF: PPPO:Saluke PPPO-03-077-06

SUBJECT: **ASSESSMENTS AND DRAFT SITE ACTION PLANS FOR DEFENSE NUCLEAR SAFETY BOARD RECOMMENDATION 2004-1, COMMITMENTS 23 AND 25**

TO: Dae Y. Chung, Director, Licensing Office, Environmental Cleanup and Acceleration Office of Environmental Management

Attached are the assessments reports for Defense Nuclear Safety Board Recommendation 2001-4, Commitments 23 and 25 as performed by the Portsmouth/Paducah Project Office (PPPO) and its contractors at the Paducah and Portsmouth sites.

A draft site action plan has been prepared for each commitment with individual sections for the PPPO and each contractor.

Electronic copies of the attached documents have been forwarded to Tom Evans (EM-3.2) and Terry Kreitz (EM-22).

If you have questions, please contact John Saluke of my staff at (740) 897-3871.

William E. Murphie
Manager
Portsmouth/Paducah Project Office

Attachment

cc w/attachment:
R. Blumenfeld, PPPO/LEX
J. Zimmerman, PPPO/LEX

Results of Assessment of the Effectiveness of Feedback & Improvement Processes at Portsmouth Gaseous Diffusion Plant

December 29, 2005

LATA/Parallax Portsmouth, LLC (LPP) has only been a part of the Portsmouth team for six months. As such they are in a growing, changing mode. Their main Feedback and Improvement (F&I) program foundation consists of adopted parts of the previous contractor's program. As the program evolves and new procedures and plans are put into place, a better, more responsive program is developing.

Performance Objective 1: Contractor Program Documentation: Contractor Line Management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.

Evaluation: Performance Objective fully met.

Results:

LPP recognizes the importance of the F&I program for a safe and efficient work environment. However, with a very short transition period, LPP built their feedback and improvement process by adopting those program pieces from the previous prime contractor and subcontractors that worked well and further enhanced the process. The foundation for the program is the site Quality Assurance Program Plan and the implementing procedures that define the feedback and improvement process. LPP adopted the previous prime contractor's QA Program Plan for use as an interim plan until LPP's QA Program Plan is developed and approved. Several QA procedures[1] encompassing the F&I program have recently completed the total approval process and are now in use. Other procedures were adopted by a cover sheet process and are in use until they can be converted to LPP procedures.

In addition to those just listed above, other documents and programs supporting the LPP F&I program include the Fiscal Year Oversight Plan, the Price-Anderson Amendments Act (PAAA) program, the safety and health program, work control process, and the LPP employee improvement four color card program. The Oversight Plan is developed by the QA organization annually. The plan has a calendar charting independent assessments, management assessments, surveillances and walkthroughs. The Plan includes a three year look-ahead calendar for independent assessments. LPP oversight includes tracking corrective actions to completion associated with the identified problems and issues.

PAAA screening and Noncompliance Tracking System (NTS) reporting are part of the QA program. Each problem report and finding from a management assessment, an independent assessment, surveillance or walkthroughs undergoes screening for PAAA impact. The PAAA Coordinator does the initial screening to determine PAAA impact. If further evaluation for PAAA significance is required, experts from other disciplines perform the significance evaluation for issues under their expertise or management. All screenings and evaluations are documented. When corrective action is required, the issues and the corrective actions are entered into the Issues/Corrective Action Tracking System (I/CATS) database. Thus far, no NTS-reportable issues have occurred. The procedure for PAAA[2] addresses the process for placing information into the NTS.

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[1] LPP-PQ-1210, *Issues Management Program*, LPP-PQ-1220, *Occurrence Reporting*, LPP-PQ-1240, *Lessons Learned Program*, LPP-PQ-1401, *Independent Assessment*, LPP-PQ-1410, *Problem Reporting*, LPP-PQ-1420, *Management Assessment*, and LPP-PQ-1610, *Price-Anderson Amendments Act (PAAA) Noncompliance Determination and Reporting*

[2] LPP-PQ-1610, *Price-Anderson Amendments Act (PAAA) Noncompliance Determination and Reporting*

Environmental Safety and Health (ES&H) issues such as near misses and injuries are captured in the Problem Reporting system. Tracking and trending is performed by ES&H and QA. Each project or task is walked down and reviewed for environmental, safety, and health issues. Steps to protect workers are documented in the Activity Hazard Analysis (AHA). The AHA's become part of the daily and pre-job briefing and are made a part of the work package. Changes are made to the AHA as necessary to address newly recognized issues. Many of these newly recognized issues arise as a result of feedback from personnel.

The LPP work control program is currently in significant review and revision. One of the areas undergoing review for revision is the F&I opportunities within the work control system. The current program places lessons learned appropriate to the work tasks into the work package. The lessons learned are primarily derived from the DOE web site. Also, each job has documented pre-job and post-job briefings forms that are used for feedback. The feedback is documented for inclusion in the work package for use in the new work packages. One goal of the work control process revision is to make better use of F&I information.

Interactions and communications within the site and with other DOE sites are primarily through the lessons learned program. In addition to the lessons learned used as a part of work packages, pertinent lessons learned are presented each week in a morning Plan-of-the-Day meeting.

LPP makes every attempt to integrate feedback and improvement ideas into all their work processes. Feedback from post-job meetings is implemented into new work packages. The Uranium Disposition project recently received safety and efficiency suggestions. These suggestions were immediately put in place. Lessons learned are not just for negative events. Positive actions are also documented in lessons learned. Managers perform a Management-by-Walk-Around (MBWA) on a periodic basis. A check list containing a large area for feedback and comments is employed during the MBWA. Improvements for the job task issues or comments are tracked in a database for follow-up.

LPP has instituted an Employee Improvement Program. The program utilizes a suggestion box concept. A series of colored cards are used to indicate the type of suggestion, e.g. safety, financial process improvement, and procedural. Suggestions can be made anonymously or signed. Each suggestion is assigned to a champion and is tracked either to completion or an explanation as to why it can not be used. In either case, when known, the person making the suggestion is apprised of the outcome and concurrence for closure. Two listings of the suggestions are posted in high traffic areas and are available to all. One listing is the listing of open items/suggestions, and the other with all the suggestions open and closed.

LPP does an acceptable job of obtaining feedback and implementing improvements. They are weak in the area of reporting how the feedback was integrated into work packages and tasks. Lessons learned are reviewed and considered for work package incorporation, but what and when the ideas were used is not documented. The database for work package does provide fields for feedback information but is not currently being fully utilized to its full potential. LPP is also weak in the positive lessons learned area. A stronger effort for the development of positive lessons learned should be incorporated into the project management process.

Judgment of Need:

1. Better documentation on how feedback is implemented into actual work packages and job tasks.
2. Better use of work control software for feedback tracking.
3. Better development of positive lessons learned.

Noteworthy Practices: None

Performance Objective 2: Contractor Program Implementation

2.1 Assessments & Performance Indicators: Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information

on performance and this information is effectively used as the basis for informed management decisions to improve performance.

Evaluation: Performance Objective partially met. As soon as trend reporting begins in January as planned, this Performance objective will be fully met.

Results:

LPP's assessment program is detailed in the LPP Fiscal Year Oversight Plan. To produce the Oversight Plan, QA works with the various disciplines to determine what type and numbers of assessment, surveillance, and walkthroughs are needed to meet regulatory and contractual requirements. The Oversight Plan is then developed using the suggested and required numbers. Findings from the surveillances and assessments along with the corrective action items are placed into I/CATS. Follow-up statements of open items and due dates are periodically sent to the issue owners. The MBWA also documents potential problem areas/issues. These are also tracked to completion. Surveillances, assessments, and MBWA all review processes to capture both the qualitative and quantitative information.

Since the LPP contract only started June 27, 2005, LPP has not yet accumulated enough information to trend properly. A management decision was made soon after the start of the contract to collect data for trending as it became available and to initiate the trending and charting in January 2006; however, this does not mean LLP is not looking for trends. Recently, three incidents involving waste container movement were noted as being similar by both management and the PAAA coordinator. A management meeting was called to address where possible changes in procedures were needed to correct what appeared to be the start of a negative trend. Forklift operations of the tine locations used for waste container movement were changed to help in the prevention of further incidents of this type.

Judgment of Need: None

Noteworthy Practices: None

2.2 **Operating Experience:** The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.

Evaluation: Performance Objective partially met. However, LPP has an effective program for communicating effective practices and lessons learned.

Results:

Lessons learned are researched and shared with personnel as part of the work packages contents and daily and pre-job briefings. Feedback is requested at all briefings. The post-job briefing is held specifically to review the project and to determine ways the work tasks could be done safer and more efficiently. These suggestions are then incorporated into future projects or incorporated into procedures where appropriate. LPP is very good at documenting the negative lessons learned, but is not as strong in the development of positive lessons learned. The development of a lesson learned is incorporated as a part of the occurrence reporting and corrective action process. The lessons learned are also entered into the DOE lessons learned system. LPP management receives an email each week with a lessons learned attachment. The exception is a lesson learned that requires immediate attention and signoff by all personnel; these are distributed when received. Also, pertinent lessons learned received each week are presented to management during a morning Plan-of-the-Day meeting.

LPP has done an effective job communicating effective practices and lessons learned to personnel and the incorporation of lessons learned into work packages. One example of a safety issue that arose from feedback is the change in the Lock Out/Tag Out (LOTO) procedure. PORTS is a multi-contractor site. The previous prime contractor's Lock Out/Tag Out procedure varied significantly with a contractor who supplied hourly employees. As

part of the employee improvement plan a suggestion was made to standardize the LO/TO procedure to avoid conflict between contractor personnel. Management agreed that multiple LO/TO procedures were a problem. As a means of avoiding the conflict, another site prime contractor's procedure was adopted instead of the original planned procedure.

Another recent example is the Uranium Disposition group held a walkthrough of the X-326 L-Cage to elicit feedback from personnel from a variety of expertise backgrounds. The comments and suggestions were collected and are in the process of complete documentation and implementation.

An area LPP is weak in is the documentation on how lessons learned from other sites were actually applied to projects at PORTS. After a significant discussion between LPP personnel, no examples of application of other sites' lessons learned could be found. Application of other sites' best management practices have been applied at LPP, but not through a lessons learned program. LPP was able to hire some of the management from other sites. These managers brought with them a wealth of knowledge on best management practices from their previous positions. As LPP gains more experience, various programs will be reviewed and changed to be more effective. Some of the ideas for change will come from within LPP; some will be from other sites' ideas through the lessons learned system.

LPP has not yet fully developed their intranet web page system with links to appropriate web sites and pages. The system is being developed. However, all personnel have the opportunity to make suggestions for web page content. One area that will be a part of the system is the linkage to LPP procedures. A suggestion has been made to place a link to the DOE lessons learned page on the LPP home page. Lessons learned from other DOE sites are obtained through the DOE web system.

Web page development and associated site specific data retrieval should be implemented as soon as possible. Also LPP should review the process of evaluating of lessons learned with a goal to enhance the process of documenting how lessons learned are incorporated.

Judgment of Need:

4. Develop web page with site specific data retrieval.

Noteworthy Practices: None

2.3 Event Reporting: Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.

Evaluation: Performance Objective partially met. However, LPP has an effective occurrence reporting and issues management system.

Results:

LPP QA has a procedure[3] driven incident/event reporting program that includes Problem Reporting, notification of the Plant Shift Superintendent for emergency response, conducting critiques, and investigation as needed, and root cause/causal analysis. Reportable events are tracked through the Occurrence Reporting and Processing System (ORPS). The root cause and causal analysis results are used to develop a corrective action plan. The corrective action plans are tracked both in ORPS and in I/CATS. The purpose of the process is to determine causal contributors and ways to become safer and more effective. The attribution of blame is not a part of the program. All LPP occupational injuries and illnesses are reported through the QA problem reporting program.

[3] LPP-PQ-1210, *Issues Management Program*, LPP-PQ-1220, *Occurrence Reporting*, LPP-PQ-1230, *Causal Analysis*, LPP-PQ-1460, *Event Investigation and Critiques*, and LPP-PQ-1410, *Problem Reporting*

LPP's problem and occurrence reporting program includes a review for lessons learned[4] and application of feedback for improvement. A recent example of this is a problem concerning forklift operations. Forklift operations were scrutinized. Feedback was elicited for a safer more efficient method of forklift operation to prevent a recurrence of the event. Pallet positioning on forklift tines was adjusted to prevent pallet breakage and for drum control.

As noted above, LPP does review lessons learned from other sites and they are made available to all personnel. However, documentation of the lessons learned and their effect on safety and efficiency has not been adequately captured and documented through the LPP feedback process. In addition, the recent startup of the LPP contract length does not yet provide sufficient data for the determination of impact and efficiency of lessons learned application.

Judgment of Need:

1. Better documentation on how feedback is implemented into actual work packages and job tasks.

.**Noteworthy Practices:** None

2.4 Issues Management: The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.

Evaluation: Performance Objective met. LPP will be fully implementing this Performance Objective in January 2006.

LPP does have an incident/event reporting program that includes tracking of corrective actions to completion. The information for performance evaluation of the incident/event reporting and corrective action is being collected. Formal development of metric charting is set to start in January 2006. LPP's short time in the contract has not yet developed a sufficient amount of data to produce meaningful metric charting.

As noted above, LPP has been collecting performance and effectiveness data but formal metric charting and trend analysis has not been started. However, since the LPP contract has been in effect only a short time, events can easily be compared to the few already evaluated. LPP did note a potential negative trend with forklift operations. Recently, three incidents occurred involving forklifts. Each incident occurred under different circumstances, but all were tied together by forklift operations. The trend was reported in ORPS as a management concern; corrective actions have been developed and are being tracked to closure.

Judgment of Need: None

Noteworthy Practices: None

[4] LPP-PQ-1240, *Lessons Learned Program*

DNFSB 2004-1, Commitment 25
Assessment for the Portsmouth Paducah Project Office

Final Report

Performed by
John Saluke
DOE/PPPO/PORTS

Department of Energy
Office of Environmental Management

December 2005

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Noteworthy Practice

1. Frequent coordination established by the DUF6 Integrated Project Team to monitor and maintain the effectiveness of its oversight activities.

1.0 INTRODUCTION/BACKGROUND

The PPPO received direction to conduct an assessment of it's Feedback and Improvement processes and oversight activities as part of the DOE Implementation Plan for DNFSB 2004-1, commitment 25. This direction was received by memoranda in November 2005.

This report documents the results of an assessment conducted as a combination of field work and procedure review associated with feedback and improvement oversight performance. The majority of this report is based on objective evidence retained in the PPPO records where observations from meetings, walk-throughs, surveillances and assessments are recorded. In addition, recent IVRs provided examples of contractor feedback and improvement activities.

2.0 PURPOSE

The purpose of the assessment is to meet requirements stated in memoranda from DOE EM senior managers and to provide objective information related to the status of PPPO feedback and improvement oversight activities.

3.0 SCOPE

The scope of this assessment was to evaluate PPPO procedures and practices against the CRADs provided in the DOE EM memoranda for feedback and improvement. By reviewing supporting documents, conclusions as to the adequacy of PPPO's oversight of feedback and improvement activities were developed.

4.0 OVERALL APPROACH

The approach method included review of PPPO procedures and practices with respect to its oversight activities for the contractors at the PORTS site. Specifically, the DUF6 project procedures and practices were compared with PPPO procedures and practices for the remainder of the site. Based on assessment activities, PPPO was able to draw conclusions and provide input required by the DOE EM memoranda.

5.0 DISCUSSION OF AREAS REVIEWED

This section provides a summary of the assessment results. More detailed summaries for each objective reviewed are contained in the Assessment Forms in Appendix A.

PPPO has demonstrated partial compliance with the Performance Objective F&I-3, DOE Line Management Oversight.

The DUF6 project reflects the strongest oversight activities in the PPPO organization. The DUF6 Integrated Project Team appears to be well organized and well qualified, has established procedures and plans, uses frequent team communications, plans and conducts its scheduled oversight activities. The team brings additional resources to the PORTS and PAD sites that are not available to other projects at the sites.

6.0 CONCLUSIONS/RECOMMENDATION

The assessment determined that the PPPO is performing basic elements of feedback and improvement for the DUF6 project, but is lacking a formal, integrated feedback and improvement oversight approach for other portions of the PPPO project activities.

The DUF6 project reflects the strongest oversight activities in the PPPO organization. The DUF6 Integrated Project Team appears to be well organized and well qualified, has established procedures and plans, uses frequent team communications to integrate activities, to discuss contractor performance and to provide feedback to the contrcator, plans and conducts its scheduled oversight activities. The team brings additional resources to the PORTS and PAD sites that are not available to other projects at the sites.

Other aspects of the PPPO project have a number of weaknesses – PPPO procedures have not been completed and/or updated, oversight schedules are not integrated and are incomplete, oversight is provided by a limited number of staff and support personnel, and some oversight roles and responsibilities are not clearly identified. PPPO does participate in some meetings with contractor safety personnel where performance results are discussed and operational information is shared.

The assessment determined the following:

Performance Objective F&I-3: DOE Line Management Oversight

Judgment of Needs

1. Update and complete PPPO oversight procedures and plans.
2. Provide training, unless exempted by previous experience and knowledge, to PPPO staff designated to conduct work planning and work control oversight. Training should include surveillance/assessment techniques and the methods for documenting surveillance/assessment results.
3. Prepare and implement oversight schedules based on hazards, risks and available resources.
4. Revise existing PPPO requirements to clearly identify PPPO staff roles and responsibilities to conduct oversight of all stages of the Contractors' work planning and work control process on a routine basis.
5. Establish routine performance communication within PPPO and to contractors.

Noteworthy Practice

1. Frequent coordination established by the DUF6 Integrated Project Team to monitor and maintain the effectiveness of its oversight activities.

APPENDIX A
Assessment Forms

Performance Objective F&I–3: DOE Line Management Oversight

DOE line management have established and implemented effective oversight processes that evaluate the adequacy and effectiveness of contractor assurance systems and DOE oversight processes.

Evaluation: The performance objective is partially met.

Criteria:

1. DOE line management has established a baseline line management oversight program that ensures that DOE line management maintains sufficient knowledge of site and contractor activities to make informed decisions concerning hazards, risks and resource allocation, provide direction to contractors, and evaluate contractor performance.

   Results: The oversight program is established by PPPO line management in PPPO-M-413.1-1, Portsmouth/Paducah Project Office Management Plan and PPPO-M-414.1, Quality Assurance Program Plan.

   The Management Plan indicates the PPPO oversight activities are intended to monitor contractors' safety performance and verify the contractors' management systems are effectively controlling conduct of operations and implementing integrated safety management objectives, principles and functions.

   The Quality Plan indicates further that the independent PPPO assessments are intended to evaluate the performance of work processes required to achieve the mission and goals of the organization and to provide objective feedback to senior management useful in confirming acceptable performance and identifying improvement opportunities.

   The Government Oversight Plan for the Depleted Uranium Hexafluoride Conversion Project (dated February 2005) states that all oversight activities are focused on risk reduction and work and timely execution of work in a cost effective manner. An oversight plan for other elements of the PPPO project has not been finalized.

   The personnel typically performing contractor day-to-day oversight are the Facility Representatives and some of the Navarro staff. This small group of personnel are frequently tasked to perform the formal assessments and special reviews. Additional PPPO resources at the sites could be effectively engaged in the day-to-day oversight efforts, surveillances and assessments with some planning, training and/or mentoring.

   Noteworthy Practices: None

   Judgment of Need:

   1. Complete the preparation and implementation of the oversight plans associated with the PPPO contracts.

   2. Strengthen the current PPPO resources to increase the site oversight capabilities of the contractors' work activities.

Performance Objective F&I–3: DOE Line Management Oversight

2. DOE line oversight program includes assessments, operational awareness activities, performance monitoring and improvement, and assessment of contractor assurance systems. Documented program plans have been established that define oversight program activities and annual schedules of planned assessments and focus areas for operational awareness. Operational awareness activities must be documented either individually or in periodic (e.g., weekly or monthly) summaries. Deficiencies in programs or performance identified during operational awareness activities are communicated to the contractor for resolution through a structured issues management process.

   Results: The PPPO oversight program includes a variety of activities, including the following which evaluate the contractors' assurance systems, and monitor performance and improvement:

   - Performing PPPO readiness assessments and observing contractors' readiness activities.
   - Performing PPPO independent verification reviews to verify effectiveness of implementation activities for authorization basis documents.
   - Performing PPPO assessments, surveillances and walk through inspections.
   - Participation in day-to-day contractor activities, such as, plan-of-the-day meetings, pre-job meetings, field observations of contractors' work activities, review of Fact Sheets/Condition Reports, the contractors' critiques and management reviews conducted to investigate events, project status meetings, etc.

   The PPPO Quality Plan indicates requires the establishment of an Internal Independent Assessment schedule on an annual basis and to be revised quarterly. A schedule has been drafted but not formally issued. The Quality Plan requires that each of the 10 quality criteria be scheduled for assessment over a two-year period. However, no mention is made of integrating other significant oversight activities into the schedule, such as, reviews of contractor assurance systems, readiness reviews, authorization basis verifications, ISMS and EMS verification activities, etc. Surveillance planning is not formally coordinated and integrated, e.g., the Navarro scheduled surveillances, the Facility Specific Assessment Guide surveillances performed by Facility Representatives, and special focus areas identified by PPPO and/or HQ.

   Oversight activities for the DUF6 project are conducted by the PPPO Integrated Project Team. The team meets weekly by telecom to discuss the status of oversight activities, results of the reviews, issues that have surfaced and planned activities. The Government Oversight Plan allows the use of a range of assessment techniques tailored for the level of complexity and the overall importance to the project. This approach seems to be very effective in providing an integrated and systematic approach for project oversight.

   Operational awareness activities (management walkthroughs) are not performed on a regular basis. The walkthrough procedure identified in the PPPO Quality Plan has not been updated. PPPO and support service contractor personnel do participate in safety meetings with contractor safety staff and managers to share information on performance and areas of improvement. Some of these communication activities are still in the early stages of development.

Performance Objective F&I–3: DOE Line Management Oversight

Noteworthy Practices: Frequent coordination established by the DUF6 Integrated Project Team to monitor and maintain the effectiveness of its oversight activities.

Judgment of Need:

1. Review and update the walkthrough procedures identified in the PPPO Quality Plan.
3. Prepare and implement integrated assessment, surveillance and management walkthrough schedules for the sites.

3. DOE line management monitors contractor performance and assesses whether performance expectations are met; that contractors are assessing site activities adequately; self-identifying deficiencies; and taking timely and effective corrective actions. Responsibilities for line oversight and self-assessment are assigned and managers, supervisors, and workers are held accountable for performance assurance activities. Deficiencies must be brought to the attention of contractor management and addressed in a timely manner.

Results: The PPPO oversight program includes a variety of activities, including the following which evaluate the contractors' assurance systems, and monitor performance and improvement:

Performing PPPO readiness assessments and observing contractors' readiness activities.

Performing PPPO independent verification reviews to verify effectiveness of implementation activities for authorization basis documents.

Performing PPPO assessments, surveillances and walk through inspections.

Participation in day-to-day contractor activities, such as, plan-of-the-day meetings, pre-job meetings, field observations of contractors' work activities, review of Fact Sheets/Condition Reports, the contractors' critiques and management reviews conducted to investigate events, project status meetings, etc.

The readiness assessments and independent verification reviews typically evaluate the effectiveness of the contractors' oversight program with respect to self- identification of deficiencies, timeliness and effectiveness of the corrective actions.

The PPPO Quality Plan indicates requires the establishment of an Internal Independent Assessment schedule on an annual basis and to be revised quarterly. The Internal Independent Assessment procedure requires the documentation and issuance of an assessment report.

Oversight activities for the DUF6 project are conducted by the PPPO Integrated Project Team. PMP-5-05, DUF6 Assessments and Audits, Revision 0 requires documenting deficiencies and submitting them to the contractor within 30 days of completion of the assessment/audit.

Noteworthy Practice: None

Judgment of Need: None

4. DOE line management requires that findings must be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans.

   Results:
   The PPPO Quality Plan indicates requires the use of PORTS-QI-303, Corrective Action Closeout Program when verifying corrective actions. The corrective action procedure is an interim document that has not been updated to reflect the PPPO organizational needs.

   The DUF6 project corrective actions through PMP-5-04, Corrective Action Reports for the DUF6 Project, Revision 0. The procedure requires PPPO personnel to evaluate the adequacy of the proposed corrective actions to ensure the action addresses the deficiency. The procedure also indicates that a corrective action is not closed when the actions are unacceptable, incomplete, or cannot be verified.

   Noteworthy Practice: None

   Judgment of Need:
   1. Review and update the Corrective Action Closure Program procedures identified in the PPPO Quality Plan.

3. DOE line management regularly assesses the effectiveness of contractor issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback). DOE line management must also evaluate contractor processes for communicating information, including dissenting opinions, up the management chain.

   Occassionally, PPPO has evaluated the corrective action process, lessons learned process and other feedback mechanisms on an informal basis. These feedback processes will need to be considered in the formal schedules of assessments and surveillances.

   Noteworthy Practice: None

   Judgment of Need:
   3. Incorporate oversight of the feedback assurance programs into the integrated assessment and surveillance schedules for the sites.

6. DOE line management must verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE assessments or reviews are closed, and requires that deficiencies are analyzed both individually and collectively to identify causes and prevent recurrences.

Results:
The PPPO Quality Plan indicates requires the use of PORTS-QI-303, Corrective Action Closeout Program when verifying corrective actions. The corrective action procedure is an interim document that has not been updated to reflect the PPPO organizational needs.

The DUF6 project corrective actions through PMP-5-04, Corrective Action Reports for the DUF6 Project, Revision 0. The procedure requires PPPO personnel to evaluate the adequacy of the proposed corrective actions to ensure the action addresses the deficiency. The procedure also indicates that a corrective action is not closed when the actions are unacceptable, incomplete, or cannot be verified.

Noteworthy Practice: None

Judgment of Need:
1. Review and update the Corrective Action Closure Program procedures identified in the PPPO Quality Plan.

7. DOE line management has established appropriate criteria for determining the effectiveness of site programs, management systems, and contractor assurance systems, and includes consideration of previous assessment results, effectiveness of corrective actions and self-assessments, and evidence of sustained management support for site programs and management and assurance systems. Review criteria are based on requirements and performance objectives (e.g., laws, regulations, and DOE directives), site-specific procedures/manuals, and other contractually mandated requirements and performance objectives.

Results:
The PPPO Quality Plan indicates requires the use of PORTS-IA-1001, Independent Assessment Program when conducting assessments. This assessment procedure is an interim document that has not been updated to reflect the PPPO organizational needs.

The DUF6 project does have issued PMP-5-05, DUF6 Assessments and Audits, Revision 0. This procedure instructs the assessment team to consider the work activity, the level of effort and risk results of prior assessments, trends, corrective action effectiveness, and results from surveillance activities. The assessment team is required to develop checklist based on applicable quality assurance and technical procedures, regulatory requirements and contractual requirements.

Noteworthy Practice: None

Judgment of Need:
1. Review and update the Independent Assessment Program procedures identified in the PPPO Quality Plan.

Performance Objective F&I–3: DOE Line Management Oversight

8. DOE line management has established and maintained appropriate qualification standards for personnel with oversight responsibilities, and a clear, unambiguous line of authority and responsibility for oversight.

   Results:
   PPPO personnel currently performing oversight of contractors' work activities have received adequate training or were selected based on their prior experience and knowledge. Their level of expertise and experience associated with the work planning/control process appears to be adequate.

   Oversight responsibilities for the Facility Representatives and a few other positions are clearly identified in several documents, such as the PPPO Management Plan, the DUF6 Government Oversight Plan, and the Facility Representative Program Plan (PPPO-1963, Revision 0). However, oversight roles and responsibilities for other positions are not so clearly delineated.

   Noteworthy Practice: None

   Judgment of Need:
   4. Revise existing PPPO requirements to clearly identify PPPO staff roles and responsibilities to conduct oversight of contractors' work activities.

9. Line management periodically reviews established performance measures to ensure performance objectives and criteria are challenging and focused on improving performance in known areas of weakness.

   Results:
   Performance measures are established on an annual basis within the contractor's ISMS programs. The measures are presented to PPPO management during the monthly project briefings. Events which are associated with or which may impact the performance measures are discussed during the weekly the EM call to the field elements.

   Noteworthy Practice: None

   Judgment of Need: None

10. DOE line management has established effective processes for communicating line oversight results and other issues up the DOE line management chain, using a graded approach based on the hazards and risks. Established processes include provisions for communicating and documenting dissenting opinions. Formal structured processes for resolving disputes for oversight findings and other significant issues have been implemented, and include provisions for independent technical reviews for significant findings.

Performance Objective F&I–3: DOE Line Management Oversight

Results:
PPPO oversight results are captured in a database maintained by the PPPO support service contractor. Monthly reports are generated and provided to PPPO management. The current reporting method does not grade the issues based on hazards or risks.

A weekly report is being developed to collect operational information, such as improvements in safety practices, implementation of lessons learned, contractor and DOE stop work actions, interventions and safety stand downs, low level and ORPS events, first aid and injury events, developing issues and status of safety requests from DOE. These reports are intended to be shared amongst the contractors and between the sites to help identify and correct common problems associated with at risk behaviors, to share improved safety practices, and to facilitate effective communications between organizations. A monthly summary will capture the significant issues and trends that appear during the month or in association with additional information from prior months.

The PPPO does not have a specific procedure which identifies a process for communicating and documenting dissenting opinions. However, some procedures do specify an individual responsible to resolve issues. For example, PMP-5-05, DUF6 Assessments and Audits, section 4.3.7 requires the assessment team leader to coordinate resolution of emerging issues. If the Assessment Team Leader was unable to resolve the issue, typically he would pass the issue on the next level of management for resolution.

Judgment of Need:

5. Formalize periodic reporting of operational information to PPPO and contractor staff and management.

11. An effective employee concerns program has been established and implemented in accordance with DOE Directives that encourages the reporting of employee concerns and provides thorough investigations and effective corrective actions and recurrence controls.

Results:
The PPPO Employee Concerns program is identified in PPPO-M-440.1, Federal Employee Occupational Safety & Health Plan. PPPO-M-440.1 does not describe the methods and processes used to implement program requirements as required by DOE O 442.1A, Department of Energy Employee Concerns Program.

The Employee Concerns Program has been used by PACE workers at PORTS regarding potential safety issues in the X-700 facility. PPPO personnel independently reviewed the responses provided by the contractor. Several items were recommended to be re-opened because actions had not been completed or additional actions were required for closure.

Judgment of Need:

1. Update PPPO-M-440.1 to meet the requirements of DOE O 442.1A .

Performance Objective F&I–3: DOE Line Management Oversight

The following PPPO documents are in place for oversight of the DUF6 Conversion Project:

1. Government Oversight Plan for the Depleted Uranium Hexafluoride Conversion Project, February 2005.
2. PMP-5-05, DUF6 Assessments and Audits, Revision 0.
3. PMP-5-03, Construction Inspection and Oversight, Revision 0.
4. PMP-5-06, DUF6 Conversion Project Surveillances, Revision 0.
5. PMP-5-04, Corrective Action Reports for the DUF6 Project, Revision 0.
6. PMP-5-07, Quality Assurance Records, Revision 0.
7. PPPO-M-413.1-1, Portsmouth/Paducah Project Office Management Plan.
8. PPPO-M-414.1, Quality Assurance Program Plan.
9. PPPO-M-440.1, Federal Employee Occupational Safety & Health Plan, Revision 0.
10. PORTS-QI-303, Corrective Action Closeout Program.
11. PORTS-IA-1001, Independent Assessment Program.
12. PPPO-1963, Facility Representative Program Plan, Revision 0.

SST.QA-0003
December 30, 2005

DNFSB 2004-1, Commitment 25
Self-Assessment of SST Feedback & Improvement

Conducted By: ____(approved copy on file)_____
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Executive Summary

This assessment was conducted in response to direction from the Under Secretary for Energy, Science and Environment in his 11/9/05 memorandum "Defense Nuclear Facilities Safety Board Recommendation 2004-1, Integrated Safety Management System Feedback and Improvement". The Criteria and Review Approach Document (CRAD), which accompanied the memorandum, was utilized in the assessment and are reprinted in italics below. Swift & Staley's response to each criterion is summarized below the associated criterion.

The Swift & Staley Team (SST) became a DOE contractor at Paducah Gaseous Diffusion Plant (PGDP) on June 27, 2005. Prior to that time, the company operated as a subcontractor to Bechtel Jacobs Company, LLC (BJC). As a subcontractor, SST was subject to the BJC operational assurance programs. Because of this contractual relationship, BJC's assessment of Feedback & Improvement will include Swift & Staley (as the company was known at that time) up to June 26, 2005. This assessment covers SST programs and activities since that time.

This assessment was conducted by the SST QA Manager, with assistance from various subject matter experts. The assessment resulted in one noteworthy practice, two findings and four observations.

The noteworthy practice concerned the use of external audits to evaluate programs early in their implementation.

The findings concerned:

- Development of specified performance indicators.
- Implementation of the corrective action program.

The four observations concerned:

- Underreporting of minor safety deficiencies.
- Assessments not performed by workers.
- Finalizing the Customer Grade Card performance indicator.
- Definition of the internal lessons learned process.

Overall, the SST feedback and improvement programs are immature, but functional. Work remains to bring the programs into fully implemented status. The findings and observations noted in this assessment will serve to provide direction and focus on this important aspect of the Integrated Safety Management System.

Performance Objective F&I-1: Contractor Program Documentation
Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.

Criteria:
1. A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by contractor management, and forwarded to DOE for review and approval. The program description is reviewed and updated annually and forwarded to DOE for review and approval.

The SST Integrated Safety Management System Plan (SST.ESH-0002), Revision 0 was submitted to DOE on May 26, 2005. This plan includes all aspects of the ISMS program and illustrates how those are incorporated into SST's work processes. DOE review comments are being dispositioned in Revision 1. Currently, SST does not have an approved ISMS Plan.

The SST Quality Assurance Program, (SST.QA-0002) was submitted to the PPPO on June 2, 2005. Neither approval nor comments have been received from the office. Since then, SST adopted BJC's QA Plan (BJC/OR-43) so that an interim plan could be in existence upon assumption of the contract. This interim plan resides in Infrastructure Procedure Manual 5, Procedure 5.1.1.

Key personnel within Swift & Staley are familiar with the ISMS Core Functions and Principles. Current and planned SST programs implement ISMS tenets even though the ISMS Plan is not approved.

ISMS has also teamed with the Integrated Safeguards and Security Management (ISSM) program to provide overall guidance and coordination to work planning and performance.

2. The contractor's assurance system includes assessment activities (self-assessments, management assessments, and internal independent assessments as defined by laws, regulations, and DOE directives such as quality assurance program requirements) and other structured operational awareness activities; incident/event reporting processes, including occupational injury and illness and operational accident investigations; worker feedback mechanisms; issues management; lessons-learned programs; and performance indicators/measures.

Swift & Staley has initiated all these programs to varying degrees and is making progress in building baselines and gaining experience in each of these areas.

References:

- 8 self-assessments, 3 independent audits
- SST Procedure 5.2.1, "SST Integrated Assessment Program"
- SST Integrated Assessment Plan, SST.QA-0002, R0
- FY06 SST Integrated Assessment Schedule, SST-IM-05-0002, Rev 3
- SST Procedure 3.2.5, "Accident/Incident Reporting"

- 9 Event Investigation Reports
- SST Procedure 5.4.1, "Issues Management Program"
- 3 Nonconformance Reports (NCR)
- SST Procedure 5.4.2, "Corrective Action Program"
- Corrective Action Tracking System (CATS) database developed
- Weekly Lessons Learned review
- First Performance Indicator being piloted

3. The contractor's assurance system monitors and evaluates all work performed under their contract, including the work of subcontractors.

Swift & Staley's safety organization is constantly in the field routinely observing ongoing work activities per SST Procedure 3.1.1, "General Safety Requirements". Subcontractors performing work for SST are monitored per SST Procedure 3.2.1, "ES&H Subcontractor Oversight Program." The managers for ES&H, Operations & Maintenance and QA conduct regular management assessments.

4. Contractor assurance system data is formally documented and available to DOE line management. Results of assurance processes are periodically analyzed, compiled, and reported to DOE line management as part of formal contract performance evaluation.

OBSERVATION 1.0-4: Minor deficiencies noted during daily oversight of work activities by the safety organization are not reported. There is no data collection system for the minor deficiencies. The Safety Department monitors and reinforces expected performance and corrects minor deficiencies as they occur, yet these problem areas are not recorded for trends or recurrence.

Major safety deficiencies are reported to the ES&H Manager. These deficiencies are investigated and reported to local DOE using the Event Investigation Report. Receipt Inspection Reports are completed for capital and modified equipment receipt. Unsatisfactory results are reported using the Nonconformance Report Process (SST Procedure 5.1.2).

DOE has not requested an analysis, compilation or report in the six months SST has been under contract.

5. Contractors have established and implemented sufficient processes (e.g., self-assessments, corporate audits, third-party certifications or external reviews, performance indicators) for measuring the effectiveness of the contractor assurance program.

SST has an efficient combination of internal self-assessments, internal management assessments and external audits with which to measure the assurance program.

NOTEWORTHY PRACTICE: SST has completed three external audits in six months in the areas of Radiological Controls and Finance. The use of external audits early in a process or program's lifecycle is a prudent step in early determination of the health of the programs, problem detection and process or program alignment.

Performance indicators have not been developed to the extent needed for this service-oriented organization. Work is in development for a monthly Customer Grade Card (Satisfaction Survey), but this is still in the "pilot" phase. Refer to FINDING 2.1-4 and OBSERVATION 2.1-4.

6. Requirements and formal processes have been established and implemented that ensure personnel responsible for managing and performing assurance activities possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities.

SST Procedure 5.2.1, "SST Integrated Assessment Program", requires the Functional Manager to select the assessor based upon knowledge, competence and ability. The assessor is directed to contact the QA Manager for training opportunities. After evaluating the potential assessor's capabilities, the QA Manager may conduct OJT or recommend training. To date, personnel conducting assessments all have had sufficient experience to forego additional training.

Performance Objective F&I-2: Contractor Program Implementation
2.1 Assessments & Performance Indicators: *Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.*

Criteria:
1. Line management has established and implemented a rigorous assessment program for performing comprehensive evaluations of all functional areas, programs, facilities, and organizational elements, including subcontractors, with a frequency, scope and rigor based on appropriate analysis of risks. The scope and frequency of assessments are defined in site plans and program documents, include assessments of processes and performance-based observation of activities and evaluation of cross-cutting issues and programs, and meet or exceed requirements of applicable DOE directives.

SST has developed the FY06 SST Integrated Assessment Schedule (SST-IM-05-0002, Rev 3) that includes all Functional Areas (except Business Management), ranges from walk-downs to Programmatic Assessments, and includes topics important to the contract. Subject areas were selected by the responsible manager or mandated by upper tier requirements. The schedule was first issued in October, 2005.

OBSERVATION 2.1-1: Because of the nature of SST's workforce, none of the assessments have been conducted by work performers. All assessments have been completed by members of SST management team. This practice excludes a very knowledgeable portion of the workforce from making a contribution to the feedback and improvement process. SST should discuss possible solutions with PACE Union leadership.

2. Rigorous self-assessments are identified, planned, and performed at all levels periodically to determine the effectiveness of policies, requirements, and standards and the implementation status.

SST assessments are a mix of productivity improvement-oriented assessments and compliance-oriented assessments. Both must be present in measured amounts, depending upon the company's past performance. The Integrated Assessment Schedule topics were selected from activities important to the functional area or to the contract.

Completed assessments include:

- C-103 Bldg ES&H Eval (9/21/05)
- Annual Security Self-Assessment (9/30/05)
- ES&H Walkdown Eval (10/5/05)
- ES&H Walkdown, Kevil (10/19/05)
- C-755 ES&H Walkdown Eval (11/3/05)
- Emergency Shelter Walkdowns (11/21/05)
- Risk Assessment for Classified Automated information Systems (12/05)
- Controlled Document Procedure (12/19/05)

3. Appropriate independent internal assessments are identified, planned and performed by contractor organizations or personnel having the authority and independence from line management, to support unbiased evaluations.

Two audits of SST Radiological Control activities have been conducted by a subcontracted Certified Health Physicist with previous experience in program evaluations. The audits include:

- Radiation Protection Program (RPP) Internal Program Audit – Broad Scope – September 2005
- Radiation Protection Program (RPP) Internal Program Audit – Limited Scope – Contamination Control – November 2005

A preliminary financial audit was recently completed by SST's parent company's CPA firm, KEMPER CPA Group, LLP.

SST is scheduled for a Defense Contractor Auditing Agency (DCAA) audit in January 2006.

SST is scheduled for a follow-up financial audit by the KEMPER CPA Group in March 2006.

The QA organization is scheduled to complete the following internal/independent assessments in FY06;

Counterfeit Parts Program
Training and Certification
Annual Independent QA Audit
Self-Assessment Program Review

4. Line managers have established programs and processes to routinely identify, gather, verify, analyze, trend, disseminate, and make use of performance measures that provide contractor and DOE management with indicators of overall performance, the effectiveness of assurance system elements, and identification of specific positive or negative trends. Approved performance measures provide information that indicates how work is being performed and are clearly linked to performance objectives and expectation established by management.

SST Policy 6, "Paducah Performance Indicators" clearly requires the use of performance indicators for key business endeavors and to augment normal assessment activities.

FINDING 2.1-4: The Swift & Staley Integrated Assessment Plan (issued 10/4/05) identified five performance indicators to be developed.

- Gold Chart Performance Metrics
- ALARA Metrics
- Personal Injury/Accident TRC Rates
- Labor Costs
- Epidemiological Analysis – OSH Studies

To date, none of these performance indicators have been established. SST must establish these performance indicators or submit a basis for not performing them.
RM = SST Program Manager Estimated Completion Date (ECD) = 2/29/06

SST has identified the need and developed their first performance indicator; the Customer Grade Card. This indicator is still in the pilot stage.

OBSERVATION 2.1-4: SST's current performance indicator activity has not been finalized. Five customers were selected for the Customer Grade Card pilot, but only two responded. Continued effort or a different approach is required by SST to enlist the cooperation of the customer base when the Grade Card goes active.

5. Line managers effectively utilize performance measures to demonstrate performance improvement or deterioration relative to identified goals, in allocating resources and establishing performance goals, in development of timely compensatory measures and corrective actions for adverse trends, and in sharing good practices and lessons learned.

See FINDING and OBSERVATION 2.1-4 above.

2.2 Operating Experience: *The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident event analyses to potential users and applied to future work activities.*

Criteria:
1. Formal processes are in place to identify applicable lessons learned from external and internal sources and any necessary corrective and preventive actions, disseminate lessons learned to targeted audiences, and ensure that lessons learned are understood and applied.

Sufficient processes are in place to evaluate internal and external Lessons Learned. The QA Manager subscribes to the DOE Lessons Learned Homepage and receives weekly notifications. All are reviewed and those potentially applicable are forwarded to the appropriate Functional Manager(s) for information. If a Lessons Learned is determined to be applicable, then SST Procedure 5.4.2, "Corrective Action Program" is used to identify, assign, track and close associated actions.

The ES&H Manager receives and distributes additional lessons learned, Safety Bulletins and Recall Directives from DOE and industry sources.

Lessons learned are frequently discussed during the Ops & Maintenance morning meetings and at monthly Safety Meetings.

FINDING 2.2-1: There have been at least two product alerts or recalls received by SST in the past month. The Corrective Action Tracking System (CATS) was not utilized in either of these cases to identify, assign, track and close actions associated with the alert or recall. The CATS database preliminary version was completed in November and has not completed the Validation and Verification phase by the Subject Matter Expert.
RM = SST QA Manager ECD = 1/31/06

2. Line managers effectively identify, apply, and exchange lessons learned with the rest of the DOE complex. Lessons learned identified by other DOE organizations and external sources are reviewed and applied by line management to prevent similar incidents/events.

The ES&H Manager cooperatively receives and shares lessons learned and incident reports with the Portsmouth ES&H Manager as a means to help prevent similar incidents. Additionally, the SST ES&H Manager communicates on a weekly basis with other WSMS/WGI managers at other DOE and commercial facilities concerning incidents and lessons learned to help prevent mishaps.

SST has had one internally generated lessons learned associated with the Near Miss Corrective Action Plan.

OBSERVATION 2.2-2: Several lessons learned from external sources (e.g., Bechtel Jacobs Corp, WGI) have been received and investigated. However, the mechanism for lessons learned needs to be better defined. SST will develop a lessons learned method that encompasses internal as well as external sources and provides positive closure documentation.

3. Formal programs and processes have been established and implemented to solicit feedback or suggestions from workers and work activities on the effectiveness of work definition, hazard analyses and controls, and implementation for all types of work activities, and to apply lessons learned. Employee concerns related to management of DOE and NNSA programs and facilities are promptly and thoroughly reported and investigated in accordance with applicable DOE directives.

The SST Program Manager has instituted an anonymous employee feedback mechanism used during his monthly small group discussion meetings. Here the employees have the opportunity to provide meaningful feedback directly to the Program Manager.

SST employees are directed to stop work if an unsafe or unknown situation develops during the work process. SST Procedure 3.1.3, "Suspension of Work (Safety Related)" contains these requirements.

SST participates in the "I Care, We Care" program established and maintained by BJC. The decision was made to continue with this program because it was well understood by the existing workforce and seemed to be functioning well. SST management specifically decided not to adopt or supplant the program, but continue to participate in the existing program. Bechtel Jacobs procedure BJC-EH-2015, "Safety Concerns (I Care/We Care)" provides procedural guidance for this program.

The "Open Door Policy" for ESH personnel and SST Program Manager was established with the SST employees during the orientation process. Safety professionals and management are always available to discuss employee concerns.

SST participates in the monthly STOP (Safety Team of Paducah) Committee meetings where safety concerns are voiced and safety information shared amongst representatives of all PGDP contractors and subcontractors.

Federally mandated OSHA publications are posted at all employee bulletin boards.

Information about the DOE Employee Concerns Hotline is also available on employee bulletin boards.

2.3 Event Reporting: *Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.*

Criteria:
1. Formal programs and processes have been established to identify issues and report, analyze, and address operational events, accidents, and injuries. Events, accidents, and injuries are promptly and thoroughly reported and investigated, including the identification and resolution of root causes and management and programmatic weaknesses, and distribution of lessons learned.

Numerous procedures have been adopted which are used to identify and report major quality and safety issues;

- SST Procedure 5.3.1, "Occurrence Notification and Reporting"
- SST Procedure 5.3.2, "Price Anderson Amendments Act (PAAA) Noncompliance Determination and Reporting"
- SST Procedure 3.2.5, "Accident/Incident Reporting"
- SST Procedure 5.1.2, "Control of Nonconforming Items and Services"

SST Procedure 5.4.2, "Corrective Action Program" addresses problem significance, causal analysis, short and long term corrective actions.

To date, SST has used the Accident/Incident Reporting procedure for ten accidents.

2. Reporting of operational events, accidents, and injuries are conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE directives, and contract terms and conditions. Trending analysis of events, accidents, and injuries are performed in accordance with structured, formal processes and applicable DOE directives.

No operational events have occurred in SST since becoming a prime contractor at PDGP. Accidents and injuries are investigated and reported locally using Procedure 5.4.2. Information is entered into CAIRS for DOE and OSHA purposes.

SST has been a DOE contractor for six months. A full trend analysis has not occurred as sufficient time to establish a baseline has not passed. However, in September, SST management noticed a negative trend based on the number of Near Misses. These were investigated, a Decision Analysis conducted and subsequent corrective actions identified.

2.4 Issues Management: *The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.*

SST has developed and issued their Corrective Action Program description (Procedure 5.4.2, Rev 0). SST has developed an electronic database for assigning, tracking and managing problems (Corrective Action Tracking System (CATS)).

SST has yet to implement Procedure 5.4.2 or the CATS database. The procedure was effective 12/9/05. The CATS database not been placed into service. The program still requires validation and verification (reference FINDING 2.2-1).

Performance Objective F&I-3: DOE Line Management Oversight
DOE line management have established and implemented effective oversight processes that evaluate the adequacy and effectiveness of contractor assurance systems and DOE oversight processes.

This Performance Objective to be completed by DOE.

Attachment 1

Theta Pro2Serve Management Company, LLC
Management Assessment
EQ-QA-MA-06-011
Feedback & Improvement
Performance Objective Results Summary

INTRODUCTION

Theta Pro2Serve Management Company, LLC (TPMC) was contacted by John Saluke (U. S. Department of Energy [DOE] Portsmouth Paducah Project Office [PPPO]) on December 1, 2005 to conduct a Feedback and Improvement assessment in accordance with guidance provided in the November 9, 2005 DOE Environmental Management Memorandum – Integrated Safety Management System Feedback and Improvement (F&I) for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, Commitment 25. Additional guidance was provided by John Saluke in a December 2, 2005 e-mail (Draft) 12/1/05 Supplemental Lines of Inquiry (to be used with the F&I assessment DNFSB guidance).

Based on DOE guidance documents, TPMC developed and issued an Assessment Plan and Lines of Inquiry (LOIs) on December 6, 2005. Due to time constraints, an assessment In-Briefing was not held and the assessment was initiated on December 7, 2005. The assessment approach was to use the LOIs and conduct the assessment by: (1.) Review Requirements and Performance Documents, (2.) Review selected logs and other documentation, (3.) Interview key points of contact, and (4.) Observe work in progress. The LOIs results are recorded in Attachment 2 and summarized at the F&I Performance Objective (PO) level in the following sections. In accordance with DOE guidance provided in the December 14, 2005 John Saluke e-mail 2004-1 F&I Information, the results for each Performance Objective are summarized under the following criteria:

- Evaluation (PO Fully Met, Partially Met or Not Met).
- Results
- Noteworthy Practices (equivalent to TPMC strengths and proficiencies)
- Judgment of Need (equivalent to TPMC findings, observations and weaknesses)

Corrective actions for the Judgment of Needs are identified in the Site Action Plan provided in Attachment 3.

F&I - 1: CONTRACTOR PROGRAM DOCUMENTATION

Performance Objective:

Contractor Line management has established a comprehensive and integrated operational assurance system which encompasses all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible

managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.

LOIs:

1-1 through 1-6 (see Attachment 2)

Evaluation:

Partially Met

Results:

The Quality Assurance Program Plan (QAPP), Integrated Safety Management System (ISMS) Plan, Environmental Safety and Health Plan, and supporting performance documents, fully describe the assurance system and the integration of safety and quality into all aspects of TPMC activities. The program plans and performance documents fully describe a system designed to monitor and evaluate all work performed, including subcontractors, utilizing a graded approach based on risk. A four-tiered assessment program has been developed to ensure comprehensive oversight. Subcontractor work is also evaluated through the performance of readiness reviews overseen by the Senior Review Board and field oversight by the Subcontractor Field Coordinator. Four (4) readiness reviews have been completed, with one involving major repairs to the X-6002 Boiler/RHW System that was completed without safety incident. Action dates of 5/28/06 and March 2006 were placed in the TPMC Commitment Tracking System (Tracker) to update the QAPP and ISMS Plan, respectively, on an annual basis.

Assurance data is documented in assessments, checklists, evaluation of suppliers, readiness reviews, fact sheets, occurrence reports, lessons learned, non-conformance reports (NCRs), logs, issues management Tracker, Senior Review Board (SRB) and other meeting minutes, and forms of documentation appropriate for the activities. Since contract inception, 36 assessments have been performed; 18 fact sheets, 0 NCRs, and 0 occurrence reports have been issued; more than 100 purchasing requisitions have been screened and more than 30 supplier evaluations conducted; 4 readiness reviews performed; 11 Senior Review Boards (SRB) conducted and meeting minutes completed; and 1 lesson learned is in development.

Actions related to assurance activities are entered into the Tracker, assigned to personnel and closure due dates established. The Tracker is provided to DOE and reviewed weekly by the TPMC President, Vice President and Managers to monitor and promote timely action closure.

Assurance data for assessments are trended to ISMS Functions and Principles, 10 Quality Criteria in 10 CFR 830.120, and Apparent Cause by the assessors in the assessment report and the data is screened for occurrence and Price Anderson Amendments Act (PAAA) reportability, significance (causal analysis) and lessons learned, and entered in the assessment log. All assessments are reviewed by the QA Program Lead for accuracy, completeness, and readability.

The program plans and performance documents describe a comprehensive training program. Resumes and Training Position Descriptions (TPDs) are maintained by the Human Resources Work Group that document the experience and technical and administrative expertise of personnel to perform work activities. Subcontractor training is evaluated during readiness reviews through submittal of a training matrix and records.

Noteworthy Practices:

Comprehensive program plans and performance documents are completed describing assurance system. Fact Sheets provide a rapid way to document incidents and ensure that they are screened for other assurance needs and receive appropriate management attention. Multiple sources of assurance data are entered into the Tracker with issues color coded for priority and closure status. Basic trending is completed by assessors as assessments are completed. Personnel are appropriately trained and qualified. Comprehensive ISMS Annual Declaration report was submitted to PPPO that provided performance indicators and showed how ISMS is integrated into TPMC work.

Judgment of Need (JON):

JON-1: Performance documents were coversheeted from the previous Contractor and have not been revised to be fully integrated into the TPMC system to accurately reflect organization roles and other administrative differences.

JON-2: The Oversight Plan is in "Draft" completion and will be issued by January, 2006 **(Note: this Observation is noted in other LOIs as appropriate, but is shown as a roll-up of one (1) Observation [Yellow – Weakness]).**

Although the Oversight Plan has not been issued, 36 assessments (including the currently in progress Work Control and Work Planning and Feedback and Improvement assessments) have been performed by various Work Groups. Several other assessments by the Work Groups are currently being documented and will be submitted for incorporation into the Oversight Plan and Assessment Log by January 2006.

JON-3: The QA Trending Program is in development and will periodically (expected Quarterly, beginning March 2006) compile selected assurance data into a summary report for review by management and DOE to help in focusing on improvement areas, where needed. **(Note: this Observation is noted in other LOIs as appropriate, but is shown as a roll-up of one (1) Observation [Yellow – Weakness]).**

F&I – 2: CONTRACTOR PROGRAM IMPLEMENTATION

2.1 ASSESSMENTS AND PERFORMANCE INDICATORS

Performance Objective:

Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.

LOIs:

2.1.1 through 2.1.5

Evaluation:

Partially Met (see F&I - 1, JON - 2 and 3, above)

Results:

(Note: supplemental information to F&I - 1 above). Performance measures are inherent in many assurance processes including incident reporting, lessons learned, assessments, customer questionnaire, and the Tracker, which provide real time performance feedback to personnel. DOE also identifies ISMS program performance measures for reporting monthly metrics, and the annual ISMS Declaration year-end summary. Although DOE has not formally issued a final list of performance measures, TPMC utilizes all available assurance data to continually improve performance.

Key personnel are simultaneously notified of incidents by pager. Fact Sheets are developed for incidents and distributed to key personnel. Lessons learned are routinely distributed to managers and supervisors by the Lessons Learned Coordinator and are reviewed for subcontracted work during readiness reviews.

Customer questionnaire conducted at start of contract to solicit performance feedback on services and identify areas of improvement.

Actions related to assurance activities are entered into the Tracker. Since Contract inception approximately 788 deliverables, issues and actions have been entered into four Trackers with 331 closed, and 457 open and in various states of closure. Managers routinely discuss relevant issues from Tracker actions, fact sheets, lessons learned and other assurance activities in planning meetings and job walkdowns.

Noteworthy Practices:

(Note: supplemental to F&I - 1, above). Effective incident reporting and screening and lessons learned programs that get information to Management quickly for resolution or use. Comprehensive customer questionnaire conducted evaluating all services.

Judgment of Need:

(see F&I - 1, JON - 2 and 3, above)

2.2 OPERATING EXPERIENCE

Performance Objective:

The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.

LOIs:

2.2.1 through 2.2.3, and 2.2.4 Supplemental (S)

Evaluation:

Fully Met

Results:

The QAPP, ISMS Plan, Environmental Safety and Health Plan, and supporting performance documents, fully describe the lessons learned system and worker feedback mechanisms.

Lessons learned are distributed from the DOE database that receives lessons learned from the DOE complex and other sources. When TPMC lessons learned are developed, they are placed in the database for application by the DOE complex, as appropriate. Lessons learned are routinely distributed to managers and supervisors by the Lessons Learned Coordinator and are reviewed for subcontracted work during readiness reviews. More than 70 lessons learned and 72 items of interest have been distributed to managers and supervisors, reviewed, and flowed down to workers, as appropriate. One TPMC lessons learned is in development. Managers routinely discuss relevant lessons learned in planning meetings and job walkdowns.

Worker feedback is routinely solicited in morning planning meetings, job walkdowns, performance document revisions, Pre-Task Hazard Review (PTHR) and Activity Hazard Analysis (AHA) development, customer questionnaires, Fact Sheets, safety meetings, I Care/We Care, Human Resources Employee Concerns, assessments, safety investigations, etc. Workers have the responsibility and authority to stop work without retaliation if there is a safety concern. I Care/We Care and HR Employee Concerns programs provide a mechanism for open reporting and a receptive learning environment.

Noteworthy Practices:

Comprehensive program plans and performance documents completed describing lessons learned system and worker feedback mechanisms. The effective distribution of lessons learned. The application of multiple worker feedback mechanisms and effective Stop Work authority. Comprehensive customer questionnaire conducted evaluating all services.

JON: None

2.3 EVENT REPORTING

Performance Objective:

Contractor Line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.

LOIs:

2.3.1 and 2.3.2, and 2.3.3 (S) and 2.3.4 (S)

Evaluation:

Partially Met (see F&I - 1, JON – 3, above)

Results:

The QAPP, ISMS Plan, Environmental Safety and Health Plan, and supporting performance documents, fully describe assurance reporting processes, including operational events, incidents, accidents, and injuries. Issues are primarily reported through NCRs, assessments, Fact Sheets, Senior Review Board and Senior Management direction (deliverables, project milestones, customer support, etc.). Issues are screened for occurrence and PAAA reportability, significance (causal analysis) and lessons learned by the QA Program Lead and entered into the Tracker by the QA Specialist for action assignment and closure tracking, as appropriate. Tracker action entries include: 0 from NCRs, 0 from Occurrence Reports, 1 non-NTS reportable PAAA, 36 from assessments, 17 from causal analysis, 36 from Fact Sheets, 19 from Senior Review Board and many from Senior Management direction. Since Contract inception approximately 788 deliverables, issues and actions have been entered into four Trackers with 331 closed, and 457 open and in various states of closure.

Assurance data for assessments are trended to ISMS Functions and Principles, 10 Quality Criteria in 10 CFR 830.120, and Apparent Cause by the assessors in the assessment report and the data are screened for occurrence and PAAA reportability, significance (causal analysis) and lessons learned by the QA Program Lead and entered in the Assessment Log. One root cause analysis was conducted for the Boiler/RHW leak issue.

Worker feedback is routinely solicited in morning planning meetings, job walkdowns, performance document revisions, PTHR and AHA development, customer questionnaires, Fact Sheets, safety meetings, I Care/We Care, HR Employee Concerns, assessments, safety investigations, etc. Workers are unafraid to voice issues as has been observed in morning meetings, All-Hands meetings, HR Employee Concerns program and other forums. Worker feedback, when received, is prioritized and acted upon to more effectively control hazards and increase efficiency and productivity within the framework of the TPMC mission and scope of work. Workers understand that issues important to them may not always fit in the highest TPMC priority, but they know constructive feedback is always welcomed and their input will be addressed to the extent reasonable and possible.

The ISMS Annual Declaration report submitted to DOE PPPO analyzed, compiled and discussed the results of assurance processes under ten criteria provided by DOE. The report provided performance indicators and showed how ISMS is integrated into TPMC work.

Noteworthy Practices:

Effective incident reporting and screening and lessons learned programs that get information to management quickly for resolution or use. Basic trending is completed as assessments are completed. The application of multiple worker feedback mechanisms and effective "Stop Work" authority. Comprehensive customer questionnaire conducted evaluating all services.

JON:

(see F&I - 1, JON – 3, above)

2.4 ISSUES MANAGEMENT

Performance Objective:

The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.

LOIs:

2.4.1 through 2.4.6, and 2.4.7 (S) through 2.4.11 (S)

Evaluation:

Partially Met (see F&I - 1, JON – 3, above)

Results:

Issues are primarily reported through NCRs, assessments, Fact Sheets, Senior Review Board and Senior Management direction (deliverables, project milestones, customer support, etc.). Key personnel are immediately notified of significant incidents by pager. Issues are screened for occurrence and PAAA reportability, DOE Headquarters reporting, significance (causal analysis), lessons learned, and Senior Review Board review by the QA Program Lead, and entered into the Tracker by the QA Specialist for action assignment and closure tracking, as appropriate.

Issues are evaluated by the person reporting at the time of observation to determine if the issues are of immediate concern for suspension/stop work, critique, immediate response, etc. Issues are evaluated for extent of condition, where appropriate. Fact Sheets that identified safety issues pertaining to the use of manlifts and safety harnesses were addressed by reviewing all operations and holding All-Hands safety sessions with both hourly and salary personnel. Air Relief Valves damaged during the Boiler/RHW Leak event were evaluated by conducting a metallurgical study and inspecting and replacing valves in all facilities controlled by TPMC.

Apparent cause is determined for issues during assessment report development. Both the QA Program Lead and QA Specialist are trained in TapRoot causal analysis. Many other Managers have had some level of causal analysis training in their careers. One (1) causal analysis has been performed by the QA Program Lead for the Boiler/RHW System Leak issue, which was determined to be significant. Seventeen (17) actions were identified from this causal analysis. The analysis and actions address Direct, Contributing and Root causes, and were not constrained by organizational boundaries or management influence.

Tracker action entries include 0 from NCRs, 0 from Occurrence Reports, 1 non-NTS reportable PAAA, 36 from assessments, 17 from causal analysis, 36 from Fact Sheets, 19 from Senior Review Board and many from Senior Management direction. No near miss events have been reported. The Tracker is reviewed weekly by the TPMC President, Vice President and managers to monitor and promote timely action closure. Since Contract inception approximately 788

deliverables, issues and actions have been entered into four Trackers with 331 closed, and 457 open and in various states of closure. Objective evidence (e-mail confirmation from action owner, information copy, etc.) is collected for closure of Tracker actions. Validation and effectiveness of action closure is conducted by the QA Program Lead, as appropriate. The follow-up for issues examines whether work processes and environment are structured for success. Actions show that the need for improvements in human performance, work processes and the environment are objectively evaluated and balanced to provide the most appropriate and long term resolution of issues to prevent recurrence.

The Senior Review Board periodically meets to evaluate key issues (safety, compliance, etc.) to help identify actions to prevent recurrence. One (1) critique (Boiler/RHW Leak) and two (2) Senior Review Board incident reviews (1 safety and 1 compliance) have been conducted and documented in meeting minutes. All reviews have been focused to identify the facts of the incidents and corrective actions to prevent recurrence, not to apportion blame.

Managers routinely discuss relevant issues from Tracker actions, fact sheets, lessons learned and other assurance activities in planning meetings and job walkdowns.

Noteworthy Practices:

Multiple sources of assurance data are entered into the Tracker with issues color coded for priority and closure status. The Senior Review Board (SRB) has been very effective in reviewing incidents, readiness and performance documents. Complete and effective causal analysis was performed for Boiler/RHW System leak.

JON:

(see F&I - 1, JON – 3, above)

F&I – 3: DOE LINE MANAGEMENT OVERSIGHT (*Reserved for DOE Completion Only*)

Performance Objective:

DOE Line management have established and implemented effective oversight processes that evaluate the adequacy and effectiveness of contractor assurance systems and DOE oversight processes.

LOIs:

3.1 through 3.11

Evaluation:

Not Applicable

Results:

Not Applicable

Noteworthy Practices:

Not Applicable

JON:

Not Applicable

Attachment 2
Theta Pro2Serve Management Company LLC
EQ-QA-MA-06-011, Feedback and Improvement
Lines of Inquiry (LOIs)
Date Started/Completed: 12/7 to 12/22/05 **Assessor: Dan Longpre**

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
11/9/05 DOE Environmental Management Memorandum – Integrated Safety Management System Feedback and Improvement for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 25, and 12/2/05 John Saluke (DOE PPPO Facility Representative) E-mail Draft 12/1/05 Supplemental Lines of Inquiry (To be used with the F&I Assessment).													
F&I - 1 Performance Objective: Contractor Program Documentation													
1	A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by contractor management, and forwarded to DOE for review and approval. The program description is reviewed and updated annually and forwarded to DOE for review and approval.	TPMC-QAPP-001 Quality Assurance Program Plan TPMC-GM-1400 Integrated Safety Management System Plan TPMC-GM-1400 Environmental Safety and Health Plan TPMC-QA-1001 Integrated Assessment and Oversight Program Description	X								The Quality Assurance Program Plan (TPMC-QAPP-001), delivered to DOE on 6/16/05, describes the assurance system and provides the primary requirements for the integration of quality functions into all aspects of TPMC activities. It incorporates the functions and principles of the Integrated Safety Management System (ISMS). The ISMS (TPMC-GM-1400) and the Environmental Safety and Health Plan (TPMC-GM-1400) describe the safety system, reinforce the assurance system and integrate worker protection into all aspects of TPMC activities. A four-tiered assessment program has been developed to ensure comprehensive oversight.	Comprehensive program documents.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											Action dates of 5/28/06 and March 2006 were placed in the TPMC Commitment Tracking System (Tracker) to update the QAPP and ISMS Plan, respectively, on an annual basis.		
2	The contractor's assurance system includes assessment activities (*self-assessments, management assessments, and internal independent assessments* as defined by laws, regulations, and DOE directives such as quality assurance program requirements) and other structured operational awareness activities; *incident/event reporting* processes, including occupational *injury and illness* and operational *accident investigations*, *worker feedback* mechanisms; *issues management*; *lessons-*	TPMC-QAPP-001 Quality Assurance Program Plan TPMC-GM-1400 Environmental Safety and Health Plan TPMC-GM-1400 Integrated Safety Management System Plan TPMC-PROC-066, Accident/Incident Reporting and Record Keeping	X								The Quality Assurance Program Plan thoroughly addresses assessments in Sections 9 and 10, incident/event reporting and investigations in Section 3, worker feedback in Sections 3 and 5, issues management, lessons learned and performance indicators/measures in Section 3, and implementing performance documents (policies, directives, procedures, etc.) for each Section are crosswalked in Appendix A. The ISMS Plan (TPMC-GM-1400) also addresses these activities in related sections. The ES&H Plan (TPMC-GM-1400) and ISMS Plan thoroughly address incident reporting and worker feedback in Sections 10 and 2, 2.1, and 5.2.5; and 5 and 3.18, respectively, and in implementing performance documents.	Comprehensive program documents.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	learned programs; and *performance indicators/measures.*	TPMC-QA-1001 Integrated Assessment and Oversight Program Description TPMC-QA-1210, Issues Management Program TPMC-QA-1240, Lessons Learned Program TPMC-QA-1401, Independent Assessments TPMC-QA-1420, Management Assessment TPMC-PORT-5001, Site Operations Review Committee TPMC-QA-5027, Reporting Incidents/Event Fact Sheet/Incident Review Board					X				Incident reporting and investigations are performed utilizing guidance in TPMC-QA-5027, Reporting Incidents/Event Fact Sheet/Incident Review Board. Eighteen (18) Fact Sheets have been issued to date and two (2) Senior Review Board Incident Reviews completed. A four-tiered assessment program described in the QAPP has been developed to ensure comprehensive oversight. The first tier consists of direct oversight/supervision of work activities in the field, provided by the daily interaction of supervisors and ESH&Q personnel. The second tier of oversight consists of management assessments performed by multiple levels of management in accordance with Section 9 of the QAPP. The third tier of oversight consists of	Fact Sheets provide a rapid way to document incidents and ensure they are screened for occurrence and PAAA reporting, lessons learned and significance, and receive appropriate management attention. Structured oversight system.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											walkthroughs and surveillances performed by ESH&Q. The fourth tier of oversight consists of Independent Assessments performed by ESH&Q and external organizations in accordance with Section 10 of the QAPP.		
											Performance documents were coversheeted from the previous Contractor and have not been revised to be fully integrated into the TPMC system to accurately reflect organization roles and other administrative differences.		The progress of revising coversheeted procedures is slower than anticipated.
											The Oversight Plan is in "Draft" completion and will be issued by January 2006 **(Note: this Observation is noted in other LOIs as appropriate, but will be shown as a roll-up of one (1) Observation [Yellow – Weakness] in the assessment report).** Although the Oversight Plan has not been issued, 36 assessments (including the currently in progress Work Control and Work Planning and Feedback and Improvement assessments) have been performed by various Work Groups. Several other assessments by the Work Groups are currently being documented		More coherency of planned to completed assessments could be maintained if the Oversight Plan was issued in the first month of the Fiscal Year.

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											and will be submitted for incorporation into the Oversight Plan and Assessment Log by January 2006.		
3	The contractor's assurance system monitors and evaluates all work performed under their contract, including the work of subcontractors.	TPMC-QA-1001 Integrated Assessment and Oversight Program Description TPMC FY06 Oversight Plan (In Development - "Draft" Completion) TPMC-QA-1520, Readiness Reviews for Radiological, Non-Nuclear, and Other Industrial Facilities/Activities TPMC-QA-1650, Graded Approach TPMC-PORT-5001, Site Operations Review Committee Assessment Log and Management	X								The program plans and performance documents listed here and above fully describe a system designed to monitor and evaluate all work performed, including subcontractors, utilizing a graded approach based on risk. Subcontractor work is also evaluated through the performance of readiness reviews overseen by the Senior Review Board and field oversight by the Subcontractor Field Coordinator. Four (4) readiness reviews have been completed, with one involving major repairs to the X-6002 Boiler/RHW System that was completed without safety incident. The implementation of this system is accomplished through the identification and estimated scheduling of assessments in a plan. This plan is referred to in performance documents TPMC-QA-1001 Integrated Assessment and Oversight Program Description and TPMC-QA-1420, Management Assessment. TPMC has integrated the requirements of the performance documents into an Oversight	Comprehensive program and performance documents.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
		Assessment Plan Printouts									Plan that identifies planned Management (self-assessments, walkthroughs, surveillances, reviews, interviews, inspections, evaluations and other types of oversight activities where the quality and compliance of work is evaluated by personnel who may or may not be independent of the activity being evaluated) and Independent (generally more formal assessments conducted by personnel independent of the activity being evaluated).		
											The Oversight Plan is in "Draft" completion and will be issued by January 2006 **(Note: this Observation is a roll-up of one (1) Observation [Yellow – Weakness] into LOI F&I-1-2).**		

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
4	Contractor assurance system data is formally documented and available to DOE line management. Results of assurance processes are periodically analyzed, compiled and reported to DOE line management as part of formal contract performance evaluation.	TPMC-QA-1210, Issues Management Program TPMC-QA-1220, Occurrence Notification and Reporting TPMC-QA-1440, Control of Nonconforming Items and Services TPMC-QA-5027, Reporting Incidents/Event Fact Sheet/Incident Review Board TPMC-QA-1240, Lessons Learned Program TPMC/PORTS-26 Fiscal Year 2005 Integrated Safety Management System Declaration Management Assessment Form and Awareness E-	X								Assurance data is documented in assessments, checklists, evaluation of suppliers, readiness reviews, fact sheets, occurrence reports, lessons learned, non-conformance reports (NCRs), logs, Tracker, Senior Review Board (SRB) and other meeting minutes, and other forms of documentation suitably to the activities. Since contract inception, 36 assessments have been performed; 18 fact sheets, 0 NCRs, and 0 occurrence reports have been issued; more than 100 requisitions have been screened; more than 30 supplier evaluations completed, 4 readiness reviews and 11 SRB notes have been completed; and 1 lesson learned is in development. Much of the assurance data provides backup for the Award Fee Plan. All data is available to DOE for review upon request. Actions related to assurance activities are entered into the Tracker, assigned to personnel and closure due dates established. The Tracker is provided to DOE as requested and reviewed weekly by the TPMC President, Vice President and Managers to monitor and promote timely action closure.	Multiple sources of data. Comprehensive Tracker system with issues color coded for priority and closure status.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
		Mail Example Assessment Report Example Fact Sheet Evaluated Suppliers List printout Example Readiness Review checklist and Open Items list Example SRB Meeting Minutes Assessment Log and Management Assessment Plan (in development) printout Commitment Tracking System (Tracker) printout									Assurance data for assessments is trended to ISMS Functions and Principles, 10 Quality Criteria in 10 CFR 830.120, and Apparent Cause by the assessors in the assessment report and the data is screened for PAAA reportability and entered in the Assessment Log. The Integrated Safety Management System Declaration Fiscal Year 2005 (TPMC/PORTS-26) delivered to DOE 11/15/05, analyzed, compiled and discussed the results of assurance processes under ten criteria provided by DOE. An action date of 11/15/06 was placed in the Tracker to complete the Declaration on an annual basis.	Basic trending completed as assessments completed. Comprehensive report that provides performance indicators and shows how ISMS is integrated into TPMC work.	
											The QA Trending Program is in development and will periodically (expected Quarterly, beginning March 2006) compile selected assurance data into a summary report for review by management and DOE to help in focusing on improvement areas, where needed. **(Note: this Observation is noted in**		Trending is currently conducted manually. An automated system will be beneficial as the

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
		QA Trending Program (In Development) discussion									**other LOIs as appropriate, but will be shown as a roll-up of one (1) Observation [Yellow – Weakness] in the assessment report).**		database increases.
5	Contractors have established and implemented sufficient processes (e.g., self assessments, corporate audits, third-part certifications or external reviews, performance indicators) for measuring the effectiveness of the contractor assurance program.	See F&I-1-2, above.	X								The Oversight Plan is in "Draft" completion and will be issued by January 2006. **(Note: this Observation is a roll-up of one (1) Observation [Yellow – Weakness] into LOI F&I-1-2).** The Oversight Plan identifies 3 ESH&Q Management assessments and 1 Independent (third party) assessment from Pro2Serve parent company.		
6	Requirements and formal processes have been established and implemented that ensure personnel responsible for managing and performing assurance activities possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities.	TPMC-QAPP-001 Quality Assurance Program Plan TPMC-Policy-010, Discipline and Rigor of Operations TPMC-GM-2000, Conduct of Operations for Projects, Facilities and Activities TPMC-HR-0702, Training Program	X								The Quality Assurance Program Plan, ISMS Plan, and ES&H Plan thoroughly address training in Sections 2, 5.22 and 7, respectively, and in the associated performance documents. Resumes and Training Position Descriptions (TPDs) are maintained by the Human Resources Work Group that document the experience and technical and administrative expertise of personnel to perform work activities. Management assessments are performed by personnel with technical expertise in the activity evaluated or with strong comprehension, observation and	Comprehensive and effective training program.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
		TPMC-HR-0750, Required Reading TPMC-QA-1502, Qualification of Independent Assessment Personnel Example Subcontractor Train Matrix Example TPD Example Resume									documentation skills. Independent assessments are performed by personnel similar to Management assessments, but led by Lead Auditors qualified to specific criteria. No Independent Assessments have been performed by TPMC to date. All assessments are reviewed by the QA Program Lead for accuracy, completeness, and readability. Subcontractor training is evaluated during readiness reviews through submittal of a training matrix and records.		
F&I – 2 Performance Objective: Contractor Program Implementation													
2.1 Assessments and Performance Indicators													
1	Line management has established and implemented a rigorous assessment program for performing comprehensive evaluations of all functional areas, programs, facilities, and organizational elements, including subcontractors, with a frequency, scope and rigor based on appropriate analysis of risks. The scope and frequency of assessments are defined in	See F&I-1-2 and 3, above.	X								The Oversight Plan is in "Draft" completion and will be issued by January 2006. **(Note: this Observation is a roll-up of one (1) Observation [Yellow – Weakness] into LOI F&I-1-2).**		

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	site plans and program documents, include assessments of processes and performance-based observation of activities and evaluation of cross-cutting issues and programs, and meet or exceed requirements of applicable DOE directives.												
2	Rigorous self-assessments are identified, planned, and performed at all levels periodically to determine the effectiveness of policies, requirements, and standards and the implementation status.	See F&I 2.1-1 and F&I-1-2 and 3, above.	X								The Oversight Plan is in "Draft" completion and will be issued by January 2006. **(Note: this Observation is a roll-up of one (1) Observation [Yellow – Weakness] into LOI F&I-1-2).** The Oversight Plan identifies Management (including QA) assessments for the key Work Groups.		
3	Appropriate independent internal assessments are identified, planned and performed by contractor organizations or personnel having the authority and independence from line management, to support unbiased evaluations.	See F&I-1-2 and 5, above.									The Oversight Plan is in "Draft" completion and will be issued by January 2006. **(Note: this Observation is a roll-up of one (1) Observation [Yellow – Weakness] into LOI F&I-1-2).**		
4	Line managers have established programs and processes to routinely	See F&I-1-4, above.	X								See F&I-1-4, above. Assurance data is documented in	Multiple sources of data.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	identify, gather, verify, analyze, trend, disseminate, and make use of performance measures that provide contractor and DOE management with indicators of overall performance, the effectiveness of assurance systems, and identification of specific positive or negative trends. Approved performance measures provide information that indicates how work is being performed and are clearly linked to performance objectives and expectation established by management.										assessments, checklists, evaluation of suppliers, readiness reviews, fact sheets, occurrence reports, lessons learned, non-conformance reports (NCRs), logs, Tracker, Senior Review Board (SRB) and other meeting minutes, and other forms of documentation suitably to the activities. Actions related to assurance activities are entered into the Tracker, assigned to personnel and closure due dates established. The Tracker is reviewed weekly by the TPMC President, Vice President and managers to monitor and promote timely action closure.	Comprehensive Tracker system with issues color coded for priority and closure status.	
											The QA Trending Program is in development and will periodically (expected Quarterly, beginning March 2006) compile selected assurance data into a summary report for review by management and DOE to help in focusing on improvement areas, where needed. **(Note: this Observation is a roll-up of one (1) Observation [Yellow – Weakness] into LOI F&I-1-4).**		
5	Line managers effectively utilize performance measures to demonstrate performance improvement or deterioration relative to	Commitment Tracking System (Tracker) Printout TPMC-QA-5027,	X								Performance measures are inherent in many assurance processes including incident reporting, lessons learned, assessments, customer questionnaire, and the Tracker, which provide real time	Effective incident reporting and screening, and lessons learned	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	identified goals, in allocating resources and establishing performance goals, in development of timely compensatory measures and corrective actions for adverse trends, and in sharing good practices and lessons learned.	Reporting Incidents/Event Fact Sheet/Incident Review Board TPMC-QA-1240, Lessons Learned Program TPMC/PORTS-26 Fiscal Year 2005 Integrated Safety Management System Declaration									performance feedback to personnel. DOE also identifies ISMS program performance measures for reporting monthly metrics, and the annual ISMS Declaration year-end summary. Although DOE has not formally issued a final list of performance measures, TPMC utilizes all available assurance data to continually improve performance. Key personnel are notified of incidents by Rampage. Fact Sheets are developed for incidents and distributed to key personnel. Lessons learned are routinely distributed to Managers and Supervisors by the Lessons Learned Coordinator and are reviewed for subcontracted work during readiness reviews. Actions related to assurance activities are entered into the Tracker, assigned to personnel and closure due dates established. The Tracker is reviewed weekly by the TPMC President, Vice President and managers to monitor and promote timely action closure. Since Contract inception approximately 788 deliverables, issues and actions have been entered into four Trackers with 331	programs that get information to Management quickly for resolution or use. Comprehensive Tracker system with issues color coded for priority and closure status.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											closed, and 457 open and in various states of closure Managers routinely discuss relevant issues from Tracker actions, fact sheets, lessons learned and other assurance activities in planning meetings and job walkdowns.		
							X				Customer questionnaire conducted at start of contract to solicit performance feedback on services and identify areas of improvement.	Comprehensive customer questionnaire conducted evaluating all services.	
											The Integrated Safety Management System Declaration Fiscal Year 2005 was provided to key personnel to help in focusing on improvements in identified areas.	Comprehensive report that provides performance indicators and shows how ISMS is integrated into TPMC work.	
											The QA Trending Program is in development and will periodically (expected Quarterly, beginning March 2006) compile selected assurance data into a summary report for review by management and DOE to help in focusing		

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											on improvement areas, where needed. **(Note: this Observation is a roll-up of one (1) Observation [Yellow – Weakness] into LOI F&I-1-4).**		
2.2 Operating Experience													
1	Formal processes are in place to identify applicable lessons learned from external and internal sources and any necessary corrective and preventive actions, disseminate lessons learned to targeted audiences, and ensure that lessons learned are understood and applied.	TPMC-QA-1240, Lessons Learned Program	X								Lessons learned are routinely distributed to managers and supervisors by the Lessons Learned Coordinator and are reviewed for subcontracted work during readiness reviews. More than 70 lessons learned and 72 items of interest have been distributed to managers and supervisors, reviewed and flowed down to workers, as appropriate. Managers routinely discuss relevant lessons learned in planning meetings and job walkdowns.	Effective lessons learned program.	
2	Line managers effectively identify, apply, and exchange lessons learned with the rest of the DOE complex. Lessons learned identified by other DOE organizations and external sources are reviewed and applied by line management to prevent similar incidents/events.	TPMC-QA-1240, Lessons Learned Program TPMC-QA-1520, Readiness Reviews for Radiological, Non-Nuclear, and Other Industrial Facilities/Activities Documentation of Lessons Learned Distributed, Sent to PAD, and	X								Lessons learned are distributed from the DOE database that receives lessons learned from the DOE complex and other sources. When TPMC lessons learned are developed, they are placed in the database for application by the DOE complex, as appropriate. More than 70 lessons learned and 72 items of interest have been distributed to managers and supervisors, reviewed and flowed down to workers, as appropriate. One TPMC lessons learned is in development.	Effective lessons learned program.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
		responded to.											
3	Formal programs and processes have been established and implemented to solicit feedback or suggestions from workers and work activities on the effectiveness of work definition, hazard analysis and controls, and implementation of all types of work activities, and to apply lessons learned.	TPMC-QAPP-001 Quality Assurance Program Plan TPMC-GM-1400 Integrated Safety Management System Plan TPMC-GM-1400 Environmental Safety and Health Plan TPMC-PROC-57 Work Packages TPMC-PROC-59 Integrated Work Control TPMC-SH-2010, Hazard Review TPMC-EH-2011, Safety Meetings TPMC-EH-2015, Safety Concern (I Care/We Care)	X				X				Worker feedback is thoroughly addressed in Sections 3 and 5 of the Quality Assurance Program Plan, Section 5 of the ES&H Plan, Section 3.18 of the ISMS Plan, and in the associated performance documents. Workers have the responsibility and authority to stop work without retaliation if there is a safety concern. Worker feedback is routinely solicited in morning planning meetings, job walkdowns, performance document revisions, PTHR and AHA development, customer questionnaires, Fact Sheets, safety meetings, I Care/We Care, HR Employee Concerns, assessments, safety investigations, etc. Customer questionnaire conducted at start of contract to solicit performance feedback on services and identify areas of improvement.	Multiple worker feedback mechanisms and effective Stop Work authority. Comprehensive customer questionnaire conducted evaluating all services.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
		TPMC-EH-2018, Suspension of Work (Safety Related) TPMC-SH-5140, Hazard Communications HR Employee Concerns program Safety Meeting Documentation Worker Feedback Changes to AHA or PTHR Documentation											
4 (S)	The feedback sources monitored and integrated by line management to identify improvement opportunities include indications of safety culture, such as open reporting and a receptive, learning environment.	See F&I-2.2-3, above.	X								See F&I-2.2-3, above. Workers have the responsibility and authority to stop work without retaliation if there is a safety concern. I Care/We Care and HR Employee Concerns programs provide a mechanism for open reporting and a receptive learning environment. Customer questionnaire conducted at start of contract to solicit performance feedback on services and identify areas of	Multiple worker feedback mechanisms and effective Stop Work authority. Comprehensive customer questionnaire	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											improvement.	conducted evaluating all services.	
2.3 Event Reporting													
I	Formal programs and processes have been established to identify issues and report, analyze, and address operational events, accidents, and injuries. Events, accidents, and injuries are promptly and thoroughly reported and investigated, including the identification and resolution of root causes and management and programmatic weaknesses, and distribution of lessons learned.	TPMC-PROC-066, Accident/Incident Reporting and Record Keeping TPMC-QA-1210, Issues Management Program TPMC-QA-1220, Occurrence Notification and Reporting TPMC-QA-1221, Occurrence Reporting and Notification Guidance Document TPMC-QA-1230, Causal Analysis TPMC-QA-1440, Control of Nonconforming Items and Services	X								Incident reporting is thoroughly addressed in Sections 3 of the Quality Assurance Program Plan, Sections 10, 2 and 2.1 of the ES&H Plan, Section 5.2.5 of the ISMS Plan, and in the associated performance documents. Issues are primarily reported through NCRs, assessments, Fact Sheets, Senior Review Board and Senior Management direction (deliverables, project milestones, customer support, etc.), screened for occurrence and PAAA reportability, significance (causal analysis) and lessons learned by the QA Program Lead and entered into the Tracker by the QA Specialist for action assignment and closure tracking, as appropriate. Tracker action entries approximately include 0 from NCRs, 0 from Occurrence Reports, 1 non-NTS reportable PAAA, 36 from assessments, 17 from causal analysis, 36 from Fact Sheets, 19 from Senior Review Board and many from Senior Management direction. Since Contract inception, approximately	Effective incident reporting and screening, and lessons learned programs that get information to Management quickly for resolution or use.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
		TPMC-QA-1460, Events, Investigations and Critiques TPMC-QA-1610, Price-Anderson Amendments Act (PAAA) Noncompliance Determination And Reporting TPMC-QA-5027, Reporting Incidents/Event Fact Sheet/Incident Review Board HR Employee Concerns program									788 deliverables, issues and actions have been entered into four Trackers with 331 closed, and 457 open and in various states of closure Apparent cause is determined during assessment report development. One root cause analysis was conducted for the Boiler/RHW leak issue.		
2	Reporting of operational events, accidents, and injuries are conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE directives, and contract terms and	See F&I-2.3-1, above.	X								See F&I-2.3-1, above. Operational events, accidents, and injuries are reported in accordance with requirements. Assurance data for assessments is trended to ISMS Functions and Principles, 10 Quality Criteria in 10 CFR 830.120,\ and Apparent Cause by the assessors in the	Basic trending completed as assessments completed.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	conditions. Trending analysis of events, accidents, and injuries, are performed in accordance with structured/formal processes and applicable DOE directives.										assessment report and the data is screened for occurrence and PAAA reportability, significance (causal analysis) and lessons learned by the QA Program Lead and entered in the Assessment Log (see Log). The Integrated Safety Management System Declaration Fiscal Year 2005 delivered to DOE 11/15/05, analyzed, compiled and discussed the results of assurance processes under 10 criteria provided by DOE.		
											The QA Trending Program is in development and will periodically (expected Quarterly, beginning March 2006) compile selected assurance data into a summary report for review by management and DOE to help in focusing on improvement areas, where needed. **(Note: this Observation is a roll-up of one (1) Observation [Yellow – Weakness] into LOI F&I-1-4).**		
3 (S)	Line managers throughout the organization encourage and are responsive to employee feedback.	HR Employee Concerns Program TPMC-EH-2015, Safety Concern (I Care/We Care) Safety Meeting Documentation	X								Worker feedback is routinely solicited in morning planning meetings, job walkdowns, performance document revisions, PTHR and AHA development, customer questionnaires, Fact Sheets, safety meetings, I Care/We Care, HR Employee Concerns, assessments, safety investigations, etc. Employee feedback, when received, is acted upon to more	Multiple worker feedback mechanisms and effective Stop Work authority.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
		Worker Feedback Changes to AHA or PTHR Documentation									effectively control hazards and increase efficiency and productivity within the framework of the TPMC mission and scope of work. Customer questionnaire conducted at start of contract to solicit performance feedback on services and identify areas of improvement.	Comprehensive customer questionnaire conducted evaluating all services.	
4 (S	Employees openly report errors and performance challenges to line management, with confidence that the information will be used to drive improvement.	HR Employee Concerns Program TPMC-EH-2015, Safety Concern (I Care/We Care) Safety Meeting Documentation Worker Feedback Changes to AHA or PTHR Documentation	X								Worker feedback is routinely solicited in morning planning meetings, job walkdowns, performance document revisions, PTHR and AHA development, customer questionnaires, Fact Sheets, safety meetings, I Care/We Care, HR Employee Concerns, assessments, safety investigations, etc. Workers are unafraid to voice issues, which has been observed in morning meetings, All-Hands meetings, HR Employee Concerns program and other forums. Workers understand that issues important to them may not always fit in the highest priority within the framework of the TPMC mission and scope of work (e.g., union issues), but they know constructive feedback is always welcomed and their input will be addressed to the extent reasonable and possible.	Multiple worker feedback mechanisms and effective Stop Work authority. Comprehensive customer questionnaire conducted evaluating all services.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
2.4 Issues Management													
1	Program and performance deficiencies, regardless of their source, are captured in a system or systems that provides for effective analysis, resolution, and tracking. Issues management system elements include structured processes for determination of risk, significance, and priority of deficiencies; evaluation of scope and extent of condition; determination of reportability under applicable requirements; identification of root causes; identification and documentation of corrective actions and recurrence controls to prevent recurrence; identification of individuals/organizations responsible for corrective action implementation; establishment of milestones based on significance and risk of completion of corrective actions; tracking	See 2.3 - # 1 and 2 above Commitment Tracking System (Tracker) Printout Example Documentation of Closed Corrective Actions	X								Issues are primarily reported through NCRs, assessments, Fact Sheets, Senior Review Board and Senior Management direction (deliverables, project milestones, customer support, etc.), screened for occurrence and PAAA reporting, significance (causal analysis) and lessons learned by the QA Program Lead and entered into the Tracker by the QA Specialist for action assignment and closure tracking, as appropriate. Tracker action entries approximately include 0 from NCRs, 0 from Occurrence Reports, 1 non-NTS reportable PAAA, 36 from assessments, 17 from causal analysis, 36 from Fact Sheets, 19 from Senior Review Board and many from Senior Management direction. Since Contract inception, approximately 788 deliverables, issues and actions have been entered into four Trackers with 331 closed, and 457 open and in various states of closure Apparent cause is determined during assessment report development. One root cause analysis was conducted for the Boiler/RHW leak issue.	Multiple sources of data. Comprehensive Tracker system with issues color coded for priority and closure status.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	progress; verification of corrective action completion; and validation of corrective action implementation and effectiveness.												
2	Issues management processes include mechanisms to promptly identify the potential impact of a deficiency and take timely actions to address conditions of immediate concern, including stop work, system shutdown, emergency response, reporting to management, and compensatory measures pending formal documentation and resolution of the issue.	TPMC-QA-1210, Issues Management Program TPMC-QA-5027, Reporting Incidents/Event Fact Sheet/Incident Review Board TPMC-EH-2018, Suspension of Work (Safety Related) TPMC-PORT-5001, Site Operations Review Committee	X								Issues reported through NCRs, assessments, Fact Sheets, Senior Review Board and Senior Management direction (deliverables, project milestones, customer support, etc.) are evaluated by the person reporting at the time of observation to determine if the issues are of immediate concern for suspension/stop work, critique, immediate response, etc. The QA Program Lead reviews issues for DOE HQ reporting, occurrence and PAAA reportability, significance (causal analysis), lessons learned and review by Senior Review Board.		
3	Processes for analyzing deficiencies, individually and collectively, have been established that enable the identification of programmatic or systemic issues. Line management effectively monitors progress and optimizes the allocation of assessment resources in addressing known systemic	TPMC-QA-1210, Issues Management Program TPMC-QA-5027, Reporting Incidents/Event Fact Sheet/Incident Review Board TPMC-QA-1220, Occurrence	X								Actions related to assurance activities are entered into the Tracker, assigned to personnel and closure due dates established. The Tracker is reviewed weekly by the TPMC President, Vice President and managers to monitor and promote timely action closure (see Tracker). Since Contract inception, approximately 788 deliverables, issues and actions have been entered into four Trackers with 331 closed, and 457 open	Multiple sources of data. Comprehensive Tracker system with issues color coded for priority and closure status.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	issues.	Notification and Reporting TPMC-QA-1221, Occurrence Reporting and Notification Guidance Document									and in various states of closure The Senior Review Board periodically meets to evaluate key issues (safety, compliance, etc.) to help identify actions to prevent recurrence. Managers routinely discuss relevant issues from Tracker actions, fact sheets, lessons learned and other assurance activities in planning meetings and job walkdowns. The Integrated Safety Management System Declaration Fiscal Year 2005 delivered to DOE 11/15/05, analyzed, compiled and discussed the results of assurance processes under 10 criteria provided by DOE.	The Senior Review Board (SRB) has been very effective in reviewing incidents, readiness and performance documents.	
											The QA Trending Program is in development and will periodically (expected Quarterly, beginning March 2006) compile selected assurance data into a summary report for review by management and DOE to help in focusing on improvement areas, where needed. **(Note: this Observation is a roll-up of one (1) Observation [Yellow – Weakness] into LOI F&I-1-4).**		
4	Processes for communicating issues up the	TPMC-QA-1210, Issues Management	X								Issues are primarily reported through NCRs, assessments, Fact Sheets, Senior	Multiple sources of data.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	management chain to senior management have been established and based on a graded approach that considers hazards and risks. Line management receives periodic information on the status of identified deficiencies and corrective actions and holds organizations and individuals accountable for timely and effective completion of actions. Line management has executed graded mechanisms such as independent verification and performance-based evaluation to ensure that corrective action and recurrence controls are timely, complete, and effective. Closure of corrective actions and deficiencies are based on objective, technically sound, and verified evidence. The effectiveness of corrective actions is determined on a graded basis and additional actions are completed as	Program Commitment Tracking System (Tracker) Printout TPMC-QA-5027, Reporting Incidents/Event Fact Sheet/Incident Review Board TPMC-EH-2018, Suspension of Work (Safety Related) Example Documentation of Closed Corrective Actions									Review Board and Senior Management direction (deliverables, project milestones, customer support, etc.), screened for occurrence and PAAA reporting, significance (causal analysis) and lessons learned by the QA Program Lead and entered into the Tracker by the QA Specialist for action assignment and closure tracking, as appropriate. Since Contract inception, approximately 788 deliverables, issues and actions have been entered into four Trackers with 331 closed, and 457 open and in various states of closure Key personnel are immediately notified of incidents by Rampage. Fact Sheets are developed for incidents and distributed to key personnel. Tracker action entries include 0 from NCRs, 0 from Occurrence Reports, 1 non-NTS reportable PAAA, 36 from assessments, 17 from causal analysis, 36 from Fact Sheets, 19 from Senior Review Board and many from Senior Management direction. The Tracker is reviewed weekly by the TPMC President, Vice President and Managers to monitor and promote timely	Comprehensive Tracker system with issues color coded for priority and closure status.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	necessary.										action closure. Objective evidence (e-mail confirmation from action owner, information copy, etc.) is collected for closure of Tracker actions. Validation and effectiveness of action closure is conducted by QA Program Lead, as appropriate.		
5	Results of various feedback systems are integrated and collectively analyzed to identify repeat occurrences, generic issues, trends, and vulnerabilities at a lower level before significant problems result.	TPMC-QA-1210, Issues Management Program Commitment Tracking System (Tracker) Printout TPMC-QA-5027, Reporting Incidents/Event Fact Sheet/Incident Review Board Fact Sheet Log Printout TPMC/PORTS-26 Fiscal Year 2005 Integrated Safety Management System Declaration	X								Assurance data for assessments is trended to ISMS Functions and Principles, 10 Quality Criteria in 10 CFR 830.120, and Apparent Cause by the assessors in the assessment report and the data is screened for occurrence and PAAA reportability, significance (causal analysis) and lessons learned and entered in the Assessment Log. The Integrated Safety Management System Declaration Fiscal Year 2005 delivered to DOE 11/15/05, analyzed, compiled and discussed the results of assurance processes under 10 criteria provided by DOE.		
											The QA Trending Program is in development and will periodically (expected Quarterly, beginning March 2006) compile selected assurance data into a summary report for review by management and DOE to help in focusing on improvement areas, where needed.		

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											(Note: this Observation is a roll-up of one (1) Observation [Yellow – Weakness] into LOI F&I-1-4).		
6	Individuals or teams responsible for corrective action development are trained in analysis techniques to evaluate significant problems using a structured methodology to identify root and contributing causes and corrective actions to prevent recurrence.	TPMC-QA-1230, Causal Analysis Example Training Records	X								Issues are primarily reported through NCRs, assessments, Fact Sheets, Senior Review Board and Senior Management direction (deliverables, project milestones, customer support, etc.), screened for occurrence and PAAA reportability, significance (causal analysis) and lessons learned by the QA Program Lead and entered into the Tracker by the QA Specialist for action assignment and closure tracking, as appropriate. Both the QA Program Lead and QA Specialist are trained in TapRoot causal analysis. Many other managers have had some level of causal analysis training in their careers. One causal analysis has been performed by the QA Program Lead for the Boiler/RHW System Leak issue, which was determined to be significant. Seventeen (17) actions were identified from this causal analysis.	Multiple sources of data. Comprehensive Tracker system with issues color coded for priority and closure status.	
7 (S)	Casual analysis seeks to determine not only the immediate and direct causes of the event/near-miss, but also the organizational factors that created the	TPMC-QA-1230, Causal Analysis Example Causal Analysis	X								One causal analysis has been performed by the QA Program Lead for the Boiler/RHW System Leak issue, which was determined to be significant. Seventeen (17) actions were identified from this causal analysis. The analysis	Complete and effective causal analysis.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	environment where the event could occur.										and actions address Direct, Contributing and Root causes.		
8 (S)	Events/near-miss are evaluated to determine the extent to which the contributing factors exist across the organization, and corrective actions are developed to address the full extent of condition.	TPMC-QA-1220, Occurrence Notification and Reporting TPMC-QA-1221, Occurrence Reporting and Notification Guidance Document TPMC-QA-5027, Reporting Incidents/Event Fact Sheet/Incident Review Board TPMC/PORTS-26 Fiscal Year 2005 Integrated Safety Management System Declaration	X								Issues are primarily reported through NCRs, assessments, Fact Sheets, Senior Review Board and Senior Management direction (deliverables, project milestones, customer support, etc.), screened for occurrence and PAAA reportability, significance (causal analysis) and lessons learned by the QA Program Lead and entered into the Tracker by the QA Specialist for action assignment and closure tracking, as appropriate. Tracker action entries include 0 from NCRs, 0 from Occurrence Reports, 1 non-NTS reportable PAAA, 36 from assessments, 17 from causal analysis, 36 from Fact Sheets, 19 from Senior Review Board and many from Senior Management direction. No near miss events have been reported. Issues are evaluated for extent of condition, where appropriate. Fact Sheets that identified safety issues pertaining to the use of manlifts and safety harnesses were addressed by reviewing all operations and holding All-Hands safety sessions with both hourly and salary	Multiple sources of data. Comprehensive Tracker system with issues color coded for priority and closure status.	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
											personnel. Air Relief Valves damaged during the Boiler/RHW Leak event were evaluated by conducting a metallurgical study and inspecting and replacing valves in all facilities TPMC controls.		
9 (S)	Critiques, accident investigations, and associated casual analyses are focused to identify conditions and organizational factors, not to apportion blames to individuals or organizational units.	TPMC-QA-1460, Events, Investigations and Critiques TPMC-QA-5027, Reporting Incidents/Event Fact Sheet/Incident Review Board Example IRB Meeting Minutes	X								One (1) critique (Boiler/RHW Leak) and two (2) Senior Review Board incident reviews (1 safety and 1compliance) have been conducted and recorded. One causal analysis (Boiler/RHW Leak) has been completed. All reviews have been focused to identify the facts of the incidents and corrective actions to prevent recurrence, not to apportion blame.	Multiple sources of data. Comprehensive Tracker system with issues color coded for priority and closure status.	
10 (S)	Casual analysis and the resulting development of corrective actions are not constrained by organizational boundaries or management hierarchy.	TPMC-QA-1230, Causal Analysis Example Causal Analysis	X								One causal analysis has been performed by the QA Program Lead for the Boiler/RHW System Leak issue, which was determined to be significant. Seventeen (17) actions were identified from this causal analysis. The analysis and actions address Direct, Contributing and Root causes, and were not constrained by organizational boundaries or management influence.	Complete and effective causal analysis.	
11 (S)	Evaluations of events/near-misses that find human error to be a cause or contributor consider the limitations of	TPMC-QA-1460, Events, Investigations and Critiques	X								No occurrences or near miss events have been reported. Eighteen (18) Fact Sheets have been issued for incidents involving safety and other issues. These issues	The Senior Review Board (SRB) has been very effective in	

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	human performance and examine whether the expectations and work environment were structured for success.	TPMC-QA-5027, Reporting Incidents/Event Fact Sheet/Incident Review Board Example IRB Meeting Minutes									were screened for significance and one (1) critique (Boiler/RHW Leak) and two (2) Senior Review Board incident reviews (1 Safety and 1Compliance) were conducted. The follow-up for all issues examined whether work processes and environment were structured for success. The actions from this follow-up show that the need for improvements in human performance, work processes and the environment are objectively evaluated and balanced to provide the most appropriate and long term resolution of issues to prevent recurrence.	reviewing incidents, readiness and performance documents.	
F&I – 3 Performance Objective: DOE Line Management Oversight (Applicable To DOE Only)													
1	DOE line management has established a baseline line management oversight program that ensures that DOE line management maintains sufficient knowledge of site and contractor activities to make informed decisions concerning hazards, risks and resource allocation, provide direction to contractors, and evaluate												

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	contractor performance.												
2	DOE line oversight program includes assessments, operational awareness activities, performance monitoring and improvement, and assessment of contractor assurance systems. Documented program plans have been established that define oversight program activities and annual schedules of planned assessments and focus areas for operational awareness. Operational awareness activities must be documented either individually or in periodic (e.g., weekly or monthly) summaries. Deficiencies in programs or performance identified during operational awareness activities are communicated to the contractor for resolution through a structured issues management process.												
3	DOE line management monitors contractor												

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	performance and assesses whether performance expectations are met; that contractors are assessing site activities adequately; self-identifying deficiencies; and taking timely and effective corrective actions. Responsibilities for line oversight and self-assessment are assigned and managers, supervisors, and workers are held accountable for performance assurance activities. Deficiencies must be brought to the attention of contractor management and addressed in a timely manner.												
4	DOE line management requires that findings must be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans.												
5	DOE line management regularly assesses the effectiveness of contractor issues management and corrective action processes,												

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	lessons learned processes, and other feedback mechanisms (e.g., worker feedback). DOE line management must also evaluate contractor processes for communicating information, including dissenting opinions, up the management chain.												
6	DOE line management must verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE assessments or reviews are closed, and requires that deficiencies are analyzed both individually and collectively to identify causes and prevent recurrences.												
7	DOE line management has established appropriate criteria for determining the effectiveness of site programs, management systems, and contractor assurance systems, and includes consideration of												

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	previous assessment results, effectiveness of corrective actions and self-assessments, and evidence of sustained management support for site programs and management and assurance systems. Review criteria are based on requirements and performance objectives (e.g., laws, regulations, and DOE directives), site-specific procedures/manuals, and other contractually mandated requirements and performance objectives.												
8	DOE line management has established and maintained appropriate qualification standards for personnel with oversight responsibilities, and a clear, unambiguous line of authority and responsibility for oversight.												
9	Line management periodically reviews established performance measures to ensure performance objectives and criteria are challenging and focused on improving												

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A	P	O	R	F	How Satisfied	Strengths	Weaknesses
						Green		Yellow					
	performance in known areas of weakness.												
10	DOE line management has established effective processes for communicating line oversight results and other issues up the DOE line management chain, using a graded approach based on the hazards and risks. Established processes include provisions for communicating and documenting dissenting opinions. Formal structured processes fro resolving disputes for oversight findings and other significant issues have been implemented, and include provisions for independent technical reviews for significant findings.												
11	An effective employee concerns program has been established and implemented in accordance with DOE Directives that encourages the reporting of employee concerns and provides thorough investigations and												

LOI #	Criteria	Reference Document	Review For √		Results						Comments		
			TPMC	DOE	NA	A Green	P	O Yellow	R	F	How Satisfied	Strengths	Weaknesses
	effective corrective actions and recurrence controls.												
47 (36 w/o DOE F&I-3)	**Total**				0	33	4	3	0	0			

Legend:

NA – Not Applicable
A – Acceptable - meets requirements
F – Finding - a direct deviation from a written requirement
O – Observation - a condition if left unchanged may lead to a Finding (considered Acceptable because does not violate a written requirement, but requires resolution)
R – Recommendation - suggestions for improvement
P – Proficiency - an exemplary practice or area of performance excellence
(S) – Supplemental Lines of Inquiry
w/o – with out

Requirements:

DOE (listed in 11/18/05 DOE Environmental Management Memorandum – Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 23)

DOE P 226.1 Department of Energy Oversight Policy*
DOE O 226.1 Implementation of Department of Energy Oversight Policy*
Draft DOE O 210.x Corporate Operating Experience Program*
DOE O 231.1a Occurrence Reporting and Processing of Operations Information
DOE O 414.1c Quality Assurance**
DOE O 440.1a Federal Employee Occupational Safety and Health Program

DOE O442.1a DOE Employee Concerns Program
DOE Policy 450.4 Integrated Safety Management
DOE G 450.4-1B Integrated Safety Management System Guide dated 03-01-01*
DOE 5480.19 Conduct of Operations Requirements for DOE Facilities**
10CFR830 Nuclear Safety Management

Note: * requirements not in TPMC Contract; ** requirement in TPMC Contract as DOE O414.1A, Chg. 1, CRD; DOE O 5480.19, Chg. 2.

TPMC (requirements that flow down or have correlation to DOE LOIs and requirements)

TPMC-QAPP-001, Quality Assurance Program Plan
TPMC-Policy-0010, Discipline and Rigor of Operations
TPMC-PROC-0066, Accident/Incident Reporting and Record Keeping
TPMC-PROC-0057, Work Packages
TPMC-PROC-0059, Integrated Work Control
TPMC-HR-0702, Training Program
TPMC-HR-0750, Required Reading Program
TPMC-OS-1001, Records Management, Including Document Control
TPMC-QA-1001, Integrated Assessment and Oversight Program Description
TPMC-QA-1107, Performance Document Process
TPMC-QA-1166, Revision Order Process to Transition Procedure Documents
TPMC-QA-1210, Issues Management Program
TPMC-QA-1220, Occurrence Notification and Reporting
TPMC-QA-1221, Occurrence Reporting and Notification Guidance Document
TPMC-QA-1230, Causal Analysis
TPMC-QA-1240, Lessons Learned Program
TPMC-GM-1400, Environmental Safety and Health Plan
TPMC-GM-1400, Integrated Safety Management System Plan
TPMC-QA-1401, Independent Assessments
TPMC-QA-1420, Management Assessment
TPMC-QA-1440, Control of Nonconforming Items and Services
TPMC-QA-1460, Events, Investigations and Critiques
TPMC-QA-1502, Qualification of Independent Assessment Personnel
TPMC-QA-1520, Readiness Reviews for Radiological, Non-Nuclear, and Other Industrial Facilities/Activities
TPMC-QA-1610, Price-Anderson Amendments Act (PAAA) Noncompliance Determination And Reporting
TPMC-QA-1650, Graded Approach
TPMC-OR-1745, Worker Safety and Health Program Description
TPMC-GM-2000, Conduct of Operations for Projects, Facilities and Activities
TPMC-SH-2010, Hazard Review

TPMC-EH-2011, Safety Meetings
TPMC-EH-2015, Safety Concern (I Care/We Care)
TPMC-EH-2018, Suspension of Work (Safety Related)
TPMC-PORT-5001, Site Operations Review Committee
TPMC-QA-5027, Reporting Incidents/Event Fact Sheet/Incident Review Board
TPMC-SH-5140, Hazard Communications
TPMC FY06 Oversight Plan (In Development - "Draft" Completion)

Note: TPMC procedures are coversheeted from the previous Contractor BJC and Sub-Contractor WASTREN and are in the review and revision process to be fully integrated into the TPMC performance document system.

Site Assessment Report
F&I Commitment 25 – DNFSB Recommendation 2004-1

Results of Assessment of the
Effectiveness of Feedback & Improvement Process
At
Uranium Disposition Services, LLC, Paducah, KY and Portsmouth, OH Sites

Introduction:

Uranium Disposition Services, LLC (UDS) was contacted by John Saluke (DOE Portsmouth Paducah Project Office [PPPO]) to conduct a Feedback and Improvement assessment in accordance with guidance provided in the 11/9/05 DOE Environmental Management Memorandum – Integrated Safety Management System Feedback and Improvement (F&I) for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1. Additional guidance was provided by John Saluke in a 12/2/05 e-mail Draft 12/1/05 Supplemental Lines of Inquiry (to be used with the F&I assessment DNFSB guidance).

Based on DOE guidance documents, UDS developed an Assessment Plan utilizing the Lines of Inquiry (LOIs) provided by DOE. The assessment approach was to use the LOIs and conduct the assessment by: 1. Review of plans and procedures 2. Review of selected documentation, 3. Interviews with key Points of Contact, and 4. Observation of work in progress. The scope of the assessment included both UDS facilities at Paducah, KY and Portsmouth, OH and encompassed operations of the UF6 cylinder storage yards (commenced in 6/05) and construction activities (commenced 7/04). Due to time constraints, observations of work in progress was not accomplished for all locations or activities. Comments are based on previous observations and experience.

The LOIs results are recorded in Attachment 1 and summarized at the F&I Performance Objective (PO) level in the following sections. In accordance with DOE guidance provided in 12/14/05 John Saluke e-mail 2004-1 F&I Information, the results for each PO are summarized under the following criteria:

- Evaluation (PO Fully Met, Partially Met or Not Met).
- Results
- Noteworthy Practices (equivalent to UDS strengths and proficiencies)
- Judgment of Need (equivalent to UDS findings, observations and weaknesses)

Corrective actions are identified in Attachment 2.

F&I - 1: Contractor Program Documentation

Performance Objective (PO): Contractor Line management has established a comprehensive and integrated operational assurance system which encompasses all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.

LOIs: 1-1 through 1-6 (see Attachment 1)

Evaluation: Partially Met

Results:

The revised Project Quality Assurance Program Plan (PQAP), issued 5/26/05, provides the primary requirements for the integration of quality functions into all aspects of UDS activities. It incorporates the functions and principles of ISMS.

The Integrated Safety Management System Plan for Design and Construction and Integrated Safety Management System for Operations provide the primary requirements for the integration of safety functions into all aspects of UDS activities.

The program plans and performance documents fully describe a system designed to monitor and evaluate all work performed, including subcontractors, utilizing a graded approach based on risk.

An assessment program has been developed to ensure comprehensive oversight. Additionally, UDS commissioned a 3rd party audit of ISMS in 1/05.

Assurance data is documented in assessments, checklists, evaluation of suppliers, fact sheets, occurrence reports, lessons learned, condition reports, logs, Facility Operations Review Committee (FORC) and other meeting minutes, and other forms of documentation suitable to the activities. All data is available to DOE for review upon request.

Actions related to assurance activities are entered into the condition reporting system, assigned to personnel, significance level and closure due dates established. Status updates on condition reports, etc. are provided to DOE during the Monthly Status Review (MSR) meeting. Condition Reports are reviewed weekly by senior management to monitor and promote timely action closure.

ISMS performance metrics are reported monthly in the Monthly Progress Report and discussed with DOE monthly at the MSR.

The PQAP, ISMS Plans and ES&H Plan thoroughly address training. Resumes and Position Descriptions are maintained by the Human Resources Department that document the experience and technical and administrative expertise of personnel to perform work activities. Training of construction subcontractors is evaluated by UDS' subject matter experts during pre-mobilization activities through submittal of training records and interviews of subcontractor key personnel.

Noteworthy Practices:

Comprehensive program level documents have been developed and approved by DOE. Personnel are appropriately trained and qualified. Comprehensive ISMS Annual Declaration report submitted to PPPO that provided performance indicators and showed how ISMS is integrated into UDS activities. Computerized system utilized for initiating, evaluating and tracking noncompliances, nonconformance and suggestions for improvement.

Judgment of Need (JON):

JON-1: Some implementing plans and procedures need to be revised based on recent contract changes.

JON-2: Some Departments have been inconsistent in meeting requirements of the management assessment procedure.

F&I – 2: Contractor Program Implementation

2.1 Assessments and Performance Indicators

PO: Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.

LOIs: 2.1.1 through 2.1.5

Evaluation: Partially Met

Results:

(Note: supplemental information to F&I - 1 above). Key personnel are simultaneously notified of incidents by pager. Fact Sheets are developed for incidents and distributed to key personnel. Lessons learned from Occurrence Reporting System (ORPS) are routinely distributed to Managers, technical leads and subcontractors by the site ES&H Managers.

Limited operating experience (cylinder yard operations commenced 6/05 at both Paducah and Portsmouth) and the statistically insignificant number of events that have occurred to date precludes performing trend analysis.

Noteworthy Practices:

(Note: supplemental to F&I - 1, above). Effective incident reporting and screening of condition reports is being performed.

Judgment of Need:

JON-3: Trending program has not been implemented. Trend codes are not being consistently assigned in the condition reporting system.

JON-4: Lessons learned program has not been fully implemented. Data is not being entered into the DOE lessons learned system and data from the system is not being utilized.

2.2 Operating Experience

PO: The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.

LOIs 2.2.1 through 2.2.3 and 2.2.4 Supplemental (S)

Evaluation: Partially Met

Results: Lessons learned, primarily from the DOE ORPS database, are routinely distributed to Managers and Supervisors by the ES&H Managers at each site and are reviewed with UDS and subcontracted personnel during daily meetings. Both the Paducah and Portsmouth sites share information relating to events to prevent similar incidents at the sister plant. Managers routinely discuss relevant issues, lessons learned and other assurance activities in planning meetings and job walkdowns.

Noteworthy Practices:

Application of multiple worker feedback mechanisms and effective Stop Work authority. Several investigations and critiques have been conducted where workers actively participated in discussions of incidents and have proposed corrective actions.

Judgment of Need: See JON-1

During the course of the assessment if was identified that DOE O 210, Corporate Operating Experience Program was not added to the UDS contract as part of the recent changes.

2.3 Event Reporting

PO: Contractor Line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.

LOIs 2.3.1 and 2.3.2, and 2.3.3 (S) and 2.3.4 (S)

Evaluation: Partially Met

Results:

Incident reporting is thoroughly addressed in the PQAP, ES&H Plan, and the ISMS Plans. Issues are primarily reported through condition reports, initial event reports, assessments, Fact Sheets and screened for occurrence and PAAA reportability and significance by the UDS Compliance Officer and entered into the Condition Reporting System for action assignment and closure tracking, as appropriate.

Noteworthy Practices:

Effective incident reporting and screening provides information to management quickly for resolution or use. Fact Sheets are utilized to provide a rapid way to document incidents, provide notification to DOE of issues not meeting any reporting criteria but are of interest to DOE, and to initiate appropriate management action.

Judgment of Need:

JON–5: Occurrence Notification and Reporting procedure is being revised to incorporate the latest DOE order changes recently transmitted to UDS by a contract change.

2.4 Issues Management

PO: The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.

LOIs 2.4.1 through 2.4.6, and 2.4.7 (S) through 2.4.11 (S)

Evaluation: Partially Met

Results:

Issues are primarily reported through condition reports, initial event reports, assessments, Fact Sheets and screened for occurrence and PAAA reportability and significance by the UDS Compliance Officer and entered into the Condition Reporting System for action assignment and closure tracking, as appropriate. The Compliance Officer reports to the ES&H/Security Manager and maintains independence from line management.

The Facility Operations Review Committee periodically meets to evaluate key issues (safety, compliance, etc.) to help identify actions to prevent recurrence.

Key personnel at Paducah, Portsmouth and Lexington have completed TapRoot leadership training and employ several methods to ensure identification of programmatic or systemic issues, as well as, human errors. Extent of condition analysis is performed to determine applicability of an issue to the sister site.

Condition Reports are reviewed weekly by senior management to monitor and promote timely action closure. Verification of action item completion is conducted by QA prior to condition report closure, if appropriate, based on risk and severity. Personnel performing the causal analysis are independent of line management. Action items are assigned to appropriate groups or individuals independent of organizational boundaries.

Noteworthy Practices:

Fact Sheets provide a rapid way to document incidents, provide notification to DOE of issues not meeting any reporting criteria but are of interest to DOE, and to initiate appropriate management action.

Judgment of Need:

JON-6: See F&I - 2, JON – 3 (Trending Program). Also, Condition Report resolution and closure is not as aggressive as it should be.

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			N/A	A	O	F	How Satisfied	Strengths	Weaknesses
					Partially Met				
F&I - 1 Performance Objective: Contractor Program Documentation									
1	A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by contractor management, and forwarded to DOE for review and approval. The program description is reviewed and updated annually and forwarded to DOE for review and approval.	DUF6-UDS-PLN-003 Project Quality Assurance Plan (PQAP) UDS-QAP-001 Quality Management System Integration and Implementation DUF6-UDS-PLN-040 Integrated Safety Management System Operations DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase					The revised Project Quality Assurance Program Plan (PQAP) issued 5/26/05 provides the primary requirements for the integration of quality functions into all aspects of UDS activities. It incorporates the functions and principles of ISMS. The Integrated Safety Management System Plan for Design and Construction and Integrated Safety Management System for Operations provide the primary requirements for the integration of safety functions into all aspects of UDS activities. An assessment program has been developed and implemented to ensure comprehensive oversight. The ES&H department maintains a database of periodic deliverables to DOE such as the PQAP.		Some implementing plans and procedures need to be revised based on recent contract changes.

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
2	The contractor's assurance system includes assessment activities (*self-assessments, management assessments, and internal independent assessments* as defined by laws, regulations, and DOE directives such as quality assurance program requirements) and other structured operational awareness activities; *incident/event reporting* processes, including occupational *injury and illness* and operational *accident investigations*, *worker feedback* mechanisms; *issues management*; *lessons-learned* programs; and *performance indicators/measures*.	DUF6-UDS-PLN-003 Project Quality Assurance Plan UDS-QAP-016 Occurrence Notification and Reporting DUF6-UDS-PLN-040 Integrated Safety Management System - Operations UDS-SHP-301, Accident/Incident Reporting UDS-QAP-005, Condition Reporting UDS-SHP-104 Computerized Accident Incident Reporting System UDS-QAP-017, Lessons Learned UDS-QAP-012, Independent Assessments UDS-QAP-013, Management Assessment DUF6-UDS-LEX-05-00370 Facility Operations Review Committee Charter DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction	X				The PQAP thoroughly addresses assessments in Sections 9 and 10, worker feedback in Exhibit A, lessons learned in Section 3. The ISMS Plan also addresses these activities in related sections. The ES&H Plan and ISMS Plan thoroughly address incident reporting, worker feedback and performance measures in Sections 4.5 and 5.0.	Comprehensive program level documents. Multiple sources of data.	Some implementing plans and procedures need to be revised based on recent contract changes.

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			N/A	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
3	The contractor's assurance system monitors and evaluates all work performed under their contract, including the work of subcontractors.	UDS-QAP-004, Graded Approach DUF6-UDS-LEX-05-00370 Facility Operations Review Committee UDS-QAP-012, Independent Assessments UDS-QAP-013 Management Assessments UDS-CMP-024 Contractor Performance Evaluation UDS-VRD-105 Safety Surveillances	X				The program plans and procedures listed here and above fully describe a system designed to monitor and evaluate all work performed, including subcontractors, utilizing a graded approach based on risk.	Comprehensive program level documents.	Some Departments have been inconsistent in meeting requirements of the Management Assessment procedure.

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
							The implementation of this system is accomplished through the identification and estimated scheduling of assessments in accordance with UDS-QAP-013, Management Assessment and UDS-QAP-012, Independent Assessments. Additionally, safety surveillances and evaluations are conducted as part of the construction management program.		

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			N/A	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
4	Contractor assurance system data is formally documented and available to DOE line management. Results of assurance processes are periodically analyzed, compiled and reported to DOE line management as part of formal contract performance evaluation.	UDS-QAP-005, Condition Reporting UDS-QAP-016, Occurrence Notification and Reporting UDS-QAP-017, Lessons Learned Program DUF6-UDS-LEX-05-00941 Fiscal Year 2005 Integrated Safety Management System Declaration	X				Assurance data is documented in assessments, checklists, evaluation of suppliers, fact sheets, occurrence reports, lessons learned, condition reports, logs, Facility Operations Review Committee (FORC) and other meeting minutes, and other forms of documentation suitable to the activities. All data is available to DOE for review upon request. Actions related to assurance activities are entered into the condition reporting system, assigned to personnel, significance level and closure due dates established. Status updates on condition reports, etc. are provided to DOE during the Monthly Status Review (MSR) meeting. Condition Reports are reviewed weekly by senior management to monitor and promote timely action closure. ISMS performance metrics are reported monthly in the Monthly Progress Report and discussed with DOE monthly at the MSR.	Multiple sources of data. Comprehensive, computerized system with issues coded for significance level, status, etc..	
5	Contractors have established and implemented sufficient processes (e.g., self assessments, corporate audits, third-party certifications or external reviews, performance indicators) for measuring the effectiveness of the contractor assurance program.	See F&I-1, #2					See F&I-1, #2 Additionally, UDS commissioned a 3rd party audit of ISMS in 1/05.		See F&I-1, #2

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
6	Requirements and formal processes have been established and implemented that ensure personnel responsible for managing and performing assurance activities possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities.	DUF6-UDS-PLN-003 Project Quality Assurance Plan (PQAP) UDS-GFP-001 Portsmouth Yard Management UDS-GFP-002 Paducah Yard Management UDS-QAP-002, Training and Qualification UDS-VRD-102 Training and Indoctrination	X				The PQAP, ISMS Plans and ES&H Plan thoroughly address training. In Section 2 of the PQAP, Section 7 of ES&H Plan, Section 4.3 and Supplement B of ISMS PLN 040 and Section 5.3 and Supplement C of ISMS PLN-040. Resumes and Position Descriptions are maintained by the Human Resources Department which document the experience and technical and administrative expertise of personnel to perform work activities. Construction subcontractor training is evaluated during pre-mobilization activities through submittal of training records. Management assessments are performed by personnel with technical expertise in the activity evaluated or with strong comprehension, observation and documentation skills. Independent assessments are performed by personnel similar to Management assessments, but led by Lead Auditors qualified to specific criteria. All assessments are reviewed by senior management for accuracy, completeness, and readability.	Comprehensive and effective training program.	

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			N/A	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
F&I – 2 Performance Objective: Contractor Program Implementation									
2.1 Assessments and Performance Indicators									
1	Line management has established and implemented a rigorous assessment program for performing comprehensive evaluations of all functional areas, programs, facilities, and organizational elements, including subcontractors, with a frequency, scope and rigor based on appropriate analysis of risks. The scope and frequency of assessments are defined in site plans and program documents, include assessments of processes and performance-based observation of activities and evaluation of cross-cutting issues and programs, and meet or exceed requirements of applicable DOE directives.	See F&I–1, #1, 2 and 3 above.	X				See F&I–1, #1, 2 and 3		See F&I–1, #1, 2 and 3
2	Rigorous self-assessments are identified, planned, and performed at all levels periodically to determine the effectiveness of policies, requirements, and standards and the implementation status.	See F&I–1#1, 2 and 3 above.	X				See F&I–1 #1, 2 and 3		See F&I-1 #1, 2 and 3
3	Appropriate independent internal assessments are identified, planned and performed by contractor organizations or personnel having the authority and independence from line management, to support unbiased evaluations.	See F&I–1, #1, 2 and 3 above					See F&I–1, # 1, 2 and 3		See F&I-1 #1, 2 and 3

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
4	Line managers have established programs and processes to routinely identify, gather, verify, analyze, trend, disseminate, and make use of performance measures that provide contractor and DOE management with indicators of overall performance, the effectiveness of assurance systems, and identification of specific positive or negative trends. Approved performance measures provide information that indicates how work is being performed and are clearly linked to performance objectives and expectation established by management.	See F&I-1, #4 above					See F&I-1, #4 Limited operating experience (cylinder yard operations commenced 6/05 at both Paducah and Portsmouth) and the statistically insignificant number of events that have occurred to date precludes performing trend analysis.	Multiple sources of data. Comprehensive, computerized system with issues coded for significance level, status, etc..	Trending program has not been implemented. Trend codes are not consistently being assigned.

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
5	Line managers effectively utilize performance measures to demonstrate performance improvement or deterioration relative to identified goals, in allocating resources and establishing performance goals, in development of timely compensatory measures and corrective actions for adverse trends, and in sharing good practices and lessons learned.	UDS-QAP-019 Trend Analysis UDS-QAP-017 Lessons Learned Program DUF6-UDS-LEX-05-00941 Fiscal Year 2005 Integrated Safety Management System Declaration					Lessons learned, primarily from the DOE ORPS database, are routinely distributed to Managers and Supervisors by the ES&H Managers at each site and are reviewed with subcontracted personnel during daily meetings. Both the Paducah and Portsmouth sites share information relating to events to prevent similar incidents at the sister plant. Managers routinely discuss relevant issues, lessons learned and other assurance activities in planning meetings and job walkdowns. Actions related to assurance activities are entered into the condition reporting system, assigned to personnel and closure due dates established. The data is reviewed weekly by senior management to monitor and promote timely action closure.	Effective incident reporting and screening that get information to management quickly for resolution or use. Multiple sources of data. Comprehensive, computerized system with issues coded for significance level, status, etc..	Lessons learned program not fully implemented. Data from the DOE lessons learned system is not being utilized

2.2 Operating Experience

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			N/A	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
1	Formal processes are in place to identify applicable lessons learned from external and internal sources and any necessary corrective and preventive actions, disseminate lessons learned to targeted audiences, and ensure that lessons learned are understood and applied.	UDS-QAP-017, Lessons Learned Program	X				Lessons learned are routinely distributed to Managers and Supervisors by the ES&H Managers at each site and are reviewed for subcontracted work during daily meetings. Managers routinely discuss relevant lessons learned in planning meetings and job walkdowns.		See F&I-2, #5
2	Line managers effectively identify, apply, and exchange lessons learned with the rest of the DOE complex. Lessons learned identified by other DOE organizations and external sources are reviewed and applied by line management to prevent similar incidents/events.	UDS-QAP-017, Lessons Learned Program	X				Lessons learned are distributed from the DOE ORPS database to UDS management as well as subcontractor management at all work locations.		See F&I-2, #5

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
3	Formal programs and processes have been established and implemented to solicit feedback or suggestions from workers and work activities on the effectiveness of work definition, hazard analysis and controls, and implementation of all types of work activities, and to apply lessons learned.	DUF6-UDS-PLN-003 Project Quality Assurance Plan (PQAP) DUF6-UDS-PLN-040 Integrated Safety Management System - Operations DUF6-UDS-PLN-006 Integrated Safety Management System Plan for Design and Construction DUF6-UDS-PLN-041 Environmental Safety and Health Plan – Construction Phase UDS-SHP-101, Safety Concerns UDS-QAP-022, Stop Work UDS-VRD-104 Suspension of Work UDS-VRD-601, Hazard Communications UDS-HRP-007 Employee Concerns program UDS-GFP-108 Work Control	X				Worker feedback is thoroughly addressed in Sections 3 and 5 of the PQAP, Section 2 of the ES&H Plan,. Section 3.3, 4.0 and 6.0 of the ISMS Plan 006 and Section 5 and Supplement B of ISMS PLN-040, and in the associated procedures. Workers have the responsibility and authority to stop work without retaliation if there is a safety concern. Worker feedback is routinely solicited in morning planning meetings, job walkdowns, procedure development and revisions, AHA development, safety meetings, Employee Concerns, assessments, safety investigations, critiques, etc.	Multiple worker feedback mechanisms and effective Stop Work authority.	

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
4 (S)	The feedback sources monitored and integrated by line management to identify improvement opportunities include indications of safety culture, such as open reporting and a receptive, learning environment.	See 2.2 - #3	X				See #3 above. Workers have the responsibility and authority to stop work without retaliation if there is a safety concern. Employee Concerns program provide a mechanism for open reporting and a receptive learning environment.	Multiple worker feedback mechanisms and effective Stop Work authority.	
2.3 Event Reporting									
1	Formal programs and processes have been established to identify issues and report, analyze, and address operational events, accidents, and injuries. Events, accidents, and injuries are promptly and thoroughly reported and investigated, including the identification and resolution of root causes and management and programmatic weaknesses, and distribution of lessons learned.	UDS-SHP-301, Accident/Incident Reporting UDS-QAP-005, Condition Reporting UDS-QAP-016, Occurrence Notification and Reporting UDS-QAP-017 Lessons Learned UDS QAP-018, Root Cause Analysis UDS-SHP-305, Investigations and Critiques UDS-QAP-015, Price-Anderson Amendments Act (PAAA) Reporting UDS-SHP-104 Computerized Accident Incident	X				Incident reporting is thoroughly addressed in Sections 3 of the PQAP, Sections 3.5. 2 of the ES&H Plan, Section 4.3 of the ISMS Plan, and in the associated procedures. Issues are primarily reported through condition reports, initial event reports, assessments, Fact Sheets and screened for occurrence and PAAA reportability and significance by the UDS Compliance Officer and entered into the Condition Reporting System for action assignment and closure tracking, as appropriate.	Effective incident reporting and screening get information to Management quickly for resolution or use. Fact Sheets provide a rapid way to document incidents, provide notification to DOE of issues not meeting any reporting criteria but are of interest to DOE and initiate appropriate management action.	Occurrence Notification and Reporting procedure revision that incorporates latest DOE order changes is currently being revised

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			N/A	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
2	Reporting of operational events, accidents, and injuries are conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE directives, and contract terms and conditions. Trending analysis of events, accidents, and injuries, are performed in accordance with structured/formal processes and applicable DOE directives.	See F&I-2, section 2.3 - #1	X				See F&I-2, section 2.3 - #1 Operational events, accidents, and injuries are reported in accordance with requirements.		See F&I-2, section 2.1 - #4
3 (S)	Line managers throughout the organization encourage and are responsive to employee feedback.	UDS-HRP-007 Employee Concerns Program UDS-SHP-101, Safety Concerns					Worker feedback is routinely solicited by line managers in morning planning meetings, job walkdowns, procedure development and revisions, AHA development, safety meetings, Employee Concerns, assessments, safety investigations, critiques, etc. Employee feedback, when received, is acted upon to more effectively control hazards and increase efficiency and productivity.	Multiple worker feedback mechanisms and effective Stop Work authority.	
4 (S)	Employees openly report errors and performance challenges to line management, with confidence that the information will be used to drive improvement	UDS-HRP-007 Employee Concerns Program UDS-SHP-101, Safety Concerns					Employee feedback, when received, is acted upon to more effectively control hazards and increase efficiency and productivity.	Multiple worker feedback mechanisms and effective Stop Work authority.	
2.4 Issues Management									

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
1	Program and performance deficiencies, regardless of their source, are captured in a system or systems that provides for effective analysis, resolution, and tracking. Issues management system elements include structured processes for determination of risk, significance, and priority of deficiencies; evaluation of scope and extent of condition; determination of reportability under applicable requirements; identification of root causes; identification and documentation of corrective actions and recurrence controls to prevent recurrence; identification of individuals/organizations responsible for corrective action implementation; establishment of milestones based on significance and risk of completion of corrective actions; tracking progress; verification of corrective action completion; and validation of corrective action implementation and effectiveness.	See F&I-2, section 2.3 - # 1 and 2					Issues are primarily reported through condition reports, initial event reports, assessments, Fact Sheets and screened for occurrence and PAAA reportability and significance by the UDS Compliance Officer and entered into the Condition Reporting System for action assignment and closure tracking, as appropriate.The Compliance Officer reports to the ES&H/SM and maintains independence from line management.		

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
2	Issues management processes include mechanisms to promptly identify the potential impact of a deficiency and take timely actions to address conditions of immediate concern, including stop work, system shutdown, emergency response, reporting to management, and compensatory measures pending formal documentation and resolution of the issue.	See F&I-2,section 2.3, #1					See F&I-2,section 2.3, #1	See F&I-2,section 2.3, #1	See F&I-2,section 2.3, #1
3	Processes for analyzing deficiencies, individually and collectively, have been established that enable the identification of programmatic or systemic issues. Line management effectively monitors progress and optimizes the allocation of assessment resources in addressing known systemic issues.	UDS-QAP-005, Condition Reporting UDS-QAP-019, Trend Analysis UDS-QA-016, Occurrence Notification and Reporting UDS-QAP-018, Root Cause Analysis					The Facility Operations Review Committee periodically meets to evaluate key issues (safety, compliance, etc.) to help identify actions to prevent recurrence. Fact Sheets provide a rapid way to document incidents, provide notification to DOE of issues not meeting any reporting criteria but are of interest to DOE and initiate appropriate management action.	Multiple sources of data. Comprehensive system with issues coded for priority and closure status.	See F&I-2, Sec. 2.1, #4
							Key personnel at all three sites have completed TapRoot leadership training and employ several methods to ensure identification of programmatic or systemic issues.		

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
							Managers routinely discuss relevant issues from condition reports, intial event reports, fact sheets, lessons learned and other assurance activities in planning meetings and job walkdowns.		
							Extent of condition analysis is performed to determine applicability of an issue to the sister site.		

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
4	Processes for communicating issues up the management chain to senior management have been established and based on a graded approach that considers hazards and risks. Line management receives periodic information on the status of identified deficiencies and corrective actions and holds organizations and individuals accountable for timely and effective completion of actions. Line management has executed graded mechanisms such as independent verification and performance-based evaluation to ensure that corrective action and recurrence controls are timely, complete, and effective. Closure of corrective actions and deficiencies are based on objective, technically sound, and verified evidence. The effectiveness of corrective actions is determined on a graded basis and additional actions are completed as necessary.	UDS-QAP-005, Condition Reporting					Issues are primarily reported through condition reports, initial event reports, assessments, Fact Sheets and screened for occurrence and PAAA reportability and significance by the UDS Compliance Officer and entered into the Condition Reporting System for action assignment and closure tracking, as appropriate. Condition Reports are reviewed weekly by senior management to monitor and promote timely action closure. Verification of action item completion is conducted by QA prior to condition report closure, if appropriate, based on risk and severity.	Multiple sources of data. Comprehensive, computerized system with issues coded for significance level, status, etc..	Condition Reporting resolution and closure is not as aggressive as it should be.
5	Results of various feedback systems are integrated and collectively analyzed to identify repeat occurrences, generic issues, trends, and vulnerabilities at a lower level before significant problems result.	UDS-QAP-005, Condition Reporting UDS-QAP-019, Trend Analysis DUF6-UDS-LEX-05-00941 Fiscal Year 2005 Integrated Safety Management System Declaration					Data is screened for occurrence and PAAA reportability, significance (causal analysis) and repeat occurrence by the Compliance Officer.		See F&I-2, Sec. 2.1, #4

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			NA	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
6	Individuals or teams responsible for corrective action development are trained in analysis techniques to evaluate significant problems using a structured methodology to identify root and contributing causes and corrective actions to prevent recurrence.	UDS-QAP-018, Root Cause Analysis	X				Key personnel at all three sites are trained in TapRoot causal analysis. Many other employees have had some level of causal analysis training in their careers.	Multiple sources of data. Comprehensive, computerized system with issues coded for significance level, status, etc..	
7 (S)	Casual analysis seeks to determine not only the immediate and direct causes of the event/near-miss, but also the organizational factors that created the environment where the event could occur.	UDS-QAP-018, Root Cause Analysis	X				Key personnel at all three sites trained in TapRoot employ several methods such as safeguards analysis and change analysis.		Limited experience due to lack of events
8 (S)	Events/near-miss are evaluated to determine the extent to which the contributing factors exist across the organization, and corrective actions are developed to address the full extent of condition.	UDS-QAP-016, Occurrence Notification and Reporting UDS-QAP-018, Root Cause Analysis	X				Key personnel at all three sites trained in TapRoot employ several methods such as proactive performance improvement to ensure issues are evaluated for generic root cause and extent of condition, where appropriate.	Multiple sources of data. Comprehensive, computerized system with issues coded for significance level, status, etc..	
9 (S)	Critiques, accident investigations, and associated casual analyses are focused to identify conditions and organizational factors, not to apportion blames to individuals or organizational units.	UDS-SHP-301, Investigations and Critiques UDS-SHP-301 Accident and Incident Reporting	X				Several critiques have been conducted by ES&H personnel and employees involved actively participated.	Multiple sources of data. Comprehensive, computerized system with issues coded for significance level, status, etc..	
10 (S)	Casual analysis and the resulting development of corrective actions are not constrained by organizational boundaries or management hierarchy.	UDS-QAP-018, Root Cause Analysis	X				Personnel performing the causal analysis are independent of line management. Action items are assigned to appropriate groups or individuals independent of organizational boundaries.		

ATTACHMENT 1
Uranium Disposition Services, LLC
Feedback and Improvement
Lines of Inquiry (LOIs)

LOI #	Criteria	Reference Document	Results				Comments		
			N/A	A	O Partially Met	F	How Satisfied	Strengths	Weaknesses
11 (S)	Evaluations of events/near-misses that find human error to be a cause or contributor consider the limitations of human performance and examine whether the expectations and work environment were structured for success.	UDS-QAP-018, Root Cause Analysis	X				Personnel trained in TapRoot employ several methods such as critical human action profile techniques and human factors engineering to assess human errors.	.	
LEGEND:	A: Acceptable - Fully meets requirements								
	O: Observation - Partially Met; a condition if left unchanged may lead to a finding								
	F: Finding - Not met; a direct deviation from a written requirement								
	N/A criteria not applicable to UDS contract								

SEPARATION

PAGE

06.0429

RL-F-1325.6 (02/98)

United States Government **Department of Energy**

memorandum

Richland Operations Office

DATE: JAN 12 2006

REPLY TO ATTN OF: OOD:RMI/06-OOD-0031

SUBJECT: DNFSB RECOMMENDATION 2004-1, RL WORK PLANNING ASSESSMENT AND ACTION PLAN

TO: I. R. Triay
Chief Operating Officer, EM-3, HQ

This memorandum transmits the DOE-Richland Operations Office (RL) work planning assessments and associated action plan completed to meet DNFSB 2004-1 Commitment 23. The assessment was performed in accordance with the Criteria and Review Approach Document (CRAD) provided in your memorandum "Work Planning and Work Control Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 23," dated November 18, 2005.

Attachment 1 provides a summary of the assessment results against each of the work planning criteria and the issue statement for individual issues that were identified. Attachment 2 provides the resulting action plan developed to address the programmatic issues and drive work planning continuous improvement. Attachments 3, 4, and 5 provide the completed oversight results for RL and each of the RL projects.

If you have questions, please contact me, or your staff may contact Doug S. Shoop, Assistant Manager for Safety and Engineering, on (509) 376-0108.

Keith A. Klein
Manager

Attachments

cc w/attachs:
T. E. Krietz, EM-22
C. C. Scott, EM 3.2
R. G. Gallagher, FHI
P. L. Pettiette, WCH

Attachment 2
06-OOD-0031

Work Planning Action Plan
DNFSB Recommendation 2004-1, Commitment 23

SA-06-OOD-CIPE-004

January 2006

Work Planning Action Plan

This action plan represents existing and proposed RL and contractor corrective actions intended to drive continuous improvement of site work planning and work performance. A large number of actions were established prior to the EM request for this action plan; however, additional actions have been added based upon contractor self-assessment and RL evaluation of fieldwork planning performance per the RL surveillance guide that was revised to incorporate the work planning CRAD.

RL

WPC-RL-A1 Incorporate work planning CRAD into work planning surveillance guide.

Assignee: Rob Hastings

Due Date: Complete

WPC-RL-A2 Perform RL verification of work control and hazardous energy control integration (S-04-OOD-PHMC-002) corrective action plan.

Assignee: Rob Hastings

Due Date: June 15, 2006

WPC-RL-A3 Perform RL verification of work planning hazard identification (S-05-OOD-PHMC-002-C01) corrective action plan.

Assignee: Rob Hastings

Due Date: March 15, 2007

Washington Closure Hanford, LLC (WCH)

The recently awarded river corridor contract is currently being implemented. The contractor is currently operating under the previous ISMS, however, they will be submitting an ISMS description to RL in the near future and ISMS verification is scheduled for FY 2006. RL will evaluate WCH implementation of work planning in the ISMS Phase II verification. In the interim, a surveillance was performed in December 2005 in accordance with the work planning criteria. The oversight resulted in the identification of seven findings and eleven observations that will be addressed as the WCH ISMS system is fully implemented and verified by the DOE ISMS verification. Actions for the ISMS will be included in the Action Plan.

WPC-WCH-A1 Complete the WCH ISMS Phase 1 Verification.

Assignee: Doug Shoop

Due Date: May 30, 2006

WPC-WCH-A2 Complete the WCH ISMS Phase II Verification.

Assignee: Doug Shoop

Due Date: September 30, 2006

Fluor Hanford, Inc. (FHI)

Actions from the FY 2004 work planning core surveillance were focused on improvements to the FHI work control procedure and integration with hazardous energy control. The actions are largely complete and have been integrated within the FY 2005 Core Surveillance corrective action plan. The following actions are part of the FHI Corrective Action Plan developed in response to the FY 2005 RL Core Surveillance. In addition, oversight of contractor work planning was performed in December 2005 in accordance with the criteria provided. Eight surveillances were performed resulting in the identification of nine findings and sixteen observations. RL evaluation of the issues indicate that they represent additional examples of poor work planning that are expected to be addressed by the completion of the corrective actions identified below. One continuing concern with weaknesses in identification of hazards and associated controls in work instructions was identified. FHI will identify additional corrective actions resulting from the individual issues in the eight surveillances and incorporate these actions into the implementation plan per action A3 below. RL verification of the adequacy of corrective actions will be performed upon completion of the FHI work planning corrective action plan and the long-term effectiveness of the corrective actions will be evaluated by monitoring future events and performance of the annual work planning core surveillance.

In addition to the work planning actions described below, RL and the RL prime contractors have initiated a joint Human Performance Improvement (HPI) initiative designed to improve error identification and resolution of latent organizational conditions. The INPO Human Performance leadership framework is being utilized to develop a strategy for HPI implementation across RL workscope. Specific initial actions to support this initiative will be incorporated into the RL feedback and improvement action plan; however, these actions are expected to support continuous improvement of work planning in the future. The actions will not be duplicated here, but are referenced to communicate the expected benefit to work planning implementation.

WPC-FHI-A1 (29021732-1): Perform assessment of adequacy of fieldwork.

Discussion: FHI commenced this assessment in October 2005, and the results from this assessment to date have been incorporated into this action plan.

Assignee: Reed Kaldor, FHI

Due Date: February 28, 2006

WPC-FHI-A2 (29021732-11): Develop performance indicators to evaluate effectiveness of work management program.

Assignee: Reed Kaldor, FHI

Due Date: January 5, 2006

WPC-FHI-A3 (29021732-3): Develop an Implementation Plan based upon results of the assessment in A1.

- Change the FHI work management and job hazards analysis procedures to improve

integration between them and to use consistent terminology.

- Develop improved criteria for when post job review performance is required and reduce the level of effort required to document feedback data developed.
- Identify the work planning positions that will have training needs analysis conducted (see action A4).

Assignee: Reed Kaldor, FHI

Due Date: April 15, 2006

WPC-FHI-A4 (29021732-6, 7): Update training needs analysis and qualification standards for planners.

Assignee: Reed Kaldor, FHI

Due Date: May 30, 2006

WPC-FHI-A5 (29021738-2): Reinforce management's expectations for completing work record entries.

Assignee: Gerry Griffin, FHI

Due Date: Complete

WPC-FHI-A6 (29021736-1): Reinforce management's emphasis on importance of post job reviews.

Assignee: Gerry Griffin, FHI

Due Date: Complete

WPC-FHI-A7 (29021736-2): Conduct self-assessment of conduct of post-job reviews.

Assignee: Reed Kaldor, FHI

Due Date: February 28, 2006

In addition to the actions being taken in response to the Core Surveillance above, FHI is taking actions in response to the RL Electrical Work Management surveillance. The actions were integrated with the actions above and are as follows:

WPC-FHI-A8 (29021731-1): Determine method of documenting decision on hazards analysis.

Assignee: Gerry Griffin, FHI

Due Date: Complete

WPC-FHI-A9 (29021731-2): Communicate expectations for a hazards analysis to support work planning.

Assignee: Dennis Wiatrak, FHI

Due Date: Complete

WPC-FHI-A10 (29021752-1): Reinforce requirements for electrical work into work planning hazard identification and control.

Assignee: Paul Garello, FHI

Due Date: Complete

RL Work Planning Action Plan Summary

Action Ref.	Title	Assignee	Due Date
WPC-RL-A1	Incorporate work planning CRAD into work planning surveillance guide.	R. Hastings	Complete
WPC-RL-A2	Perform RL verification of work control and hazardous energy control integration (S-04-OOD-PHMC-002) corrective action plan.	R. Hastings	June 15, 2006
WPC-RL-A3	Perform RL verification of work planning hazard identification (S-05-OOD-PHMC-002-C01) corrective action plan.	R. Hastings	March 15, 2007
WPC-WCH-A1	Complete the WCH ISMS Phase 1 Verification.	D. Shoop	May 30, 2006
WPC-WHC-A2	Complete the WCH ISMS Phase II Verification.	D. Shoop	Sept. 30, 2006
WPC-FHI-A1 (29021732-1)	Perform assessment of adequacy of fieldwork.	R. Kaldor	Feb. 28/06
WPC-FHI-A2 (29021732-11)	Develop performance indicators to evaluate effectiveness of work management program.	R. Kaldor	Jan. 5, 2006
WPC-FHI-A3 (29021732-3)	Develop an Implementation Plan based upon results of the assessment in A1.	R. Kaldor	April 15, 2006
WPC-FHI-A4 (29021732-6, 7)	Update training needs analysis and qualification standards for planners.	R. Kaldor	May 30, 2006
WPC-FHI-A5 (29021738-2)	Reinforce management's expectations for completing work record entries.	G. Griffin	Complete
WPC-FHI-A6 (29021736-1)	Reinforce management's emphasis on importance of post job reviews.	G. Griffin	Complete
WPC-FHI-A7 (29021736-2)	Conduct self assessment of conduct of post job reviews.	R. Kaldor	Feb. 28, 2006
WPC-FHI-A8 (29021731-1)	Determine method of documenting decision on hazards analysis.	G. Griffin	Complete
WPC-FHI-A9 (29021731-2)	Communicate expectations for a hazards analysis to support work planning.	D. Wiatrak	Complete
WPC-FHI-A10 (29021752-1)	Reinforce requirements for electrical work into work planning hazard identification and control.	P. Garello	Complete

Attachment 1
06-OOD-0031

Scope:

In response to DNFSB Implementation Plan 2004-1, Commitment 23, EM directed RL to perform an assessment of work planning and control in accordance with the criteria and review approach documents (CRADs) provided in a memorandum from D. K. Garman to J. A. Rispoli dated November 9, 2005. RL performed a self-assessment, SA-06-OOD-CIPE-001, against Work Planning and Control (WPC) Oversight criteria 1 and 2. To evaluate the Performance Objectives for Work Planning and Control (WPC) Numbers 3 through 7, RL modified lines of inquiry for the RL Work Control and Planning Surveillance Guide to address the EM CRADs, and conducted surveillances against each Fluor Hanford, Inc. (FHI) project, and one surveillance of Washington Closure Hanford, LLC. Additionally, FHI conducted a self-assessment on work management. Weaknesses and strengths from the RL and FHI oversight are discussed below. Key actions identified to address the weaknesses are specified in the Action Plan.

Summary of Results for WPC 1 and 2:

WPC-1 and -2 Work Planning and Control Oversight: RL performed a self-assessment against the CRADS to evaluate this area. The self-assessment found processes are in place to ensure evaluation and oversight of contractor work planning. Oversight planning includes consideration of risk, hazards and complexity of the work activity and the identification of performance issues. Evidence exists that oversight is performed and used to support trending and tracking of issues, continuous improvement, and contractual actions, when necessary. Based upon the results of the self-assessment, RL has adequate mechanisms to perform oversight of all aspects of work planning, including processes to document, trend, and resolve issues. No weaknesses were identified by the self-assessment.

Summary of Results for WPC 3 through 7:

In December 2005, RL completed eight surveillances on FHI facilities utilizing Surveillance Guide MAS 10.4, "Work Planning and Work Control." The surveillances resulted in nine findings and sixteen observations which were evaluated for crosscutting issues/concerns. The evaluation resulted in a concern related to weaknesses in the process for identifying hazards and implementation of controls into work instructions. This concern and two others were identified by RL in June 2005, and which FHI addressed in a Corrective Action Plan (CAP) submitted to RL in August 2005. One action in the CAP was for FHI to perform an assessment of the adequacy of fieldwork at all projects to determine whether work is performed in accordance with requirements. RL completed a crosswalk of Surveillance Guide MAS 10.4 and FHI assessment criteria against the EM CRADs to ensure all areas were evaluated. The outcome of each Performance Objective is summarized below.

WPC-3 Work Control Program Documentation: FHI has established a documented work planning and control program in HNF-PRO-12115, Work Management, HNF-PRO-079, Job Hazard Analysis, and individual projects have implementing procedures. Personnel are trained to the work control requirements. The program includes a post-job review and a vehicle for incorporation of lessons learned into work packages. Qualification requirements for Work Control Managers and Planners have not been established, but this is included in the FHI CAP and was incorporated in the RL Action Plan. The December 2005 RL surveillances did not identify any additional concerns. The following issue associated with this CRAD was identified in the surveillances:

- **S-06-OOD-SWOC-002-O01** The process required to reduce the scope (i.e. remove later boxes found to not meet the weight criteria for a "critical lift") of a generic work instruction for critical lifts was excessively time consuming and convoluted.

WPC-4 Work Planning and Control Activity (Definition and Hazard Identification): FHI utilizes the Automated Job Hazard Analysis (AJHA) program to identify hazards and their associated controls. RL observed AJHA development and field walk-downs for activity for varying complexities. In general, the AJHA tool is effectively utilized in conjunction with a walk-down of the proposed activity by an integrated team. Upset conditions are being considered. Information from the walk-downs is used to develop the work package, but additional attention is needed as discussed in WPC-5. RL review found isolated instances of projects not integrating hazard information into a recovery plan, changes made to a completed AJHA during ALARA committee review, and an AJHA that did not reflect work conditions. These isolated events did not represent a programmatic concern. The following issues associated with this CRAD were identified in the surveillances.

- **S-06-OOD-PFP-002-O03** Hazards information was not integrated into recovery plan activities.
- **S-06-OOD-PFP-002-F02** Several examples were identified where the AJHAs do not adequately reflect/address work conditions.
- **S-06-OOD-CENTPLAT-002-O02** Two changes identified to completed AJHA during Enhanced ALARA Committee review.

WPC-5 Work Planning and Control Process: RL reviewed the work package development process, completed work packages, interface between the identification of controls, and incorporation into the work package. Most work packages included a clear scope, proper sequencing, incorporated requirements, and controls were identified prior to the applicable step in the procedure. RL's review identified issues at different facilities with inadequate identification of isolation boundaries for Lockout/Tagout. A finding and several observations related to controls identified in the AJHA not being incorporated adequately into the work package. This weakness was identified as a repeat concern. However, no additional actions are deemed to be warranted at this time because FHI is in the process the implementing corrective actions. RL will continue to monitor progress as part of routine oversight and document the information in the Operational

Awareness database. The following issues associated with this CRAD were identified in the surveillances.

- **S-06-OOD-CENTPLAT-002-O01** Lack of timely reviews/approvals of work packages.
- **S-06-OOD-SWOC-002-O03** Actual man-hours worked was double the planning estimate.
- **S-06-OOD-SNF-002-O01** Planners consistently underestimated craft and support personnel hours.
- **S-06-OOD-CENTPLAT-002-F01** Poor work planning evident in insufficient LO/TO isolation boundary identification.
- **S-06-OOD-SWOC-002-F01** The two lockout points identified in W1-05-06596 were inadequate to completely isolate the electrical power and remove the potential hazards to personnel who would be performing the task described in the Work Document.
- **S-06-OOD-PFP-002-O02** Vague work instructions or controls were identified in two work packages.
- **S-06-OOD-200LWP-LPCS-002-O01** Work package did not contain all necessary information.
- **S-06-OOD-SNF-002-F02** 105-KE management personnel failed to recognize and apply the Unreviewed Safety Question (USQ) process.
- **S-06-OOD-FFTF-002-F01** Controls identified during the work package planning process (Automated Job Hazard Analysis) were not being consistently incorporated into work instructions.
- **S-06-OOD-CENTPLAT-002-O03** Lack of specific precautions/limitations specified in work package regarding weight limitations of equipment.

WPC-6 Work Planning and Control Oversight: RL performed considerable oversight of performance of work activities during the completed surveillances. Reviews indicated supervisors and workers were knowledgeable of their work control documents and processes. Operations work control authorities at FHI facilities reviewed work documents to ensure scheduled work activities could be performed safely and authorized release of work documents prior to commencement of work. Pre-job briefings are being performed on a consistent basis, the level of detail of the briefings is appropriate for the scope of the work, and were found to be satisfactorily conducted. First-line supervisors and workers understand their stop-work authority. A couple of instances were noted with fieldwork supervisors and workers not following work control document instructions as written, nor following their change control process to make required changes to work documents when discrepancies were noted. One example was noted where personnel were not using the Activity Level Feedback Database of the Automated Job Hazard Analysis (AJHA) to provide lessons learned to other users. These isolated events were not of significance to be deemed a programmatic concern. The following issues associated with this CRAD were identified in the surveillances.

- **S-06-OOD-PFP-002-F01** Scaffolds were not constructed and or maintained to scaffolding requirements.
- **S-06-OOD-200LWP-LPCS-002-O02** RWP not reviewed during pre-job.
- **S-06-OOD-PFP-002-F03** Work instructions for two work packages were not completed as written.
- **S-06-OOD-PFP-002-O01** Modified emergency response plans were not formally controlled or disseminated.
- **S-06-OOD-SWOC-002-O02** Some of the work record entries contained write-over entries that raised potential legibility questions.
- **S-06-OOD-SNF-002-F01** The contractor modified the 105-KE Facility without using a work / change control process.
- **S-06-OOD-FFTF-005-O01** Personnel were not using the Activity Level Feedback Database of AJHA to provide the benefit of lessons learned to other users.

WPC-7 Work Planning and Control Oversight: FHI has an established process to perform timely assessments/surveillances of the work planning and control process. As part of each surveillance, an evaluation of the contractor's self-assessment program in the area under review is required. Of the eight surveillances conducted as part of the work planning and work control review, only the PFP Project self-assessment process was found to be inadequate in this area. The contractor generally schedules and performs self-assessments and independent assessments of the work control process. These assessments are included in the Integrated Evaluation Plan which is reviewed by RL. Issues that are identified in these assessments are processed through corrective action management and the contractor tracks and trends the results of the oversight activities. Line managers periodically review approved work control documents and perform surveillances of in-field activities. Other than the lack of self-assessments at PFP, this was not an area noted as weak or needing improvement. The following issue associated with this CRAD was identified in the PFP surveillance:

- **S-06-OOD-PFP-002-F04** Periodic assessments of the job hazard analysis process are not being performed.

Conclusion:

In general, work planning and control at FHI facilities is being performed adequately to ensure work at the activity level is controlled. FHI's work control program is documented, and staff members are taking automated job hazard analysis process training. Proposed work activities are adequately defined, but continued weakness was observed in the process of identifying hazards and the implementation of controls into work instructions. RL believes the FHI activities in the Action Plan will adequately address the programmatic weakness. Contractor personnel generally perform work in accordance with approved work control documents and line management assesses performance of their work against work control programmatic requirements. No weaknesses in the RL oversight program were identified.

Attachment 2
06-OOD-0031

Work Planning Action Plan
DNFSB Recommendation 2004-1, Commitment 23

SA-06-OOD-CIPE-004

January 2006

Work Planning Action Plan

This action plan represents existing and proposed RL and contractor corrective actions intended to drive continuous improvement of site work planning and work performance. A large number of actions were established prior to the EM request for this action plan; however, additional actions have been added based upon contractor self-assessment and RL evaluation of fieldwork planning performance per the RL surveillance guide that was revised to incorporate the work planning CRAD.

RL

WPC-RL-A1 Incorporate work planning CRAD into work planning surveillance guide.

Assignee: Rob Hastings

Due Date: Complete

WPC-RL-A2 Perform RL verification of work control and hazardous energy control integration (S-04-OOD-PHMC-002) corrective action plan.

Assignee: Rob Hastings

Due Date: June 15, 2006

WPC-RL-A3 Perform RL verification of work planning hazard identification (S-05-OOD-PHMC-002-C01) corrective action plan.

Assignee: Rob Hastings

Due Date: March 15, 2007

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The recently awarded river corridor contract is currently being implemented. The contractor is currently operating under the previous ISMS, however, they will be submitting an ISMS description to RL in the near future and ISMS verification is scheduled for FY 2006. RL will evaluate WCH implementation of work planning in the ISMS Phase II verification. In the interim, a surveillance was performed in December 2005 in accordance with the work planning criteria. The oversight resulted in the identification of seven findings and eleven observations that will be addressed as the WCH ISMS system is fully implemented and verified by the DOE ISMS verification. Actions for the ISMS will be included in the Action Plan.

WPC-WCH-A1 Complete the WCH ISMS Phase 1 Verification.

Assignee: Doug Shoop

Due Date: May 30, 2006

WPC-WCH-A2 Complete the WCH ISMS Phase II Verification.

Assignee: Doug Shoop

Due Date: September 30, 2006

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Actions from the FY 2004 work planning core surveillance were focused on improvements to the FHI work control procedure and integration with hazardous energy control. The actions are largely complete and have been integrated within the FY 2005 Core Surveillance corrective action plan. The following actions are part of the FHI Corrective Action Plan developed in response to the FY 2005 RL Core Surveillance. In addition, oversight of contractor work planning was performed in December 2005 in accordance with the criteria provided. Eight surveillances were performed resulting in the identification of nine findings and sixteen observations. RL evaluation of the issues indicate that they represent additional examples of poor work planning that are expected to be addressed by the completion of the corrective actions identified below. One continuing concern with weaknesses in identification of hazards and associated controls in work instructions was identified. FHI will identify additional corrective actions resulting from the individual issues in the eight surveillances and incorporate these actions into the implementation plan per action A3 below. RL verification of the adequacy of corrective actions will be performed upon completion of the FHI work planning corrective action plan and the long-term effectiveness of the corrective actions will be evaluated by monitoring future events and performance of the annual work planning core surveillance.

In addition to the work planning actions described below, RL and the RL prime contractors have initiated a joint Human Performance Improvement (HPI) initiative designed to improve error identification and resolution of latent organizational conditions. The INPO Human Performance leadership framework is being utilized to develop a strategy for HPI implementation across RL workscope. Specific initial actions to support this initiative will be incorporated into the RL feedback and improvement action plan; however, these actions are expected to support continuous improvement of work planning in the future. The actions will not be duplicated here, but are referenced to communicate the expected benefit to work planning implementation.

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Discussion: FHI commenced this assessment in October 2005, and the results from this assessment to date have been incorporated into this action plan.

Assignee: Reed Kaldor, FHI

Due Date: February 28, 2006

WPC-FHI-A2 (29021732-11): Develop performance indicators to evaluate effectiveness of work management program.

Assignee: Reed Kaldor, FHI

Due Date: January 5, 2006

WPC-FHI-A3 (29021732-3): Develop an Implementation Plan based upon results of the assessment in A1.

- Change the FHI work management and job hazards analysis procedures to improve

integration between them and to use consistent terminology.

- Develop improved criteria for when post job review performance is required and reduce the level of effort required to document feedback data developed.
- Identify the work planning positions that will have training needs analysis conducted (see action A4).

Assignee: Reed Kaldor, FHI

Due Date: April 15, 2006

WPC-FHI-A4 (29021732-6, 7): Update training needs analysis and qualification standards for planners.

Assignee: Reed Kaldor, FHI

Due Date: May 30, 2006

WPC-FHI-A5 (29021738-2): Reinforce management's expectations for completing work record entries.

Assignee: Gerry Griffin, FHI

Due Date: Complete

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Assignee: Gerry Griffin, FHI

Due Date: Complete

WPC-FHI-A7 (29021736-2): Conduct self-assessment of conduct of post-job reviews.

Assignee: Reed Kaldor, FHI

Due Date: February 28, 2006

In addition to the actions being taken in response to the Core Surveillance above, FHI is taking actions in response to the RL Electrical Work Management surveillance. The actions were integrated with the actions above and are as follows:

WPC-FHI-A8 (29021731-1): Determine method of documenting decision on hazards analysis.

Assignee: Gerry Griffin, FHI

Due Date: Complete

WPC-FHI-A9 (29021731-2): Communicate expectations for a hazards analysis to support work planning.

Assignee: Dennis Wiatrak, FHI

Due Date: Complete

WPC-FHI-A10 (29021752-1): Reinforce requirements for electrical work into work planning hazard identification and control.

Assignee: Paul Garello, FHI

Due Date: Complete

RL Work Planning Action Plan Summary

Action Ref.	Title	Assignee	Due Date
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WPC-WCH-A1	Complete the WCH ISMS Phase 1 Verification.	D. Shoop	May 30, 2006
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WPC-FHI-A9 (29021731-2)	Communicate expectations for a hazards analysis to support work planning.	D. Wiatrak	Complete
WPC-FHI-A10 (29021752-1)	Reinforce requirements for electrical work into work planning hazard identification and control.	P. Garello	Complete

Attachment 3

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

06-OOD-0028

JAN 12 2006

Mr. R. G. Gallagher, President
and Chief Executive Officer
Fluor Hanford, Inc.
Richland, Washington 99352

CONTRACT NO. DE-AC06-96RL13200 – OPERATIONS OVERSIGHT DIVISION (OOD) EVALUATION OF WORK PLANNING AND WORK CONTROL PROCESSES, AND TRANSMITTAL OF ASSOCIATED SURVEILLANCE REPORTS

References: (1) FHI ltr. to K. A. Klein, RL, from R. G. Gallagher, "Response Submittal to Corrective Action Plan (CAP) Surveillance Reports S-05-OOD-PHMC-002 and S-05-SED-FHI-013," FH-0501802A R1, dtd. August 1, 2005.

(2) RL ltr. to R. G. Gallagher, FHI, from K. A. Klein, "Contract No. DE-AC06-96RL13200 – Operations Oversight Division (OOD) Evaluation of FHI Work Planning Processes and Transmittal of Associated Surveillance Reports," 05-OOD-0069, dtd. June 6, 2005.

During December of 2005, RL performed eight surveillances at various Project Hanford Management Contract (PHMC) facilities to evaluate the effectiveness of the FHI work planning and work control process. These surveillances were conducted in part to support the Implementation Plan for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1. RL performed a roll-up evaluation (Attachment 1) of findings and observations noted in these surveillances to ascertain crosscutting issues. One concern was identified during the evaluation and is discussed below.

In total, the Facility Representative's (FR) core surveillances documented nine findings and sixteen observations. In general, work is adequately planned and performed safely at FHI facilities. Weaknesses observed in the process for identifying hazards and implementation of controls into work instructions was identified as a repeat concern from the surveillances transmitted in Reference (2). RL is not requesting a CAP for this repeat concern because it is recognized that FHI is still in the process of implementing Reference (1) specified corrective actions. These findings and observations should be utilized as early indications as to the effectiveness of corrective actions completed to date.

Although RL is not requesting a CAP, it is our expectation that the attached surveillance report findings and observations will be processed through the FHI corrective action management process to address individual issues that may not be covered by the CAP in Reference (1). RL notes the rescheduling of numerous due dates contained in the CAP. Specific to the eleven FHI

actions in Concern 1, one action was met, nine due dates were extended, and one due date remains unchanged. The activities and due dates from the CAP, as well as corrective actions from the FHI assessment conducted as part of CAP Action Number 1, will be incorporated into the action plan to EM by January 13, 2006. Therefore, increased diligence and prioritization is needed to ensure dates are met and actions are effective. The results of the RL oversight, and expectations for increased emphasis in meeting the specified due dates and ensuring the identified deficiencies are addressed, was discussed with members of your staff on January 5, 2006.

The Government considers this action to be within the scope of the existing contract and therefore, the action does not involve or authorize any delay in delivery or additional cost to the Government, either direct or indirect.

If you have questions, please contact me, or your staff may contact Doug S. Shoop, Assistant Manager for Safety and Engineering, on (509) 376-0108.

Sincerely,

Keith A. Klein
Manager

OOD:EDM

Attachments:
1. Roll-up Evaluation
2. S-06-OOD-PFP-002
3. S-06-OOD-200LWP-LPCS-002
4. S-06-OOD-CENTPLAT-002
5. S-06-OOD-SWOC-002
6. S-06-OOD-GPP-002
7. S-06-OOD-FFTF-002
8. S-06-OOD-CSI-002
9. S-06-OOD-SNF-002

cc w/attachs:
D. M. Busche, FHI
G. Griffen, FHI
H. Hermanas, FHI
S. M. Kelley, DFSH
R. Kaldor, FHI
A. M. Umek, FHI
FHI Project Vice Presidents

Attachment 1
06-OOD-0028

Work Planning and Work Control Surveillance Roll-up

Work Planning and Work Control Roll-up Evaluation S-06-OOD-PHMC-002

During December 2005, the RL Operations Oversight Division (OOD) performed eight work planning and work control surveillances at various Project Hanford Management Contract (PHMC) facilities. These surveillances evaluated work planning and scheduling, work package development, and work package use and closeout. The attached surveillances identified nine findings and sixteen observations. In general, work planning and scheduling were found to be effective at FHI facilities. Minor issues were noted in work package use and closeout of work packages after completion of work. The majority of non-compliances were found to exist in the area of work package development. Specifically, the greatest concern was in the process of identifying hazards and implementation of controls for those hazards into the work instructions. This was a repeat concern from the March 2005 work planning surveillances conducted by OOD. A Corrective Action Plan (CAP) was submitted and is in the process of being implemented.

Concern: S-06-OOD-PHMC-002-C01

Continued weaknesses observed in the process for identifying hazards and the implementation of controls into work instructions. (MAINT – HAZID, ISMS-IDHAZ)

Requirements:

10CFR830.122, Criterion 5, *Performance/Work Processes*, states in part, "Perform work consistent with technical standards, administrative controls, and other hazard controls adopted to meet regulatory or contract requirements, using approved instruction, procedures, or other appropriate means."

HNF-PRO-079, *Job Hazard Analysis*, Section 4.3.5, states "Hazards shall be identified based on known and expected site conditions, and the potential for changing conditions during work evolutions."

HNF-PRO-079, *Job Hazard Analysis*, Section 4.4.1, states "Hazards shall be analyzed to determine effective methods of control."

Discussion:

FHI uses the AJHA planning tool, scoping meetings, and walk downs for identifying hazards and associated controls. The results from the AJHA planning meeting are the link between identified hazards and controls needed for specific work instructions. Hazards identified during scoping meetings and walk downs are not consistently documented and results incorporated into work instructions. Documenting the results

from scoping meetings and walk downs provide traceability and control information for workers who are not involved with these planning meetings. Findings in the PFP and FFTF surveillance reports identified several examples of controls identified during work planning process (AJHA) not consistently or adequately incorporated into the work documents. Findings of inadequate work planning due to insufficient LO/TO boundary isolations were noted at the CENTPLAT and SWOC surveillances. Lack of specific precautions/limitations noted in the work package, vague work instructions or controls in work packages, and inadequate AJHA reviews being found during final management reviews to authorize conduct of the work were other observations noted in the surveillances.

Specific project issues in the attached surveillances that support this concern include:

- **S-06-OOD-SNF-002-F02** – 105-KE management personnel failed to recognize and apply the Unreviewed Safety Question (USQ) process
- **S-06-OOD-PFP-002-F02** Several examples were identified where the AJHAs do not adequately reflect/address work conditions.
- **S-06-OOD-FFTF-002-F01** – Controls identified during the work package planning process (Automated Job Hazard Analysis) were not being consistently incorporated into work instructions.
- **S-06-OOD-SNF-002-F01** – The contractor modified the 105-KE Facility without using a work/change control process
- **S-06-OOD-CENTPLAT-002-F01** – Poor work planning evident in insufficient LO/TO isolation boundary identification.
- **S-06-OOD-SWOC-002-F01** – The two lockout points identified in W1-05-06596 were inadequate to completely isolate the electrical power and remove the potential hazards to personnel who would be performing the task described in the Work Document.
- **S-06-OOD-CENTPLAT-002-O03** – Lack of specific precautions/limitations specified in work package regarding weight limitations of equipment.
- **S-06-OOD-PFP-002-O02** Vague work instructions or controls were identified in two work packages.
- **S-06-OOD-PFP-002-O03** Hazards information was not integrated into recovery plan activities.
- **S-06-OOD-CENTPLAT-002-O02** – Two changes identified to completed AJHA during Enhanced ALARA Committee review.

Since the above deficiencies are similar in nature to those identified in the March 2005 work planning surveillance, the CAP FHI submitted to RL under Reference (1) is expected to address the above findings and observations. RL verification of completion of corrective actions in that CAP will act as closure requirement for this concern.

RL Lead Assessor Closure Required: **YES [X]** **NO [ ]**

06-OOD-0028
Attachment 2

Department of Energy
Richland Operations Office
Surveillance Report

Division: Operations Oversight Division (OOD)

Surveillants: J. E. Spets, J. M. Sondag, S. L. Trine, OOD

Surveillance Number: S-06-OOD-PFP-002

Date Completed: December 16, 2005

Contractor: Fluor Hanford, Inc. (FHI)

Facility: Plutonium Finishing Plant (PFP)

Title: Work Planning and Work Control

Guides: MAS 10.4 FY06

Surveillance Scope:

The scope of the Work Planning core surveillance is to assess the contractor's consistency and reliability in work planning and work control performance. Previously identified issues in surveillances, Operational Awareness reports and ORPS reports should be evaluated and documented. An evaluation of corrective actions for previously identified work control issues should also be conducted.

Surveillance Summary:

The Facility Representatives (FRs) observed D&D work at activities at 232-Z and 241-Z, observed 2736-Z AC unit 3 replacement activities, observed 241-Z stack inspection activities, observed fuel handling activities and reviewed the related work instructions. PFP Planner training records were reviewed. Representative work management assessments from the past two years were reviewed.

The surveillance identified that PFP personnel generally follow work management procedures. However, the FRs identified four findings, three observations and one good practice. These are summarized below.

S-06-OOD-PFP-002-F01 Scaffolds were not constructed and or maintained to scaffolding requirements.

S-06-OOD-PFP-002-F02 Several examples were identified where the AJHAs do not adequately reflect/address work conditions.

S-06-OOD-PFP-002-F03 Work instructions for two work packages were not completed as written.

S-06-OOD-PFP-002-F04 Periodic assessments of the job hazard analysis process are not being performed.

S-06-OOD-PFP-002-O01 Modified emergency response plans were not formally controlled or disseminated.

S-06-OOD-PFP-002-O02 Vague work instructions or controls were identified in two work packages.

S-06-OOD-PFP-002-O03 Hazards information was not integrated into recovery plan activities.

Good Practice: The PFP Daily Communications report is a good tool for communicating the Plan-of-the-Day results.

Although the finding and observations document improvement opportunities, these were not significant enough to warrant requesting a formal response describing causal analysis results and corrective actions taken. In general, the FRs found that the contractor follows the prescribed work management procedures; however, improvement in using the Job Hazards Analysis processes and assessing the results is warranted.

Surveillance Results:

Finding: S-06-OOD-PFP-002-F01

Scaffolds were not constructed and or maintained to scaffolding requirements. (IS – CSP, ISMS – WORK)

Requirement(s):

HNF-PRO-095, *Scaffolding*, Section 4.4.5, states, "Scaffolds shall stand plumb and level, and rest upon base plates (stationary scaffold), and other adequate firm foundation, or as otherwise recommended by the scaffold component manufacturer."

HNF-PRO-095, *Scaffolding*, Section 4.4.17 states, "Adequate protection (e.g., toe-boarding, paneling/screening, canopy/catch platform, debris net, or barricades - as applicable) shall be installed where the potential for materials/objects falling from overhead to a lower level exists."

HNF-PRO-095, *Scaffolding*, section 4.5.12, states in part, "Unauthorized modification or removal of a scaffold system component, or scaffold *Status Tag*, is prohibited."

Discussion:

Three separate scaffolds were inspected by the FRs and did not meet scaffolding construction requirements (see Operational Awareness (OA) reports 6053, 6061 and 6173). A scaffold on the southwest corner of 232-Z was not level, one on the southeast corner of 232-Z did not have toe boards or another means to control falling objects, and a third scaffold in 236-Z stairwell #2 was missing a cross-brace, an unauthorized modification. All scaffolding deficiencies were corrected.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Finding: S-06-OOD-PFP-002-F02

Several examples were identified where the AJHAs do not adequately reflect/address work conditions. (MAINT – IDHAZ, ISMS – IDHAZ)

Requirement(s):

10CFR830.122, Criterion 4, *Management/Documents and Records*, states in part, "Prepare, review, approve, issue, use, and revise documents to prescribe processes, specify requirements, or establish design."

HNF-PRO-079, *Job Hazard Analysis*, Section 4.4.4, states, "Results of the hazard analysis shall be documented for work activity that is beyond skill-based, using the AJHA."

HNF-PRO-079, *Job Hazard Analysis*, Section 5.3.6, states in part, "Identify and analyze hazards (identify Hazards screen). Select controls (select Controls, and Controls by Task screen)."

Discussion:

Contrary to the above, there were some AJHAs that did not adequately reflect/address work conditions. The following are specific examples:

- A fall restraint system was identified as a control in the work instruction for 2Z-04-09009 and was discussed at the pre-job briefing but was not specifically identified in the controls section of AJHA 2Z-3881 for the identified "Falls from elevation" hazard (see OA 5541).

- During the pre-job briefing for a 241-Z cell D-8 entry, a worker emphasized that UPP pads must be placed on top of the tank before walking on it. The UPP pads served to mitigate the slip hazard due to the "Invisible Blue" fogging solution that coated the cell. The UPP pads were suggested several months ago due to a worker slipping and falling on another tank. AJHA 2Z-4180 identified slip resistant footwear; however, using UPP pads to mitigate the slipping hazard was not (see OA 5915).

- Prior to inspecting stack 296-Z-3 per 2Z-05-5650, exhaust fans for 241-Z were required to be shut off. Before securing the fans, Radiological Control Technicians identified the need to post 241-Z and 241-ZA as Airborne Radioactivity Areas. The work instruction, AJHA or Radiological Work Permit did not identify this posting requirement.

- AJHA 2Z-3881 did not identify scaffolding as a hazard. Scaffold was constructed and used for replacing AC unit 3 (see OA 5541).

- Recent changes to operations at 232-Z included use of PAPRs for workers in the containment tent and reconfiguration of the contamination reduction zone to use one ante room rather than two. AJHA 2Z-4000 identified a containment tent with two ante rooms and supplied air use in the containment tent as controls for high risk rad activity (see OA 6356).

- Repetitive Performance Work Document 2Z-04-03807 and AJHA 2Z-3359 did not adequately integrate or identify hazardous energy controls. The work document hazard analysis for potential shock hazards was informal and was not documented, nor approved by supervision. Additionally, HNF-RD-11827, *Hanford Electrical Safety Program Requirements*, stated in part, "A shock hazard analysis . . . shall be completed and documented to identify hazards and determine appropriate safe work practices, protective clothing, and PPE to be used before any person approaches exposed live parts within the limited approach boundary or the flash protection boundary." However, AJHA 2Z-3359 did not require documenting the analysis and only stated, "Perform Shock Hazard Analysis (see OA 6341)."

RL Lead Assessor Closure Required: **YES [X]** **NO [ ]**

Finding: S-06-OOD-PFP-002-F03

Work instructions for two work packages were not completed as written. (MAINT – ACT, ISMS – WORK)

Requirement(s):

10CFR830.122, Criterion 4, *Management/Documents and Records*, states in part, "Prepare, review, approve, issue, use, and revise documents to prescribe processes, specify requirements, or establish design."

10CFR830.122, Criterion 5, *Performance/Work Processes*, states in part, "Perform work consistent with technical standards, administrative controls, and other hazard controls adopted to meet regulatory or contract requirements, using approved instructions, procedures, or other appropriate means."

FSP-PFP-5-8, 13.7, *PFP Technical Procedure Use Policy*, Section 4, Step 2d, states, "Accomplish the task without deviating from the overall direction provided."

Discussion:

Contrary to the above, the FR noted that rigging for a Core Component Container was different than what was specified in the rigging sketches. The work instructions directed the rigging configuration per the sketches; however, deviations were not specifically allowed (see OA 5549).

In Building 232-Z, painted surfaces were being disturbed during removal of tripping hazards. Task 6 of the work package required that the lead compliance plan be implemented before disturbing painted surfaces. Controls for lead exposure were in place due to coincidental radiological controls; however, a potential lead exposure warning sign was not posted near the work area entrance and the work team did not recognize the need to implement the plan (see OA 5662).

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Finding: S-06-OOD-PFP-002-F04

Periodic assessments of the job hazard analysis process are not being performed. (QA – ASSMNT, ISMS – FEEDBK)

Requirement(s):

10CFR830.122, Criterion 9, *Assessment/Management Assessment*, states in part, "Ensure managers assess their management processes and identify and correct problems that hinder the organization from achieving its objectives."

PRO-HNF-079, *Job Hazard Analysis*, Section 4.8.1, states in part, "The Supervisor/Work Leader is required to: Monitor activities for safe work performance, and conduct periodic assessments of job hazard analysis (ref. Appendix B criteria)."

PRO-HNF-079, *Job Hazard Analysis*, Section 4.8.7, states in part, "The Project/Function OSH Representative is required to monitor activities for safe work performance, and conduct periodic assessments of job hazard analysis (ref. Appendix B criteria)."

Discussion:

Contrary to the above, periodic assessments of the job hazard analysis are not occurring. Except for Management Assessment PFP-S&H-05-MA-004, *Automated Job Hazard Analysis* conducted in February 2005, objective evidence does not exist which demonstrates that the periodic assessments are being performed. The Persons-In-Charge (PIC) and safety and health personnel are involved with developing job hazards analyses and are responsible for ensuring compliance for implementing the results, however, conduct of deliberate periodic assessments is not evident. Additionally, the 2006 PFP Integrated Evaluation Plan does not show an FHI led job hazard analysis Management Assessment, Surveillance or Internal Assessment.

RL Lead Assessor Closure Required: **YES [X]** **NO [ ]**

Observation: S-06-OOD-PFP-002-O01

Modified emergency response plans were not formally controlled or disseminated. (EP/SEC – EP, CONOPS – PROCS, ISMS - FEEDBK)

Discussion:

Personnel working in 232-Z developed a facility-specific emergency response plan due to the unique PPE requirements and containment tent configuration in the process room. Responses in this plan are modified from the PFP ZCR procedures. The plan was reviewed and approved by the Superintendent and the EP coordinator; however, the plan was not part of the PFP's formal document control system nor were there procedures in place to ensure that the Building Emergency Director had a current revision (see OA reports 5662 and 6093). At a 241-Z pre-job briefing, the PIC instructed personnel to respond to a 234-5Z criticality alarm in a manner that was different than what the 241-Z emergency response plan required. Additionally, the plan did not address actions for containment tent support personnel (see OA 6132). The aforementioned examples demonstrate the benefit for maintaining configuration of facility specific emergency response plans.

RL FR Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-PFP-002-O02

Vague work instructions or controls were identified in two work packages. (MAINT – PLNG, ISMS – DEFINE)

Discussion:

In work package 2Z-04-06716, a worker was assigned to remove tripping hazards and other interferences in the scrubber cell. No specific written work instructions were provided regarding what was allowed to be removed. The PIC believed that work was being performed under task 2 of the work package. Task 2, "Enter Scrubber Cell, Handle Waste" does not specifically discuss the removal of tripping hazards. It was later determined that the work should have been conducted under task 6, "Size Reduce and Remove Equipment;" however, clarity in the work instruction may have prevented the PIC's misunderstanding (see OA 5662).

In work package 2Z-04-09009, item 4.12 states, "Due to roof loading issues, only personnel directly involved with the evaporator coil replacement are allowed on the 2736-Z roof." Item 4.11 states, "Due to roof loading issues only one evaporator coil (Old/New) is allowed on the 2736-Z roof at any one time." The estimated cooling coil weight was 300 pounds. A pre-work walk down was conducted and at least eight people were observed on the roof, whereas a specific number of people allowed on the roof should have been identified (see OA 5541).

RL FR Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-PFP-002-O03

Hazards information was not integrated into recovery plan activities. (CONOPS-PROCS, ISMS – WORK)

Discussion:

FSP-PFP-5-8, Vol 1-310 *Recovery Plans* does not identify that controls from work packages, procedures or AJHAs shall be applicable to recovery plan activities. The lack of a link between the recovery plan and the applicable hazards controls contributed to industrial hygiene personnel not being contacted about a release of radioactive material in tunnel three in 234-5Z (See OA-6385).

RL FR Closure Required: **YES [ ]** **NO [X]**

Good Practice:

The PFP Daily Communications report is a good tool for communicating the Plan-of-the-Day results. (MAINT – PLNG, ISMS – FEEDBK)

Discussion:

The PPF Daily Communications Report was initiated on December 6, 2005 and is transmitted via the PFP Resource Center. The report contains information on planned TSR related tasks, planned outages and restrictions and planned key work tasks. Communicating to plant personnel this type information helps ensure better coordination of work and potential impacts.

Contractor Self-Assessment:

Since March 2005, a Management Assessment (MA) on ISMS Implementation (PFP-MA-05-MA-019) was completed. The assessment approach consisted of a review and analysis of information specific to PFP operations. Most notably, the assessors reviewed issues entered into the Corrective Action Management System from July 2004 to May 2005 and concluded that there were weaknesses in following some of the ISMS core functions and guiding principles. No specific issues were identified in the assessment and the report was screened out for no action. The assessment approach should be recognized as an effective means for assessing a facilities ISMS implementation over a period of time. While the report did not identify specific issues, the overall conclusions regarding ISMS weaknesses should be evaluated by PFP management for their collective significance.

In February, an MA (PFP-S&H-05-MA-004) of the AJHA process was completed. This assessment identified similar issues that were identified as part of this surveillance. All corrective actions were completed; however, due to recurring issues, additional attention is needed.

In April, a surveillance of the hazards analysis for 242-Z work was completed. No issues were identified.

For FY 2006, one MA on ISMS Implementation, an MA on Waste Generation Planning and Execution and two Independent Assessments (Procedure/Work Package Compliance and Radiological Work Planning and Control) are scheduled on the Integrated Evaluation Plan. No assessments have been scheduled that are related specifically to the job hazard analysis process.

Based upon the number and scope of assessments completed since March 2005, the scope of assessments scheduled for FY 2006, the recurring nature of AJHA issues, and the finding above, the contractor's self-assessment in the area of job hazards analysis is less than adequate. Although there have been work management assessments completed in the last two years, management focus should be on conduct of job hazards analysis, incorporation of controls into work instructions, execution of controls in the field and a review of documented hazards and controls versus actual field conditions.

Contractor Self-Assessment Adequate: YES [ ] NO [X]

Management Debriefed:

Eric Larock, FHI
Bobby Gray, FHI
Steve Norton, FHI

06-OOD-0028
Attachment 3

Department of Energy
Richland Operations Office
Surveillance Report

Division: Operations Oversight Division (OOD)

Surveillant: ED MacAlister

Surveillance Number: S-06-OOD-200LWP-LPCS-002

Date Completed: December 15, 2005

Contractor: Fluor Hanford, Inc. (FHI)

Facility: Liquid Processing and Canister Storage (LPCS) Facilities (200 ETF, 310 TEDF, LERF, 200 TEDF, CSB, and WESF)

Title: Work Planning

Guide: Lines of Inquiry Established in Core Surveillance Guide Maintenance Surveillance 10.4

Surveillance Scope:

The scope of the work planning core surveillance is to assess the contractor's consistency and reliability in work planning and work control performance. Previously identified issues in surveillances, Operational Awareness reports and ORPS reports were evaluated. An evaluation of corrective actions for previously identified work control issues was also conducted.

Surveillance Summary:

This surveillance was conducted using surveillance guide MAS 10.4 and additional surveillance guidance provided to the Facility Representatives (FRs). The surveillant attended numerous Plan of the Day (POD) and Plan of the Week (POW) planning meetings, attended an Automated Job Hazard Analysis (AJHA) planning meeting, reviewed recently completed work packages, and observed performance of work associated with work packages and job tickets.

The area of work planning and scheduling was reviewed as part of this surveillance. A process is in place to prioritize work within the LPCS organization. Weekly POW meetings are conducted and well attended. POD meetings are held every morning to review the work that is scheduled for the day. Meetings are also held at the end of every day to ascertain that work scheduled for that day was completed, and if not, how it might impact the next day's work schedule. These meetings are attended by appropriate LPCS organization personnel.

The work package development process was evaluated and found to be compliant. Work packages generally have clearly defined purpose and scopes outlined and identify systematic facility and system prerequisites, precautions and limitations, required tools, consumables and materials. The work package contains appropriate hazard control documents. Work packages reviewed included: AJHA, Rad Screenings, Radiological Work Permits (RWP), ALARA management worksheets, Material Safety Data Sheets (MSDS), and Waste Packaging/labeling instructions. Controls are tailored to the identified hazards in the work package and supporting documents. Appropriate cautions, warnings, and identification of possible hazards are called out within the reviewed work packages. Work steps contained sufficient detail to enable understanding of the overall tasks.

Work package use and closeout was also evaluated. Pre-job briefings appear to be effective and personnel performing work understand their tasks, the hazards that may be encountered, the controls to mitigate the hazards, and how personnel should react to upset/emergent conditions. There is consistently good interaction and dialogue at the pre-job briefings that were observed. Personnel clearly understand their "stop work" abilities and who should be notified in the event they have concerns at anytime during performance of work. Work packages are consistently present in the field, referred to regularly, and followed as written without undue compromise of the steps. Changes made to work packages in the field are generally kept to a minimum, and when made are done so in accordance with appropriate requirements. Completed work packages are reviewed by appropriate personnel; generally in a timely manner. Post-job reviews were conducted on applicable work packages, and J-5 entries were completed and appropriate.

The following two observations and one good practice resulted from this surveillance activity:

- **S-06-OOD-200LWP-LPCS-002-O01** – Work package did not contain all necessary information.

- **S-06-OOD-200LWP-LPCS-002-O02** – RWP not reviewed during pre-job.

- **S-06-OOD-200LWP-LPCS-002-GP01** – There was good work planning after CSB integration into the LPCS organization.

Surveillance Results:

Observation: S-06-OOD-200LWP-LPCS-002-O01

Work package did not contain all necessary information. (MAINT-PLNG, ISMS-IDHAZ)

Discussion:

A review of the work package EL-05-07288/P, "HVAC Duct Integrity Testing & Inspection" was performed by the FR prior to the conduct of the pre-job briefing. The work package was not as well organized, nor did it contain all pertinent information, that the FR is accustomed to seeing in other LPCS facilities. The work package basically only contained work instructions, data sheets, an isolation boundary drawing, and check lists. No radiological information (RWP, radiation screening, etc.) were included, as is the normal information contained in LPCS facility packages.

Generally, the work package was not of quality that is normally produced under LPCS work management. This lack of applicable information contained in the work package led to the RWP not being covered at the pre-job, until the FR noted that the pre-job was incomplete until it had been reviewed. Now that CSB is integrated into the LPCS organization, work management practices that may have been in place while they were part of the Spent Fuel Project, are no longer applicable. In follow-up discussions with the LPCS Manager regarding this issue, it was recognized that continuity of work packages is necessary for the workers that are required to perform work in the various LPCS facilities.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-200LWP-LPCS-002-O02

RWP not reviewed during pre-job. (MAINT-PLNG, ISMS-WORK)

Discussion:

During performance of the pre-job for the HVAC duct integrity testing and inspection, the field work supervisor (FWS) noted there was no copy of the applicable RWP, CB-100, Rev. 0, CSB Operations, in the work package. The FWS asked the HPT at the pre-job if he had the RWP with him to review for the pre-job. The HPT did not have a copy of the RWP, but went on to explain that it was the basic RWP covering access to the CSB operations deck, which is a RBA. After the HPT completed his radiological controls discussion, the FWS continued the briefing. At the end of the briefing, the FWS asked if there were any questions. The FR stated that if personnel were required to ace in to perform work as part of this work package, then a copy of the applicable RWP should be at the pre-job briefing, and all applicable portions of it reviewed at the briefing. A copy of the RWP was then brought to the meeting, and reviewed.

It is the FR understanding that CSB does not generally include RWPs, or other radiological info (radiation screenings, AMW reviews, etc.), in the work packages. This is not a good work practice, and is a contributor to not having adequately covered the RWP at the pre-job briefing. However, in discussions with CSB planners, it was standard practice while with the SNF organization to not include radiological work documents in the work package. Under this process, it should be standard practice to have current RWPs at the pre-job briefings to review. It did not appear that it was standard practice to have the binder with all currently approved RWPs at the pre-job briefing to review the applicable RWP during the pre-job, as required for review of radiological conditions discussion for the pre-job.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Good Practice: S-06-OOD-200LWP-LPCS-002-GP01

There was good work planning after CSB integration into the LPCS organization.

Discussion:

On October 1, 2005, the CSB became part of the LPCS organization. The integration of CSB into the LPCS work planning/control process has been completed very smoothly. Sharing of limited resources between the numerous LPCS facilities to meeting operation and safety basis requirements has not been a simple matter. LPCS management recognized the challenge and implemented changes to the integrated schedule meeting, POW, and POD that have provided a smooth transition of CSB into the LPCS organization. The organizations have blended together smoothly and limited resources are being effectively managed to complete work as scheduled.

Contractor Self-Assessment:

Work planning and control was a critical aspect of CSB integration into the LPCS organization. Much attention and effort was expended by the LPCS management team to evaluate the current work management process and what changes were necessary to integrate CSB into this process. The self-assessment of the process and changes made, which have lead to a good work management process, are evidence of proper self-assessment.

Contractor Self-Assessment Adequate: **YES [X]** **NO [ ]**

Management Debriefed:

Don Flyckt, FHI
Jim Foster, FHI
Paul Garello, FHI

06-OOD-0028
Attachment 4

Department of Energy
Richland Operations Office
Surveillance Report

Division: Operations Oversight Division (OOD)

Surveillant: ED MacAlister

Surveillance Number: S-06-OOD-CENTPLAT-002

Date Completed: December 15, 2005

Contractor: Fluor Hanford, Inc. (FHI)

Facility: Central Plateau Surveillance and Maintenance (CP S&M)

Title: Work Planning

Guide: Lines of Inquiry Established in Core Surveillance Guide Maintenance Surveillance 10.4

Surveillance Scope:

The scope of the work planning core surveillance is to assess the contractor's consistency and reliability in work planning and work control performance. Previously identified issues in surveillances, Operational Awareness reports, and ORPS reports were evaluated. An evaluation of corrective actions for previously identified work control issues was also conducted.

Surveillance Summary:

This surveillance was conducted using surveillance guide MAS 10.4 and additional surveillance guidance provided to the FRs. The surveillant attended numerous Plan of the Day (POD) and Plan of the Week (POW) planning meetings, attended an Automated Job Hazard Analysis (AJHA) planning meeting, reviewed recently completed work packages, and observed work performance associated with work packages and job tickets.

Specific areas of focus were evaluated in this review. Work packages were reviewed to verify that the appropriate authorities had reviewed and released the work. Prerequisites for the reviewed work packages and tickets were met prior to the release of work. Work packages that included Facility Modification Packages or potential changes to procedures did have Unreviewed Safety Questions (USQ) screenings completed. All screenings reviewed were negative and were included in the work packages. AJHA meetings are being conducted by qualified personnel, but the quality of the AJHA meetings is subject to question due to changes that have to be made to the AJHA after initial evaluation has been conducted. Lockout/Tagout (LO/TO) was required for one of the work packages reviewed and observed in the field. An issue with insufficient LO/TO boundary identification during work planning was identified when LO/TO was initially attempted.

The area of work planning and scheduling was reviewed as part of this surveillance, and a process is in place to prioritize work within the CP S&M organization. However, at least two instances were noted where work packages were being reviewed for approval at the last minute of the morning the work was scheduled to begin. Weekly POW meetings are conducted, but the meetings observed were very brief and did not tend to be planning sessions. POD meetings are held every morning to review the work that is scheduled for the day, and meetings are also held at the end of every day to review that the scheduled day's work was completed, and if not, how it might impact the next day's work schedule. These meetings are attended by appropriate CP S&M organization personnel.

The work package development process was evaluated and found to be compliant. Work packages generally have clearly defined purpose and scopes outlined, and identify systematic facility and system prerequisites, precautions and limitations, required tools, consumables and materials. The work package contained appropriate hazard control documents. Work packages reviewed included: AJHA, Rad Screenings, Radiological Work Permits (RWP), ALARA management worksheets, Material Safety Data Sheets (MSDS), Waste Packaging/labeling instructions, and USQ screenings. Controls are tailored to the identified hazards in the work package and supporting documents. Appropriate cautions, warnings, and identification of possible hazards were called out within the work packages reviewed, and work steps contained sufficient detail to enable understanding of the overall tasks.

Work package use and closeout was also evaluated. Two examples were noted where CP S&M did not implement the work control system efficiently to allow work packages issued to FWS sufficient time to become familiar with the work prior to scheduled performance of the work. Pre-job briefings appeared to be effective and personnel performing work understood their tasks, the hazards that could be encountered, the controls to mitigate the hazards, and how personnel should react to upset/emergent conditions. There is consistently good interaction and dialogue at the observed pre-job briefings. Personnel clearly understood their stop work abilities and who should be notified in the event they have concerns at anytime during performance of work. Work packages are consistently present in the field, referred to regularly, and followed as written without undue compromise of the steps. FWSs were on hand at all times while work was being performed as well as operations, engineering, and radcon management

for some of the more technical work packages observed. Changes made to work packages in the field are generally kept to a minimum, and when made, are done so in accordance with appropriate requirements. Completed work packages are reviewed by appropriate personnel and generally in a timely manner. Post-job reviews were conducted on the evaluated work packages, and J-5 entries were completed and appropriate.

The following findings and observation resulted from this surveillance activity:

- **S-06-OOD-CENTPLAT-002-F01** – Poor work planning evident in insufficient LO/TO isolation boundary identification.
- **S-06-OOD-CENTPLAT-002-O01** – Lack of timely reviews/approvals of work packages.
- **S-06-OOD-CENTPLAT-002-O02** – Two changes identified to completed AJHA during Enhanced ALARA Committee review.
- **S-06-OOD-CENTPLAT-002-O03** – Lack of specific precautions/limitations specified in work package regarding weight limitations of equipment.

Surveillance Results:

Finding: S-06-OOD-CENTPLAT-002-F01

Poor work planning evident in insufficient LO/TO isolation boundary identification. (MAINT-PLNG, CONOPS-L&T, ISMS-IDHAZ)

Requirement(s):

HNF-PRO-081, Rev. 13, Lockout/Tagout, Section 5.2, Write the Lockout, Item 3, stated in part: "Identify the lockout/tagout boundary using any means necessary (e.g., drawings, databases, documents, and/or a field walkdown)."

Discussion:

Contrary to the above requirement, a field walkdown was not conducted of the isolation boundary to verify boundary isolation points were adequate. In support of work package CP-05-6689/W, "Inspect/clean/replace PUREX stack sample line and probe," the probe sample line was required to be disconnected. Electrical power to the heat trace on the sample line was identified as needing LO/TO. Initial investigation by engineering identified a single source of energy and, therefore, an eight-criterion checklist along with Authorized Worker LO/TO was specified in the work package. After the work had been released and crew was in the field, it was noted that the circuit specified in the work package as needing to be isolated didn't match the panel schedule on the electrical panel.

Upon further investigation, it was noted that the insulation around the heat trace line had a label stating power to the heat trace was 240 volts, not the 120 volts initially thought. Further investigation by engineering found that two separate circuit breakers were required to be tripped to complete the isolation necessary.

No LO/TO requirements were violated in this event. Inadequate work planning caused the work to be stopped due to lack of walking down the LO/TO boundary isolation to verify isolation identified in drawing review matched in field conditions. A controlling organization TAF had to be developed to meet the LO/TO requirements. A field walkdown should have been conducted to confirm isolation boundaries much earlier in the work

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-CENTPLAT-002-O01

Lack of timely reviews/approvals of work packages. (MAINT-PLNG, ISMS-ANALYZE)

Discussion:

Upon review of the daily work release sheet on November 29, 2005, it was noted that work package CP-05-7749, "Deactivate PUREX Stack Flow Monitor System" was scheduled for a prejob at 7:30 a.m. During FR attendance at the CP S&M Plan of the Week (POW) meeting, the work package was still awaiting numerous signatures (two Design Authorities, Radcon, Safety, Operations) and so that work begin that afternoon. Two weeks prior, the FR was in the office of a FWS who was tasked to lead a job to drain some of the water lines from U plant. When FR asked the FWS about the scope of the work, he stated he had not yet seen the work package. Shortly thereafter, the package was brought to his office with the request for a quick review because other personnel still needed to review and sign the work package.

After the POW meeting, the FR discussed these two observations with Planner/Schedulers, Engineers and Operations personnel. The FR also met with the CP S&M project director to discuss his observations about last minute reviews of work packages. The general consensus was that the FR had valid comments in this area. Various reasons were given for the late readiness of work packages, but it was recognized that improvement was necessary in the area of work package readiness in a reasonable timeframe prior to work being conducted. Last minute reviews put unnecessary pressure on personnel, and expose the organization to potential risks when authorizing personnel are not allowed sufficient time to review and approve work packages.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-CENTPLAT-002-O02

Two changes identified to completed AJHA during Enhanced ALARA Committee (EAC) review. (MAINT-PLNG, ISMS-IDHAZ)

Discussion:

Work package CP-05-6689/W, "Inspect/clean/replace PUREX stack sample line and probe" was screened as a high risk radiological work activity and, therefore, an EAC review meeting was conducted to review the work package and supporting documentation. During review of the AJHA at the EAC, it was noted that two potential hazards had been incorrectly designated as not being applicable, when they should have been. "Powered Hand Tools" and "Potential Release of Radioactive Material to Environment" were incorrectly specified as not applicable and, therefore. the associated hazard controls were not specified in the AJHA.

The FR attended the AJHA for this work package, the first two hours of which were spent discussing the work scope, steps in the work package, and jurisdiction of work. The work package was still a work-in-progress, and the mock-up training had yet to be conducted, and it was discussed that maybe they were not ready for the AJHA. However, the AJHA coordinator decided that they had enough people to perform an initial AJHA since all disciplines were in attendance, and the AJHA could be revisited after the work package was finished and mock-up training conducted. The FR left the AJHA early due to an event and did not observe completion of the AJHA.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-CENTPLAT-002-O03

Lack of specific precautions/limitations specified in work package regarding weight limitations of equipment. (MAINT-PLNG, ISMS-IDHAZ)

Discussion:

During conduct of the AJHA for work package CP-05-6689/W, "Inspect/clean/replace PUREX stack sample line and probe," the FR noted that multiple personnel and equipment was planned for use on the spider lift to complete the sample probe replacement. The spider lift has a maximum capacity of 1200 lbs, and there are wind restrictions of 20 mph for its use. This information was contained in attachment 3 of the work instructions, but was not included in Section 4.0. The Precautions/Limitations of the work instructions are critical and this information was buried in the back of the work package, when it should be in the front of work instructions.

The contractor did make the necessary changes and include all precautions and limitations identified in the spider lift operating manual in Section 4.0 of the work instructions after receipt of the FR's Operational Awareness report. The contractor was also pro-active by including in the work package Attachment 6 - a tracking sheet to record total weight of personnel, tools, parts and equipment to be loaded onto the spider lift to verify that the weight limit of 1200 pounds was not exceeded.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Contractor Self-Assessment:

The contractor performed an independent assessment of the CP S&M Work Management Process from March 21 thru April 1, 2005. CPDD-MN-05-MA-20 was performed at the request of the CP S&M Director to evaluate the adequacy of procedures and processes used in the implementation of the CP S&M work management program. The contractor's self-assessment of work planning is adequate at this time.

Contractor Self-Assessment Adequate: **YES [X]** **NO [ ]**

Management Debriefed:

Rob Gregory, FHI

06-OOD-0028
Attachment 5

Department of Energy
Richland Operations Office (RL)
Surveillance Report

Division: Operations Oversight Division (OOD)

Surveillants: WA Ruhlman, DH Splett

Surveillance Number: S-06-OOD-SWOC-002

Date Completed: December 14, 2005

Contractor: Fluor Hanford, Inc. (FHI)

Facility: Solid Waste Operations Complex (SWOC)[1]

Title: Work Planning and Work Control

Guide: MAS 10.4 FY06

Surveillance Scope:

The scope of this core surveillance was to assess the adequacy of the contractor's work planning and work control processes. As defined in the referenced guide, the surveillants observed work activities, reviewed listed work documents, attended pre-job and post-job meetings, attended job hazard analysis meetings, reviewed training records and documentation, and conducted interviews with selected personnel.

Surveillance Summary:

This surveillance resulted in the identification of one finding and three observations.

[1] The SWOC consists of the following facilities: T Plant, the Waste Receiving and Processing (WRAP) facility, the Low Level Burial Grounds (LLBG), the Central Waste Complex (CWC), and the Transuranic (TRU) Retrieval Project.

S-06-OOD-SWOC-002-F01 — The two lockout points identified in W1-05-06596 were inadequate to completely isolate the electrical power and remove the potential hazards to personnel who would be performing the task described in the work document.

S-06-OOD-SWOC-002-O01— The process required to reduce the scope (i.e., remove boxes found to not meet the weight criteria for a "critical lift") of a generic work instruction for critical lifts was excessively time consuming and convoluted.

S-06-OOD-SWOC-002-O02 — Some of the work record entries contained write-over entries that raised potential legibility questions.

S-06-OOD-SWOC-002-O03 — Actual man-hours worked were double the planning estimate.

The observations document opportunities for improvement.

Work Documents Reviewed:

- 2T-04-04175/M, Remove 271-T AMU Safety Shower
- 2T-04-07776/P, Annual Radcon laundry Dumbwaiter Inspection
- 2T-05-02915/M, Annual 291-T Rake Inspection, Cleaning, and Testing
- 2T-05-07480/K, Head End Upgrades for Canyon Access
- 2T-05-06894/P, Annual Beta CAM Calibration
- 2T-05-06937/P, PCM-2 Functional Test and Calibration
- 2X-05-02757, Unload Navy Core Basket Thermal Shield
- 2X-05-05862/W, 12B Excavation LLBG
- 2X-05-02402/W, Weigh Critical Lift boxes in WRP Process Area
- 2X-05-02074/W, Critical Lifts at TRU Process Area
- 2X-01995/W, Weigh Containers Before Portable Assay
- 2X-05-02079/W, Canberra Portable Assay
- 2X-05-07493/P, 286W 1-yr Fire System Pressure Gauge Cal <12/07> TSR
- 2X-05-03828/O, Passive Soil Vapor Sampling 218-W-3A
- 2X-05-04471/P, SWSD Cold Weather Protection
- WI-05-06596/P, 2336W/104 IPAN-A&B Maintenance
- WI-05-07261/P, 2336W 1-yr Bridge Crane Inspection
- WI-05-05424/P, 2336W 1-yr Calibration Dwyer DPI
- WI-05-04682/M, Install TRUPACT Lid Stand Wheels
- WI-05-02457/W, Assemble A-Frame
- WI-05-02458/M Electrical Modification A-Frame
- WI-05-06313/P, 2336W 6-mo Interlock Inspection and Cable Lube 104B

Surveillance Results:

Finding: S-06-OOD-SWOC-002-F01

The two lockout points identified in W1-05-06596 were inadequate to completely isolate the electrical power and remove the potential hazards to personnel who would be performing the task described in the work document. (CONOPS-L&T, ISMS-WORK)

Requirement:

HNF-PRO-081, Rev. 13, Lockout/Tagout, Section 5.2, Write the Lockout, Item 3, stated in part: "Identify the lockout/tagout boundary using any means necessary (e.g., drawings, databases, documents, and/or a field walkdown)."

Discussion:

Contrary to the above, the tagout prepared to isolate hazardous energy to allow performance of Work Document W1-05-06596, Preventive Maintenance 2336W/104 IPAN-A&B Maintenance, did not utilize vendor drawings or other necessary means to identify the lockout/tagout boundary that was necessary to safely perform the work.

The contractor identified had this finding, held a critique, and initiated corrective actions before this surveillance report was written.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-SWOC-002-O01

The process required to reduce the scope (i.e., remove boxes found to not meet the weight criteria for a "critical lift") of a generic work instruction for critical lifts was excessively time consuming and convoluted. (MAINT-PLNG; ISMS-WORK)

Discussion:

Some waste boxes needed to be weighed with a calibrated scale prior to assay. The weights were to be used in the calculation to determine whether the box was transuranic (TRU) or low level (LL) waste. When weighed, two of the boxes were determined to be less than the 10,000 pound limit that required them to be handled using the critical lift/handling process. This meant that the sketches in work package (2X-05-2074, Critical Lifts at TRU Process Area), that had been previously prepared using weight data from the Solid Waste Information Tracking System (SWITS), needed to be changed before using the work package.

Changing the work package to delete boxes from critical lift/handling process required the following:

- Review and change Release Sheet by work coordinator.
- Mark and initial (as deleted) the sketches for two boxes.
- Obtain approval from Nuclear Safety to apply GCX-7 to the change.
- Record changes in Work Record.
- Obtain approval signatures in work record.

If the boxes had been left in the package when they were transferred from the TRU Processing area to 218-W-4C, Trench 29 for mobile assay and then back, more extensive, time-consuming, and restrictive controls would have been required. Removing these non-critical lift boxes from the package in no way altered or diminished the controls that needed to be applied to the critical lift boxes that remained in the package, yet the process required the work package to be revised as stated above.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-SWOC-002-O02

Some of the work record entries contained write-over entries that raised potential legibility questions. (MAINT-PLNG; ISMS-WORK)

Discussion:

The write-overs appeared to have been done in an attempt to make the writing more legible; none appeared to be made to change or alter the original entry. Actual correction/changes observed were made by drawing a single line through the error and then writing the correction near by and adding the initials of the person making the change and the date.

HNF-RD-210, Records Management Program, addresses corrections, but does not address writing over an entry without any apparent intention of trying to make a change. ASME NQA-1–2004, Quality Assurance Requirements for Nuclear Facility Applications, REQUIREMENT 17, Quality Assurance Records, Part 200, GENERATION OF RECORDS, Item *(a)* stated: *"Records shall be legible."* Write-overs appear to indicate that the person performing the write over did not feel that the original entry was legible. A dictionary defined "legible" as "able to be read." If an entry was able to be read, it should not be written over to make it darker as that may appear as if the writer was attempting to alter the original entry. If it cannot be read, it should be corrected as stated in HNF-RD-210.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-SWOC-002-O03

Actual man-hours worked were double the planning estimate. (MAINT-PLNG; ISMS-WORK)

Discussion:

Work document 2T-05-02915, *Annual 291-T Rake Inspection, Cleaning, and Testing,* performed replacement of the 291-T stack monitor probe. The work scope included removal of the existing sample line, insulation, heat trace, sample rake and installation of a new probe, sample line, pipe hanger supports, heat trace and insulation. The record copy of the work document records that the estimated hours for the required resources was 423; however, the actual resource hours expended were 850. The majority of this work has been completed although the work package remains open pending final closure.

A major factor in the significant overrun of man hours required to complete this work appeared to be an improper skill mix of the crafts employed to perform the work. The pipe support for the sample line consisted of three lengths of angle iron, each approximately 12-18 feet in length and weighing 200-300 pounds, which had to be assembled approximately 20 feet above ground using a mobile crane and man lift. Because this was a pipe support, the work was given to pipe fitters; however, due to the actual nature of the work, having the work performed by iron workers would probably have been more appropriate. The pipe fitters appeared to struggle with some basic concepts of how to handle and assemble the pieces of angle iron, and several false starts were required before the pieces were finally successfully bolted together.

Performance of this work required that the canyon exhaust ventilation fans be secured and the additional time required to perform the work had an adverse impact on canyon operations.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Good Practices:

Two Good Practices were also identified.

Although not specifically required by any FHI procedures or policies, WRAP and SWSD had initiated a Work Planner and AJHA Facilitator "Competency" Checklist to assure that personnel in those positions were appropriately trained and were aware of pertinent requirements.

SWSD had recently moved the Material Control Coordinators to a new facility (MO-616) and converted the spaces vacated in MO-743 to allow SWSD to have an on-site "shop." Having the space to stock consumables reduced the work load on work planners who previously either had to identify and specify all consumables in the Bill of Material (BOM), or take the chance that planned work might be delayed for lack of a missing consumable item. Some craft would also locate items on their own by going to the WRAP or T-Plant cribs/shops. Having more consumables (e.g. fasteners) on-site at SWSD should decrease work delays and reduce the complexity of the BOMs.

Contractor Self-Assessment:

The following documented contractor assessments completed during FY 2005 were reviewed:

Draft documentation for one recent Management Assessment of Work Management at WRAP (RC-OA-MS-06-MA-01).
Five FHI Independent Assessments (Quality Assurance) Assessments (QA-QA-SURV-05-137, Maintenance Implementation Plan (MIP); -155; -200; -214; -242).
Five FHI Management Assessments (CS-MS-05-MA-01, Maintenance Implementation Plan (MIP); CS-MN-05-MA-08, Post Maintenance Testing Assessment; CS-MS-05-MA-31, Work Control Practices and Lockout and Tagout Integration.
WSD-MN-05-MA-17, Management Assessment of T Plant Engineering Interface with PM/JCS.
CS-MN-05-MA-03, Measuring and Test Equipment (M&TE).
QA-PPQA-TPLT-SURV-05-295, T-Plant Periodic Maintenance and Surveillance program per HNF-PRO-19304.

The contractor's self-assessments found:

- The results of the draft WRAP Work Management Assessment were still under management review and discussion and had not been finalized at the time of this surveillance. The draft reviewed had identified seven potential negative observations and two good practices.
- Several documents had been cancelled since the then current revision of the MIP was published in April 2003; however, feedback was not provided to the owner of the MIP for revision until the information was requested. Improvement was also needed in the timeliness of feedback on revisions made.
- All projects assessed had established procedures that specified when to consider post maintenance testing as well as responsibilities to ensure post maintenance test results are reviewed for acceptance and, therefore, have sufficiently and effectively implemented the required SMP administrative controls. However, two Opportunities for Improvement were identified.
- In review of the work management process and the integration of lockout/tagout requirements into the process, it was determined that various subject matter experts continued to be involved in the planning and hazard analysis process. Some inconsistent practices were noted and there is evidence that continued emphasis on quality of work planning and implementation of work management elements need improvement. While fifteen negative observations were included in the report (CS-MS-05-MA-31), none were specifically attributed to WRAP; the only SWOC facility included in the assessment. Six were listed as opportunities for improvement (OIs) for FHI; five as OIs for the Central Maintenance Services with two of these also listed as OIs for the Canister Storage Building (CSB) along with two as just OIs for the CSB; and two as OIs for Fire Systems Maintenance.
- Overall, the technical interface between T Plant Engineering and Preventive Maintenance Program staff was found to be functioning properly and efficiently. There were no negative observations, but one positive observation was noted. Also, no negative findings or observation were noted in the T-Plant periodic maintenance process.
- Although some observations were identified, in general, the M&TE-related processes and procedures in the selected projects were found to be effective and adequate.

Based upon the review of these self-assessments, the SWOC program is deemed adequate.

Contractor Self-Assessment Adequate: **YES [X]** **NO [ ]**

Management Briefing:

J. E. Geary, DFSH
R. D. Greenwell, DFSH
R. E. Wilkinson, FHI
A. K. Yoakum, FHI
R. L. Wilbert, DFSH

06-OOD-0028
Attachment 6

Department of Energy
Richland Operations Office
Surveillance Report

Division: Operations Oversight Division (OOD)

Surveillant: Larry Earley

Surveillance Number: S-06-OOD-GPP-002

Date Completed: December 14, 2005

Contractor: Fluor Hanford, Inc. (FHI)

Facility: Groundwater Protection Project (GPP)

Title: Work Planning and Work Control

Guide: MAS 10.4

Surveillance Scope:

This surveillance was conducted as a Facility Representative (FR) core surveillance in accordance with a prescribed surveillance guide developed to measure contractor knowledge and performance in the areas of the contractor's work planning and work control process.

Surveillance Summary:

The surveillance activities consisted of a review of the work planning and work control processes to assess the contractor's consistency and reliability in work planning and work control performance. The FR reviewed the following:

1. The work prioritization process including items ready to work as scheduled.
2. Operations command and control of facilities buildings to include work release.
3. Work package development, construction, content, and use.
4. Work package closeout.
5. Use of the work log to document progress and unexpected conditions.
6. Feedback processes to planners.

The following two observations and one good practice were identified and documented:

S-06-OOD-GPP-002-O01: Minor errors were noted on completed GPP work packages.

S-06-OOD-GPP-002-O01: Data table was not fully completed for one completed PM package.

S-06-OOD-GPP-002-GP01: Lesson learned included in work package.

Surveillance Results:

Observation: S-06-OOD-GPP-002-O01

Minor errors were noted on completed GPP work packages. (QA – DOC, ISMS – WORK)

Discussion:

The FR reviewed six maintenance packages (four were preventative maintenance packages and two were work packages for system repairs). The packages reviewed were to perform the following:

1. Replace valve V2-30 at NR-2.
2. Troubleshoot and Repair ZP-1 extraction well MCC/Pump/Motor.
3. March 2004 KR-4 semi-annual spectrophotometer calibration.
4. September 2004 KR-4 semi-annual spectrophotometer calibration.
5. September 2005 Calibrate ISRM CR+6 Colorimeter.
6. October 2005 Calibrate ISRM CR+6 Colorimeter.

The following administrative errors were noted with the respective six reviewed maintenance packages:

GW-05-03916/W

1. Hazardous Waste Coordinator approval signature was not dated.
2. The Radiological Risk Screening Form preparer did not date the form.

GW-05-01280/W

1. Lead Engineer approval signature was not dated.
2. Pre-job briefing checklist did not have the "Work Document No." block filled in.
3. There was no AJHA in the work package file.

GW-04-06564/P

1. Pre-job briefing checklist did not have the "Work Document No., FWS/PIC, Date, or Task Description" blocks filled in.
2. The work procedure Appendix A data sheet Work Approval signature/date block was not dated.

GW-04-01127

1. The Central Plateau Waste Packaging/Labeling Instruction Sheet was not signed.
2. The work procedure Appendix A data sheet Work Approval signature/date block was not dated.

GW-05-03448/P

Pre-job briefing checklist did not have the "Work Document No. or Task Description" blocks filled in.

GW-05-04116/P

No administrative errors.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-GPP-002-O02

Data table was not fully completed for one completed PM package. (QA – DOC, ISMS – WORK)

Discussion:

GW-05-04116, which performs the calibration of the Cr+6 colorimeter at the ISRM, has one data table. The data table is noted as "Record 1. Calibrate HACH DR/890 Cr+6 with a range of 0 to 0.60 mg/L and signatures summary sheet."

The first item in the table to be recorded is the "Certificate Voluette Value," and this item was left blank in the record.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Good Practice: S-06-OOD-GPP-002-GP01

Lesson learned included in work package

Discussion:

Work package GW-05-01280/W, which performed troubleshooting and repair for an MCC, pump, and a motor, included a lesson learned report to identify hazards and possible outcomes if the procedure is not performed carefully. The lesson learned report was from a 1997 Savannah River Site electrical event.

Contractor Self-Assessment:

There was no additional contractor Management Assessments provided to the FR that were performed since the previous time this surveillance was performed. The assessment that was reviewed previously was adequate.

Contractor Self-Assessment Adequate: **YES [X]** **NO []**

Management Debriefed:

Art Garcia, GPP
Susanne Kooiker, GPP

06-OOD-0028
Attachment 7

Department of Energy
Richland Operations Office
Surveillance Report

Division: Operations Oversight Division (OOD)

Surveillant: Kerry Schierman

Surveillance Number: S-06-OOD-FFTF-002

Date Completed: December 14, 2005

Contractor: Fluor Hanford, Inc. (FHI)

Facility: Fast Flux Test Facility (FFTF)

Title: Work Planning

Guide: Lines of Inquiry Established in Core Surveillance Guide Maintenance Surveillance 10.4

Surveillance Scope:

The scope of the work planning core surveillance assesses the contractor's consistency and reliability in work planning and work control performance. Previously identified issues in surveillances, Operational Awareness reports and ORPS reports should be evaluated and documented. An evaluation of corrective actions for previously identified work control issues should also be conducted.

Surveillance Summary:

Using lines of inquiry developed specifically for the core surveillance, the Facility Representative (FR) reviewed:

- Work Planning and Scheduling;
- Work Package Development;
- Work Package Use and Closeout; and
- Resolution of Previously Identified Deficient Conditions

by performing the following activities:

- Attended multiple Plan-of-the-Day, Plan-of-the-Week, daily work status, biweekly work planning, and biweekly project review meetings. No issues were identified with any of the work planning or status meetings. Personnel attending the meetings generally had good status, and work tended to be completed as scheduled.

- Reviewed qualification requirements for personnel associated with the work planning and control process. Training and qualification for work control personnel appeared adequate. No training or qualification program existed for work planners, but no requirement base for training/qualification was identified. It was noted that a training and qualification program was in development (due May 30, 2006) per Action Report 29021732, as a corrective action from the last RL oversight activity for work planning and control.

- Reviewed the following completed work packages (including all forms and attachments):

  - 4F-05-03187, 451-B, Transformer TRR-2 Group and Air Switch Maintenance;
  - 4I-05-04178, Set-up and Test Multi-Duct Heater Assemblies;
  - 4F-95-00969, Drain Liquid Rheostats for Final Layup;
  - 4F-04-10002, TJR-9300 CH 63 is Alarming Low; and
  - 4F-04-07784, Recover FSF Under-Vessel Trace Heat for Sodium Drain.

  Although no issue was taken with the identification of hazards and controls, the controls were not consistently incorporated into the work instruction (from the AJHA or permits). This methodology did not meet DOE standards, but did meet FHI standards (see finding below). This issue needs to be addressed at the Project Hanford Management System (PHMS) level.

- Reviewed the qualification status for all Persons-In-Charge assigned for work activities the weeks of November 14 through December 1. No issues were identified.

- Attended AJHA meetings for work packages (4F-02-00949, 4F-05-07916, 4F-05-07858, 4F-05-07859, 4F-05-07914, 4F-05-07917, 4F-05-07918, 4F-05-07919, 4F-05-07920, 4F-05-07921, 4F-05-08038) associated with Sodium Potassium Alloy (NaK) reaction recovery and for routine activities (lockouts and tagouts, component operation, and visual inspection) conducted in the vicinity of energized equipment. No issues were identified.

- AJHA coordinator qualifications were verified for the above AJHA activities. No issues were identified.

- Attended pre-job briefings and observed work activities associated with the following work packages:

  - 4F-05-7916/W, Disconnect, inspect and clean the tubing to pressure sensor (PIR-0256);

- 4F-05-7858/W, Disconnect hoses that carried argon from the control station to the In-Vessel NaK Cooler and verify dryness;
- 4F-05-7917/W, Disconnect and inspect vent lines from the In-Vessel NaK Cooler to the scrubber; and
- 4F-05-7918/W, Visually inspect the vent side of the 3"vertical pipe to the In-Vessel NaK Cooler.

Minor issues were identified and were processed via the Operational Awareness database.

- Reviewed Corrective Action Management packages associated with surveillance report S-05-OOD-FFTF-004, completed March 28, 2005, which conducted oversight in the same topical area. The FR verified corrective actions had been completed as specified. One observation was identified (see below) for continued less than optimal use of AJHA feedback features.

In summary, the FFTF Work Management process was determined to be acceptable. The quality of work preparation activities and work package documentation and instructions proved adequate to demonstrate success in having jobs ready to perform when scheduled, and completed as scheduled. Integration of personnel and organizations was evident and personnel performance during work activities observed was good. Management oversight of work preparation and conduct was also evident and added value. Two opportunities for improvement were identified, one of which should be addressed at the PHMS level. As identified in S-05-OOD-FFTF-004, drift of the FFTF Work Management process from the rest of FHI's work management process should be monitored and minimized. One finding and one observation were identified:

S-06-OOD-FFTF-002-F01 Controls identified during the work package planning process (Automated Job Hazard Analysis) were not being consistently incorporated into work instructions.

S-06-OOD-FFTF-005-O01 Personnel were not using the Activity Level Feedback Database of AJHA to provide the benefit of lessons learned to other users.

Surveillance Results:

Finding: S-06-OOD-FFTF-002-F01

Controls identified during the work package planning process (Automated Job Hazard Analysis) were not being consistently incorporated into work instructions. (MAINT-HAZID, ISMS-ANLYZE)

Requirement(s):

CRD O 440.1A, Section 10.a, states, "For hazards identified either in the facility design or during the development of procedures, controls shall be incorporated in the appropriate facility design or procedure."

Discussion:

In reviewing completed work packages, the FR identified that in some cases controls identified in the Automated Job Hazard Analysis (AJHA) had not been placed into the work instruction. A specific example was work package 4F-05-03187/W to perform maintenance on the 451-B Transformer, TRR-2 Group and Air Switch. Specific personnel protective equipment, an Automated External Defibrillator nearby, and two qualified workers present, all controls identified in the AJHA, were not present in the work instruction. When the issue was identified to the Work Control Center Lead Engineer, he stated an effort was made to get the controls from the AJHA to the work instruction, but he also identified that HNF-PRO-079 did not require it. HNF-PRO-079, Section 4.1.2, contains a note stating, "Using the AJHA process, hazards and controls may be integrated directly into the work instructions/procedure; or a separate AJHA may be developed as a supporting hazard analysis document referenced in the work instructions/procedure." It was noted that in each instance where the FR noted AJHA controls had not been placed into work instructions, the AJHA was referenced by the work package and also physically included within the work package.

This issue was also identified in Finding S-05-OOD-FFTF-004-F02.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Finding: S-06-OOD-FFTF-005-O01

Personnel were not using the Activity Level Feedback Database of AJHA to provide the benefit of lessons learned to other users. (QA-IMPRV, ISMS-FEEDBK)

Observation S-05-OOD-FFTF-004-O05 identified that personnel were not using the Activity Level Feedback Database of AJHA as prescribed in FFTF Work Management Process Administrative Procedure A-28, Appendix U, Section 6.7 or HNF-PRO-079, Section 4.6.4. One of the corrective actions for the observation was the issue of a Field Change Notice (FCN) to A-28 to eliminate a requirement that was more prescriptive than that identified in HNF-PRO-079.

Information remaining in A-28, Appendix U (Section 6.4) is as follows, "The PIC/FWS is responsible to document feedback or lessons learned resulting from post-job reviews. HNF-GD-17132, Automated Job Hazards Analysis Process Guide, provides detailed instructions on use of the Activity Level Feedback Database in the AJHA program. When a formal post-job review is conducted, it is required to be documented on the 'AJHA Combined Post Job/ALARA Review Form' (located in the Activity Level

Database in the AJHA program) and any feedback and lessons learned should be identified. Informal feedback may be documented anytime noteworthy information is identified. Informal feedback may be recorded in the work document work record (J-5). If the informal feedback is noteworthy and contains information that may be useful to others, it may also be recorded via the 'Activity Level Feedback Summary Form' that is located in the Activity Level Feedback Database in the AJHA program."

Because no formal post-job reviews have been performed (or specifically required) at FFTF since the FCN was issued there was not a specific requirement to enter data into the Activity Level Feedback Database. However there were several activities (electrical shock event, identification of an "Edison Circuit" during safe-to-work checks, the NaK reaction event) where a formal post-job review could have been specified and conducted, and regardless, useful lessons learned could have been identified and shared. Despite this, FFTF personnel were still not making entries into the Activity Level Feedback Database.

In follow-up to the corrective action completion from surveillance S-05-OOD-FFTF-004, the Work Control Scheduling Manager recently identified the same condition and issued an email reminder to Persons-In-Charge/Field Work Supervisors to use the Activity Level Feedback Database. If management considers that action to be adequate to address and improve this condition, no further action is required to this Observation.

RL Lead Assessor Closure Required: YES [ ] NO [X]

Contractor Self-Assessment:

Two Management Overview Program oversight activities conducted in Work Management areas in 2004 were provided to the FR. The first was on the application of eight criteria worker AWL being applied/implemented at the facility; the second was an evaluation of the effectiveness of Preventive Maintenance and Instrument Calibration and Recall System procedures.

Quality Assurance surveillances were conducted in the areas of Procedure Observations, Post Review of Corrective Maintenance Work Packages, and Facility Modification Packages in FY 2004. Quality Assurance surveillances were conducted in the areas of Work Package Change Control, Plant Work, and Pre-Job Briefings in 2005.

Statistical reviews of corrective and preventive maintenance work activity progress, planning status for new work, material status, and freeze protection status, were being conducted on a biweekly basis. The results are provided to RL in the biweekly project review meetings.

As stated elsewhere in the report, management oversight of work planning, scheduling and conduct is common. Consideration should be given to documentation processes that will provide additional evidence of activities conducted.

Contractor Self-Assessment Adequate: **YES [X]** **NO [ ]**

Management Debriefed:

T. R. Gregory, FHI
M. D. Hupp, FHI

06-OOD-0028
Attachment 8

Department of Energy
Richland Operations Office
Surveillance Report

Division: Operations Oversight Division (OOD)

Surveillant: Larry Earley

Surveillance Number: S-06-OOD-CSI-002

Date Completed: December 14, 2005

Contractor: Fluor Hanford, Inc. (FHI)

Facility: Closure Services and Infrastructure

Title: Work Planning and Work Control

Guide: MAS 10.4

Surveillance Scope:

This surveillance was conducted as a Facility Representative Core Surveillance in accordance with a prescribed surveillance guide developed to measure contractor knowledge and performance in the areas of the contractor's work planning and work control process.

Surveillance Summary:

The surveillance activities consisted of a review of the work planning and work control processes to assess the contractor's consistency and reliability in work planning and work control performance. The FR reviewed the following:

1. The work prioritization process; including items ready to work as scheduled.
2. Operations command and control of facilities buildings to include work release.
3. Work package development, construction, content, and use.
4. Work package closeout.
5. Use of the work log to document progress and unexpected conditions.
6. Feedback processes to planners.

The following observation was identified and documented:

S-06-OOD-CSI-002-O01: Minor errors were noted on completed CSI work packages

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Surveillance Results:

Observation: S-06-OOD-CSI-002-O01

Minor errors were noted on completed CSI work packages. (MAINT – PLNG, ISMS – WORK)

Discussion:

The FR reviewed six work packages (four were preventative maintenance packages and two were system enhancements). The packages reviewed performed the following:

1. Surface wash flow meter to 283-W filters.
2. 283E, 282E, 282EC monthly building safety inspections.
3. Eight-inch sanitary water line LP switch calibration.
4. 283W, 282W, 282WC monthly building safety inspections.
5. 2711E - remove the two person eyewash stations and install self contained units.
6. 4722C - remove existing eyewash station and install upgraded one.

Two errors/omissions were noted on the CSI work packages reviewed.

1. Work Package WW-05-422340/O, which performed the 283W, 282W, and 282WC monthly safety inspections, did not have one of the data sheets fully completed. The data sheet inspecting the fire extinguishers was missing the verification checks which would have indicated that IC-2361 fire extinguisher was inspected. The work package was signed off as complete and the supervisory review also stated the work package was satisfactorily completed.

2. Work Package 2M-05-417711/W, which changed the eye wash station at 4722C, omitted the work release date in block 14.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Contractor Self-Assessment:

There was no additional contractor Management Assessments provided to the FR that were performed since the previous time this surveillance was performed. The assessment that was reviewed previously was adequate.

Contractor Self-Assessment Adequate: **YES [X]** **NO [ ]**

Management Debriefed:

Dawn Adams, CSI
John Kimbrough, CSI
Jim Day, CSI

06-OOD-0028
Attachment 9

Department of Energy
Richland Operations Office
Surveillance Report

Division: Operations Oversight Division (OOD)

Surveillant: CH Gunion, DC Humphreys, SM McDuffie

Surveillance Number: S-06-OOD-SNF-002

Date Completed: December 16, 2005

Contractor: Fluor Hanford, Inc. (FHI)

Facility: K-Basins Closure (KBC) Project

Title: Work Planning and Work Control

Guide: MAS 10.4

Surveillance Scope:

The scope of this core surveillance was to assess the contractor's consistency and reliability in work planning and work control performance. Previously identified issues in surveillances, Operational Awareness (OA) reports and Occurrence Reporting & Processing System (ORPS) reports were evaluated and documented. An evaluation of corrective actions for previously identified work control issues was also conducted. The Facility Representatives (FRs) reviewed documents, attended work planning/work control meetings, and observed work in the field. The following completed work packages were reviewed:

- 1K-05-08116 – Replace skimmer pump at 105KE;
- 1K-05-06646 – 105KW 6-MTH TSB-400 INSPECTION;
- 1K-05-05232 – 105KE, Straighten Hook on Debris Basket Spreader;
- 1K-05-06762 – Repair NuCut Shear on ESPT at 105KW;
- 1K-05-03930 – 105KW REMOVE/REPLACE IXM-4.

Surveillance Summary:

The KBC Project had instituted a work planning / work control process based on the comprehensive Site-wide procedure tenets of HNF-PRO-12115 - Work Management,

HNF-PRO-079 - Job Hazard Analysis, and HNF-PRO-19304 – Periodic Maintenance and Surveillance Process. Enhanced Work Planning/Job Hazards Analysis meetings were held for selected, non-routine work packages. The KBC Project demonstrated an improvement in the conduct of post-job reviews over the last year. KBC FRs identified a deficiency in post-job reviews in surveillance S-04-OOD-SNF-018. Corrective action for that deficiency appeared adequate. A KBC FR identified a configuration control deficiency at the 105-KE Facility as described below. In general, with the exception of finding 1, KBC demonstrated an improvement in work planning and control. The following findings and observations were recorded for this surveillance effort:

- **S-06-OOD-SNF-002-F01** - The contractor modified the 105-KE Facility without using a work/change control process;
- **S-06-OOD-SNF-002-F02** - 105-KE management personnel failed to recognize and apply the Unreviewed Safety Question (USQ) process;
- **S-06-OOD-SNF-002-O01** - Planners consistently underestimated craft and support personnel hours.

Surveillance Results:

Finding: S-06-OOD-SNF-002-F01

The contractor modified the 105-KE Facility without using a work / change control process. (MAINT-PLNG) (ENG-CHANGE) (ISMS-WORK)

Requirement:

HNF-POL-CONFIG Configuration Management Policy lists DOE Standard 1073-2003 as a basis document for configuration management. DOE-STD-1073-2003 Chapter 5 Paragraph 1 states, "Contractors must establish and use a formal change control process as part of the configuration management process. The objective of change control is to maintain consistency among design requirements, the physical configuration, and the related facility documentation, even as changes are made. The change control process is used to ensure changes are properly reviewed and coordinated across the various organizations and personnel responsible for activities and programs at the nuclear facility."

Discussion:

The FR observed that the canister rack load-out station's handrails and gate had been modified from the original design. Approximately 15 feet of handrail had been removed on the south side of the station and replaced by tube-lock. (Tube-lock is a temporary scaffolding / barrier system.) In addition, an engineered gate had been removed and replaced with the same tube-lock system equipment. The original Facility Modification

Package (FMP) showed that the handrail was designed to be removed during the evolution to facilitate transfer of canister racks out of the basin. There was no mention of the tube-lock replacement for the handrail or gate in the package.

The FR inquired about FMP development for the apparent change. The FR was provided with the original FMP (HNF-FMP-05-25214-R0 A through C) which removed the grating and installed the handrail and gate. In addition, the FR was provided with FMP HNF-FMP-05-25214-R0 D, which changed the original design to the general configuration of the tube-lock. This FMP, as understood by the FR, was part of a work package in which field activities had not started. In any FMP configuration, however, tube-lock was not mentioned nor was modification of the original gate. Contractor response to the FR inquiry into the change mechanism used to modify the facility was unsatisfactory.

The canister rack load-out station was modified by the rack removal Nuclear Chemical Operators and rigger support personnel. Change control methods used were reported to be a routine work package and "post-job discussion." Neither method was supported by change control configuration management requirements. This deficiency was recognized by KBC management and corrective actions taken.

RL Lead Assessor Closure Required: **YES [X]** **NO [ ]**

Finding: S-06-OOD-SNF-002-F02

105-KE management personnel failed to recognize and apply the Unreviewed Safety Question (USQ) process. (MAINT-PLNG) (NUC-USQ) (ISMS-WORK)

Requirement:

10 CFR 830.203 Unreviewed Safety Question process b. states, "Implement the DOE-approved USQ process in situations where there is a: (1) Temporary or permanent change in the facility as described in the existing documented safety analysis;"

HNF-PRO-062 Section 4.1 1. states, "The USQ process shall be implemented in situations where there is a: a. Temporary or permanent change in the facility as described in the existing documented safety analysis;....."

Discussion:

Changes made to the handrail described above in finding 1 included a modification extending the grating access area over the basin water and removed/modified the gate on the west end of the station as described on facility drawing H-1-21103 Sheet 1. Neither change was screened for possible USQ potential. The handrail mitigated a potential personnel fall into the basin water. Since the grating was modified, the facility building was modified and included in facility drawings. It did not appear that the contractor made even a cursory review of the change. Since condition identification by the FR and acknowledgement by the contractor, appropriate USQ evaluations have been completed.

RL Lead Assessor Closure Required: **YES [X]** **NO [ ]**

Observation: S-06-OOD-SNF-002-O01

Planners consistently underestimated craft and support personnel hours. (MAINT-PLNG) (ISMS-DEFINE)

Discussion:

Of the completed work packages reviewed by the FR, only one contained a credibly accurate estimate of personnel time to complete the work. One such underestimate was made for removing and replacing an Ion Exchange Module (IXM) at 105-KE, a job performed numerous times before. Conversely, the job to repair a NuCut shear was estimated accurately, even though this job is performed infrequently.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Contractor Self-Assessment:

A management assessment on KBC work management conducted by non-KBC personnel was completed in November 2005. The defined scope of the assessment was appropriate, with special focus on issues identified in past RL surveillances. The assessment identified several issues, although the importance of the issues appears to be downplayed in the report. The report identified four observations and six "areas for improvement." The report states that the observations and areas for improvement will be documented on Issue Identification Forms for processing through the Corrective Action Management System (CAMS), which is commendable. However, as of December 16, 2005, only two IIFs have been entered into CAMS. By the definitions of "findings" and "observations" in HNF-PRO-246, Management Assessment, three of the four observations appear to qualify as findings, and all six of the "areas for improvement" appear to meet the definition of an observation. HNF-PRO-246 does not define the term "area for improvement," so the assessment does not strictly comply with the HNF-PRO-246 requirements for management assessment reports. Nonetheless, as long as all ten issues are properly processed through the corrective action management process, the assessment will have served its purpose.

Contractor Self-Assessment Adequate: **YES [X]** **NO [ ]**

Management Debriefed:

Chris Lucas, FHI
Dan Arrigoni, FHI

Attachment 4

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

06-OOD-0018

JAN 11 2006

Mr. P. L. Pettiette, President
Washington Closure Hanford, LLC
3070 George Washington Way
Richland, Washington 99354

Dear Mr. Pettiette:

CONTRACT NO. DE-AC06-05RL14655 – SURVEILLANCE REPORT S-06-OOD-RCP-001, WORK PLANNING AND WORK CONTROL

Enclosed is Surveillance Report S-06-OOD-RCP-001, Work Planning and Work Control. The surveillance resulted in seven findings and eleven observations. The findings and observations do not indicate programmatic deficiencies; however, they indicate an opportunity for improved rigor.

A review of completed self-assessments conducted under BHI and WCH tenure indicated an adequate self assessment process; however, no completed assessments were provided in the areas of hazards identification and control and work package development and use. RL finds this surprising since major process changes for hazards identification and control were instituted as part of the corrective action plan for a 2004 uptake event at the 618-2 burial grounds. In addition, major revisions were made to procedures governing work package development.

It is acknowledged that WCH is continuing with the process of revising "blue-sheeted" procedures in an effort to better represent its corporate philosophy of conducting business. As such, no formal response to this surveillance is required. WCH is encouraged to ensure hazards identification and control and work package development and use are adequately covered as part of its self-assessment process.

If you have questions, please contact me, or you staff may contact Doug S. Shoop, Assistant Manager for Safety and Engineering, on (509) 376-0108.

Sincerely,

for Keith A. Klein
Manager

OOD:BAB

Enclosure

cc w/encl:
R. L. Donahoe, WCH
S. L. Feaster, WCH
J. C. Fulton, WCH
D. H. Houston, WCH
G. G. Meyer, WCH
W. S. Shingler, WCH

Attachment
06-OOD-0018

Department of Energy
Richland Operations Office
Surveillance Report

Division: Operations Oversight Division (OOD)

Surveillants: Allison Wright, Joe Waring, Deanna McCranie, and Brian Biro

Surveillance Number: S-06-OOD-RCP-001

Date Completed: December 14, 2005

Contractor: Washington Closure Hanford, LLC (WCH)

Facility: River Corridor Closure Project

Title: Work Planning and Work Control

Guide: MAS 10.4

Surveillance Scope:

The objective of this work planning and control surveillance was to assess the contractor's ability to effectively plan and safely conduct work. The Facility Representatives (FRs) reviewed and evaluated previously identified issues and corrective actions associated with those issues. The FRs attended Plan of the Day (POD), Plan of the Week (POW), Final Execution meetings, Enhanced Work Planning/Job Hazards Analysis (EWP/JHA) sessions, and Pre-Job meetings. In addition, the FRs reviewed selected, completed work packages, interviewed personnel, and observed work in the facilities.

Surveillance Summary:

In general, work activities performed by the River Corridor Contractor were conducted in a controlled manner in accordance with established work control systems. WCH assumed responsibility for the River Corridor Contract work scope in August of 2005. This entailed facilities that were previously managed by Fluor Hanford Inc. and Bechtel Hanford, Inc. each of which had their own work control systems. No programmatic issues were identified indicating the work control systems in place are adequate. However, numerous minor deficiencies and observations indicated opportunity for improved rigor.

The contractor self-assessment program did not review topical areas covered by this surveillance (e.g. Work Planning, Hazards Identification, Hazards Controls, Work Document content, etc). A corrective action plan was completed to address major deficiencies in the work planning and hazards identification process associated with the 618-2 burial grounds. In addition, modifications were made in developing work documents (e.g. Type I and II work packages). Self-assessments verifying the effectiveness of corrective actions and to determine the effectiveness of changes in the work package development process were expected.

Specifically, the following findings and observations were identified:

- **S-06-OOD-RCP-001-F01:** Work Package 20051004001 did not contain an exemption from the Environmental Restoration Disposal Facility (ERDF) Supplemental Waste Acceptance Criteria (WAC) to allow for the 18-inch supply pipe to be grouted in a Connex shipping container rather than be split in half as required by the WAC.

- **S-06-OOD-RCP-001-F02:** Site Specific Waste Management Instruction (SSWMI) for Work Package 20051004001 at 100 N specified DOT release limits for smearable beta-gamma and alpha contamination for the outside of the ERDF containers rather than the 10 CFR 835 release limits, which were more conservative.

- **S-06-OOD-RCP-001-F03:** A minor change made to step 5.2.2.1 of Work Package 20051004001 was not approved by the responsible manager.

- **S-06-OOD-RCP-001-F04:** Hazard mitigation and control methods identified in the Job Hazard Analysis were not included in the Task Instruction (TI) for Work Package 20051004001, Rev. 0, Pipe Removal at 107-N.

- **S-06-OOD-RCP-001-F05:** The excavation permit for sampling activities at 100 D in the "controlled copy" of the work document was not complete.

- **S-06-OOD-RCP-001-F06:** A dig site was not included in the excavation permit for sampling activities at 100 D.

- **S-06-OOD-RCP-001-F07:** The current revision of the 327 Technical Safety Requirements (TSRs) was not referenced in 3M-05-06408/P 10/05, Monthly Report of Radioactive Materials.

- **S-06-OOC-RCP-001- O01:** The pipe boundary identification to distinguish highly contaminated piping and other piping not to be disturbed under Work Package 20051004001, Rev. 0, Pipe Removal at 107-N, was not defined/documented in the task instruction.

- **S-06-OOD-RCP-001-O02:** Attachment 7.6, referenced in Step 5.1 of Task Instruction 20051004001, Rev. 0, Pipe Removal at 107-N, was inconsistent with the pipe tap process specified in Step 5.1.

- **S-06-OOD-RCP-001-O03:** Attachment 7.6 in Work Package 20051004001, Rev. 0, Rev. 0, Pipe Removal at 107-N, contains no document or revision number for configuration control.

- **S-06-OOD-RCP-001-O04:** Health and Safety Plans (HASPs) were routinely referred to as the control for identified hazards.

- **S-06-OOD-RCP-001-O05:** Additional information/definitions for hazards cited in Automated Job Hazards Analysis program would facilitate consistency.

- **S-06-OOD-RCP-001-O06:** Hazards communications were not routinely performed in an interactive manner.

- **S-06-OOD-RCP-001-O07:** Attention to detail when completing work packages needed improvement.

- **S-06-OOD-RCP-001-O08:** Instructions in Work documents 3I-05-06819, Monthly Winterization Inspection for November 2005, and Work Document 3I-05-06805, were not clear.

- **S-06-OOD-RCP-001-O09:** Unreviewed Safety Question (USQ) Screening 327-FH-03-087 was completed using outdated versions of the Basis for Interim Operations (BIO) and Technical Safety Requirements (TSRs).

- **S-06-OOD-RCP-001-O10:** The scope of WCH-HNF-11559, Rev. 0, Section 5.2 "Material Management" needed clarification.

- **S-06-OOD-RCP-001-O11:** The comparison of facility inventory to the 327 Basis for Interim Operations (BIO) required by work package 3M-05-06408/P 10/05, Monthly Report of Radioactive Materials, was unclear.

Surveillance Results:

Finding: S-06-OOD-RCP-001-F01

Work Package 20051004001 did not contain an exemption from the ERDF Supplemental Waste Acceptance Criteria (WAC) to allow for the 18-inch supply pipe to be grouted in a Connex shipping container rather than be split in half as required by the WAC. (ENV – MNGMT, ISMS – WORK)

Requirement(s):

Supplemental Waste Acceptance Criteria for bulk shipments to the Environmental Restoration Disposal Facility stated in part, "Pipes/tubes with nominal diameters greater than or equal to 45.7 cm (18 in.) and less than 121.9 cm (48 in.) shall, at a minimum, be split in half."

Discussion:

TI 20051004001 stated piping in the 107N trench would be cut into manageable lengths and placed into a Connex for grouting. At least one of the pipes was 18 inches in diameter. The ERDF WAC for Bulk Shipments to the ERDF Work package 20051004001 did not contain an exemption from the ERDF Supplemental WAC to allow grouting vice splitting the 18 inch pipe.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Finding: S-06-OOD-RCP-001-F02

SSWMI for Work Package 20051004001 specified DOT release limits for smearable beta-gamma and alpha contamination for the outside of the ERDF containers rather than the 10 CFR 835 release limits, which were more conservative. (RADCON – SRVYS, ISMS – WORK)

Requirement(s):

WCH-RC-02, Radiation Protection procedure No. 11.2, Radioactive Material Control, Rev. 2, section 3.5.2. C states, "When performing on-site transport of radioactive materials, the 10 CFR 835, Appendix D values for removable contamination shall be used."

Discussion:

Section 7 of the SSWMI specified the non-fixed contamination (smearable) on the external surface of the container may not exceed 2,200 dpm/100 cm2 beta-gamma, and 220 dpm/100 cm2 alpha. DOE surface contamination levels were more conservative and were used at Hanford. The 10 CFR 835 surface contamination levels were 1000 dpm/100 cm2 for beta-gamma emitters and 20 dpm/100 cm2 for transuranic alpha emitters.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Finding: S-06-OOD-RCP-001-F03

A minor change made to step 5.2.2.1 of Work Package 20051004001 at 100 N was not approved by the responsible manager. (CONOPS – PROCS, ISMS – WORK)

Requirement(s):

WCH-D4-01, Vol 1, D4 Closure, Procedure 2.3, Step 5.2.7.3 states in part, "The responsible manager, Design Engineer, Field Engineer, Area Field Superintendent, and Facility Administrator can make changes in the work package that do not change the overall scope, alter technical requirements (e.g., ASA), delete or alter quality program requirements, or use means and methods not covered in the JHA. The responsible manager must initial and date each change (or provide telephone authorization)."

Discussion:

Step 5.2.2.1 of Work Package 20051004001, Rev. 0, Pipe Removal at 107-N was revised by making a note in Record 8.2, which states "If direct and removable contamination levels on cover blocks are below CA levels, no plastic cover is required." The addition to the step was made and initialed by the field engineer. It was not initialed and dated by the responsible manager nor was telephone authorization indicated.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Finding: S-06-OOD-RCP-001-F04

Hazard mitigation and control methods identified in the Job Hazard Analysis were not included in the Task Instruction (TI) for Work Package 20051004001, Rev. 0, Pipe Removal at 107-N. (QA – WORKPR, ISMS – ANALYZ)

Requirement(s):

WCH-D4-01, Vol 1, D4 Closure, Procedure 2.3, Paragraph 4.1 states in part, "All hazard mitigation from the JHA shall be included in the TI."

Discussion:

Hazard Mitigation and Control Methods specified in the JHA for Hazard Description oxygen deficient/suffocation and fume, gas mist, vapor were "Initial entry monitoring" and "Initial pipe breach mercury monitoring, vehicle exclusion area" respectively. These controls, which would have been appropriately applied prior to entering the pipe trench and after drilling holes in the pipes as specified in 5.2.2 of the TI for Work Package 20051004001, Rev. 0, Pipe Removal at 107-N, were not included in the TI.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Finding: S-06-OOD-RCP-001-F05

The excavation permit for sampling activities at 100 D in the "controlled copy" of the work document was not complete. (QA – WORKPR, ISMS – WORK)

Requirement(s):

10 CFR 830.120 c 2 (i) Work Processes, states in part, "Work shall be performed to established technical standards and administrative controls using approved instructions, procedures, or other appropriate means."

Discussion:

Section 7 of the excavation permit stated, in part, "... 100-D-50 underground pipeline and soils beneath pipeline as identified on the attached maps." It appeared two pages of attached maps, one containing the waste site in question, were not included in the package of work documents being used in the field indicating potential deficiencies in configuration control of documents.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Finding: S-06-OOD-RCP-001-F06

A dig site was not included in the excavation permit for sampling activities at 100 D. (QA – WORKPR, ISMS – ANALYZ)

Requirement(s):

10 CFR 830.120 c 2 (i) Work Processes, states in part, "Work shall be performed to established technical standards and administrative controls using approved instructions, procedures, or other appropriate means."

Discussion:

Based on discussions with WCH personnel, it was determined that the excavation permit was submitted with 15 waste sites. Subsequent to its submittal, the U.S. Department of Ecology requested two additional sites be sampled. One could not be included because it was beneath a power pole. The other was added to the work instructions. However, it was not added to the excavation permit which should have resulted in appropriate review and approvals be redone to ensure there were no hazards or issues associated with the added dig site.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Finding: S-06-OOD-RCP-001-F07

The current revision of the 327 Technical Safety Requirements (TSRs) was not Referenced in 3M-05-06408/P 10/05, Monthly Report of Radioactive Materials. (ENG – CM, ISMS – IDHAZ)

Requirement(s):

RL Letter 05-SED-0206, dated August 26, 2005, specified WCH-HNF-11559, Rev. 0 became effective upon contract transition.

Discussion:

Work package 3M-05-06408/P 10/05, Monthly Report of Radioactive Materials references HNF-11559, Rev. 0, 327 Technical Safety Requirements, rather than WCH-HNF-11559, Rev. 0, 327 Technical Safety Requirements.

RL Lead Assessor Closure Required: YES [ ] NO [X]

Observation: S-06-OOD-RCP-001- O01

The pipe boundary identification to distinguish highly contaminated piping and other piping not to be disturbed under Work Package 20051004001, Rev. 0, Pipe Removal at 107-N, was not defined/documented in the task instruction. (ENG – CM, ISMS – WORK)

Discussion:

The TI stated the head-end (unfiltered water) and radiation waste piping boundaries would be identified by Engineering with a color code to distinguish these pipe systems, which were considered likely to be highly contaminated, from other piping so they could receive an appropriate level of protection during pipe cutting and removal operations. The boundaries of the Sand Filter and the Sluice system piping would also be color coded (different color) by Engineering to identify these pipe systems, which were not to be disturbed. The color code for these specified pipe systems was not identified in the TI. The field engineer stated he wanted to get the workers input on the color code so it would be more meaningful to them, which is notable. However, unless the TI is revised to document the color chosen for each of these pipe system boundaries, there would be no formal direction defining the color code scheme and accompanying technical direction for those pipe systems.

RL Lead Assessor Closure Required: YES [ ] NO [X]

Observation: S-06-OOD-RCP-001-O02

Attachment 7.6, referenced in Step 5.1 of Task Instruction 20051004001, Rev. 0, Pipe Removal at 107-N, was inconsistent with the pipe tap process specified in Step 5.1. (QA – WORKPR, ISMS – WORK)

Discussion:

Step 5.1 stated in part, "When a pipe tap is used to drain fluids trapped in low points, utilize the following steps (Attachment 7.6 is provided as a guide with more comprehensive detail):" Step 5.1 then provided directions to install a hot tap near the pipe low point and use gravity and/or a pump to drain fluid into a carboy. Attachment 7.6, Pipe Tapping Guidance, specified to drill each section of pipe at the highest end to check for safe condition and combustible gas, drilling into the top of the pipe. It then specified to monitor for gases, purge the gases, test for liquids, and then to pump out the liquids using a peristaltic pump.

RL Lead Assessor Closure Required: YES [ ] NO [X]

Observation: S-06-OOD-RCP-001-O03

Attachment 7.6 in Work Package 20051004001, Pipe Removal at 107-N, Rev. 0, Pipe Removal at 107-N, contains no document or revision number for configuration control. (ENG – CM, ISMS – WORK)

Discussion:

There was no document number/revision number associated with Attachment 7.6. Other attachments in the work package were appropriately marked with their own document number and approvals (e.g., SSWMI), or use the work package number (e.g., JHA).

Document numbers/revision numbers are essential for configuration control.

RL Lead Assessor Closure Required: YES [ ] NO [X]

Observation: S-06-OOD-RCP-001-O04

Health and Safety Plans (HASPs) were routinely referred to as the control for identified hazards. (MAINT – HAZID, ISMS – WORK)

Discussion:

For any hazard identified as part of the JHA that was also addressed in "the HASP", a note stating "See the HASP" was entered in the space for hazards controls on the JHA. It is likely the 300 Area Building Complex Demolition Health and Safety Plan (HASP) would be applicable in most cases, but it was not specifically referenced. If additional HASPs are developed for specific activities/buildings, there may be some confusion.

Work packages are designed to be stand-alone documents with applicable permits, attachments, etc. included. HASPs have not been part of work packages. As such, if a question arises about a control for a hazard, the Superintendent or Craft Supervisor cannot simply refer to the JHA in the work package to provide a consistent answer. He

must locate the HASP, find the appropriate section, and hope the controls discussed are specific enough to address the immediate situation. To make matters worse, it was stated that the HASP references other documents such as the Beryllium Control Plan and IH Monitoring Plan. This could lead to a "research project" to determine what an appropriate control should be.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-RCP-001-O05

Additional information/definitions for hazards cited in Automated Job Hazards Analysis program would facilitate consistency. (MAINT – HAZID, ISMS – ANALYZ)

Discussion:

On occasion, (e.g., for "liquid discharge or spill" and "electrical" under "heat generation"), personnel were not certain of what the specific hazard really was. As such, it was difficult to determine if the hazard should be checked as "yes" or "no." An experienced field engineer and procedure writer was present at the meeting and provided guidance. However, it would be better if the program would allow for pulling up a specific definition of the hazard with some examples. This would ensure personnel understand what the intent of the hazard wording is and facilitate determining if the hazard exists for the work scope under consideration. Also, it would reduce the amount of discussions regarding what the meaning of the hazard statement is and, ultimately, the time necessary to complete Job Hazards Analysis.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-RCP-001-O06

Hazards communications were not routinely performed in an interactive manner.

Discussion:

Pre-evolution and pre-job briefings were not routinely conducted in an interactive manner across the River Corridor Project. The craft leads or supervisor read work steps, RWP requirements, Beryllium work plan requirements, etc. verbatim. It is acknowledged that adequate information was disseminated and, therefore, the technical requirements for hazards communication were met. However, there were no means of determining if personnel were truly cognizant of the hazards and associated controls that applied to their assigned tasks. Having personnel at the pre-evolution and pre-job meetings describe the tasks they are to perform with the hazards and associated controls (e.g., barriers and postings, Personal Protective Equipment, dosimetry, void limits, etc.) is a more effective means of communicating hazards.

During the time period covered by this surveillance (November and a portion of December), varying levels of interactivity were noted. As such, there does not appear to be any specific WCH expectations regarding the methodology utilized for pre-evolution and pre-job briefings.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-RCP-001-O07

Attention to detail when completing work packages needed improvement. (CONOPS – PROCS, ISMS – WORK)

Discussion:

Work documents 3I-05-06819, Monthly Winterization Inspection for November 2005 and Work Document 3I-05-06805, TSR Control of Transient Combustible Materials, monthly for November 2005 were reviewed. The following was noted:

3I-05-06819, Monthly Winterization Inspection

1. Section 4.9, the RWP referenced is RWP-M-04-001 rather then the 2005 revision. The 2005 RWP revision was included with the support documentation.

2. Approval signature by Nuclear Safety was not dated.

3. No task description was provided on the Pre-Job Briefing Checklist, although the work Document Number was provided.

3I-05-06819, Monthly Winterization Inspection for November 2005

1. The table on the 327 Building Data Sheet, Attachment 1, was filled in, but the signature and date certifying completion was not completed. On the PM/S Data Sheet, the cognizant engineer did sign that the surveillance was performed satisfactorily.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-RCP-001-O08

Instructions in Work documents 3I-05-06819, Monthly Winterization Inspection for November 2005, and Work Document 3I-05-06805, were not clear. (CONOPS – PROCS, ISMS – WORK)

Discussion:

Work documents 3I-05-06819, Monthly Winterization Inspection for November 2005 and Work Document 3I-05-06805, TSR Control of Transient Combustible Materials, monthly for November 2005 were reviewed. The following was noted:

1. Several facilities were not included on the Monthly Winterization Inspection surveillance due to testing. The work document did not state what testing was underway and why it was acceptable to delete the areas from the surveillance rather then delay the surveillance until testing was complete.

Upon follow up, it was determined the testing referred to was for potential beryllium contamination in the identified buildings. The testing needed to be completed, or qualified Be personnel needed to be utilized to ensure that the winterization activities were performed in these buildings.

2. Section 6.5 of Work Document 3I-05-06805 and HNF-IP-1264 1.4, attachment-checklist expectation c. requires removal of combustibles or follow-up efforts to remove combustible/flammable materials, but does not identify the method of performing this action.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-RCP-001-O09

Unreviewed Safety Question (USQ) Screening 327-FH-03-087 was completed using outdated versions of the Basis for Interim Operations (BIO) and Technical Safety Requirements (TSRs). (QA – DOC, ISMS – IDHAZ)

Dicsussion:

Work Package 3M-05-06408/P contained USQ Screening 327-FH-03-087 dated September 19, 2003. USQ screening references HNF-4667 Rev. 0 and HNF-11559, Rev. 0. At the time the package was released, HNF-4667 Rev. 1 and WCH-HNF-11559 Rev. 0 were in effect. The USQ screener stated the package was reviewed against the revised BIO and TSR but HNF-PRO-062 does not require the review to be documented.

HNF-PRO-062, Rev. 12 (the blue-sheeted version), Section 5.1, Step 11, last paragraph states: "If the DSA has in any way changed since the last USQ screening/evaluation revision, then all documents identified within the scope of the USQ screening/evaluation (i.e., carried from previous revisions) must be reviewed against the current DSA."

Without the review being documented, it is unclear how staff knew the work package still implements the current controls. WCH is working on an update to the USQ Process Procedure and stated they may revisit this.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-RCP-001-O10

The scope of WCH-HNF-11559, Rev. 0, Section 5.2 "Material Management" needed clarification. (NUC – TSR, ISMS – IDHAZ)

Discussion:

Work Package 3M-05-06408/P 10/05, Monthly Report of Radioactive Materials contained an excel spreadsheet titled "327 Waste Container Inventory." The FR noted the Radium drum being stored in the basement of 327 was not included on the spread sheet. WCH-HNF-11559, Rev. 0, Section 5.2.3, Applicability, stated, "At all times when containerized radioactive material forms are present." The FR asked WCH why the radium drum was not included on the waste container inventory. At a December 8, 2005, meeting, WCH stated they had discussed the background of section 5.2.3 with FHI Nuclear Safety. Apparently, Section 5.2 was written for containerized waste only, (not material).

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Observation: S-06-OOD-RCP-001-O11

The comparison of facility inventory to the 327 BIO required by work package 3M-05-06408/P 10/05, Monthly Report of Radioactive Materials, was unclear. (NUC – TSR, ISMS – ANLYZE)

Discussion:

WCH-HNF-11559, Rev. 0, Section 5.2.1, Requirement for Material Management states, "A program shall be established, implemented, and maintained to control radioactive material to maintain the assumptions in the accident analysis of the 327 Building Basis for Interim Operations." A spreadsheet stated, "TSR limit for non-shielded containers outside the 327 Building is 0.197 DE curies" and "TSR limit for CLD's/LLD's Outside the 327 building is 11.82 DE Curies." Work Package 3M-05-06408/P 10/05, Monthly Report of Radioactive Materials, stated, [to] "Compare the actual DE curies for shielded and non-shielded containers with the amount allowed by the 327 TSR." These values were not in the BIO; the BIO did not use DE Curies.

RL Lead Assessor Closure Required: **YES [ ]** **NO [X]**

Contractor Self-Assessment:

A review of Calendar 2005 self-assessment reports performed by the Environmental Restoration Contractor, and subsequently the River Corridor Contractor, revealed numerous surveillances and assessments were conducted to verify compliance with contractual obligations (e.g., sub-tier contractor compliance with contract exhibits) as well as compliance with procedures (e.g., lock and tag, piping and labeling, completion of Onsite Waste Tracking Forms, etc.). Two self-assessments were conducted in the area of Configuration Control of documents.

No assessments were received relating to identification of hazards and hazards communication. Major corrective actions were completed associated with a failure to adequately identify and address hazards at the 618-2 burial ground. Assessors expected to find surveillances or assessments verifying the adequacy of Integrated Hazards Evaluations, Job Hazards Analysis, and Operations Monitoring Plans along with verification that work documents adequately addressed hazards and controls. Such assessments would have verified the effectiveness of the implemented corrective actions.

In general, the self-assessment process appeared adequate. Numerous assessments covering varying topical areas were performed. Based on the reports, the assessments appeared to be of adequate rigor. However, the River Corridor Contractor may benefit from a review of what topical areas have been and are being covered, as future integrated oversight schedules are developed.

Contractor Self-Assessment Adequate: YES [X] NO [ ]

Management Debriefed:

J. Fulton, WCH

Attachment 5

RL-F-1325.6 (02/98)

United States Government **Department of Energy**

Richland Operations Office

memorandum

DATE: DEC 19 2005

REPLY TO ATTN OF: OOD:RMI/06-OOD-0015

SUBJECT: RL WORK PLANNING OVERSIGHT SELF-ASSESSMENT

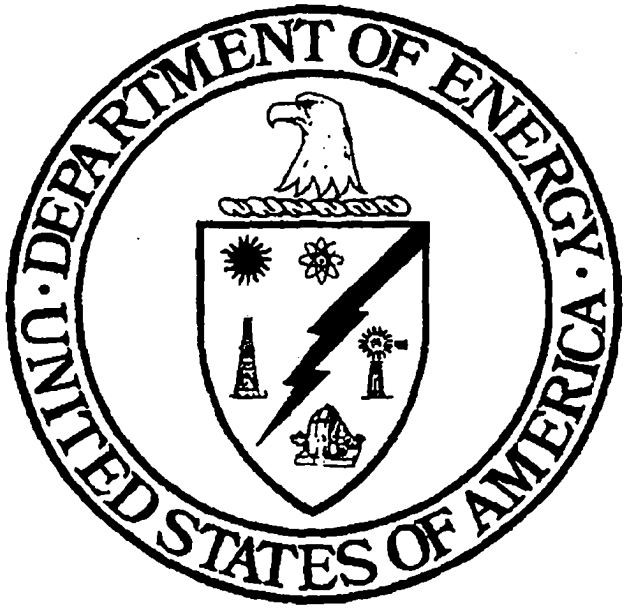
TO: Doug S. Shoop, Assistant Manager
for Safety and Engineering

Attached is the OOD self-assessment of RL oversight of contractor work planning processes and implementation. RL processes and performance were evaluated against the criteria in WPC-1 and WPC-2 and documented in the attached self-assessment report. RL oversight of contractor work planning programs was found to be adequate with no deficiencies.

The self-assessment review was completed in parallel with a Facility Representative directed Core Surveillance oversight of contractor work planning per an Environmental Management Work Planning CRAD. If you have any questions, please contact me on (509) 376-9824.

Rob G. Hastings, Director
Operations Oversight Division

Attachment



DOE-RL Self-Assessment

EM Directed Work Planning Oversight (WPC-1, WPC-2)

SA-06-OOD-CIPE-001

December 2005

INTRODUCTION

Scope

In response to DNFSB recommendation 2004-1, commitment 23, EM has directed DOE-RL to perform an assessment of work planning and work control in accordance with the criteria provided in Correspondence from Garman to Rispoli on November 9, 2005. This self-assessment is being performed against the work planning criteria WPC-1 and WPC-2 for DOE-RL oversight of work planning. The other criteria are being evaluated per a Facility Representative (FR) surveillance guide and associated core surveillances and roll-up evaluation.

Summary of Results

Work planning has been a focus area of DOE-RL oversight for the past year. Efforts to improve hazardous energy control identified weaknesses in the work control program and the need for additional oversight in this area. DOE-RL performed an assessment and core surveillance of work planning/work control within the last year. In each case a surveillance guide was developed and performed simultaneously at a number of FHI projects to determine individual and site-wide issues. DOE-RL had a core surveillance scheduled for March 2006 that has been rescheduled to December 2005 to perform oversight of contractor work planning implementation against the CRAD issued by DOE-HQ. A Work Planning core surveillance guide has been issued which incorporates the CRAD criteria.

Based upon the results of this self-assessment, DOE-RL has adequate mechanisms to perform oversight of all aspects of work planning including processes to document, trend and resolve issues. No weaknesses were identified by this self-assessment.

A summary of the previous oversight is as follows:

- In June 2005, DOE-RL transmitted a surveillance report to FHI that evaluated Electrical Work Management and identified seven findings and two observations and requested a Corrective Action Plan.
- On June 6, 2005 DOE-RL transmitted 7 surveillance reports to FHI and requested a Corrective Action Plan for three FHI-wide concerns related to weaknesses in hazard identification/control, inconsistent use of feedback mechanisms, and incomplete work record entries. This oversight confirmed resolution of the programmatic weaknesses identified in the December 2004 oversight described below. FHI has identified a suite of actions that are discussed in greater detail in the WPC Action Plan.
- On December 2, 2004, DOE-RL transmitted an assessment of work control program implementation at four FHI projects. The oversight resulted in three Concerns related to the adequacy of FHI work control procedures, enhanced work planning coverage of LO/TO isolation boundaries, and minimum requirements for application of formal hazardous energy control.

- In Fiscal Year 2002, 2003, and 2004, a similar core surveillance was performed in the area of ISMS/Maintenance. The surveillance was more focused on maintenance planning implementation and did not stress the work planning program that was looked at in greater detail in December 2004.

In addition to the formally transmitted oversight described above, DOE-RL performs routine operational awareness oversight (over 3300 entries in FY 2005) documented in Operational Awareness (OA) reports that are provided to FHI if issues are identified. The routine FR oversight includes all elements of work planning from identification of scope of work, hazard identification, identification of controls, performance of work in accordance with controls, and feedback and improvement. Throughout FY 2005, 108 issues (13 good practices, 79 observations, 16 findings) were identified directly related to work planning/hazard identification/hazard controls. Additional entries were made where no issues were identified and many other issues (Conduct of Operations, Nuclear Safety, QA) have indirect impacts on work planning. DOE-RL has added a functional area trend code to all Operational Awareness entries to allow for tracking of Functional Area baseline level of oversight; although it is recognized that most field oversight provides some level of work planning verification oversight. This oversight, coupled with the work planning core surveillance and for-cause surveillances, represent the DOE-RL work planning/control baseline oversight as prescribed in the DOE-RL RIMS (Richland Integrated Management System) Contractor Integrated Performance Evaluation (CIPE) processes and procedures.

The DOE-RL RIMS contains the necessary procedures and policies to define roles and responsibilities for contractor oversight, primarily in the CIPE management system. The FR Instructions for oversight planning (FRI-05) contains direction that encompasses work planning and hazard identification for both formal and routine oversight, the DOE-RL surveillance guides that include maintenance/work planning, and the Core Surveillance requirements of which work planning has been included for the last three years. In addition to the work planning oversight, DOE-RL has performed an annual core surveillance on procedure content and use. This procedure development process follows the same hazard identification and control process and, therefore, performs additional oversight of some of the elements of the work planning process described in the work planning CRAD.

DOE-RL requirements for general oversight include work planning and field evidence indicates that this occurs across all elements of work planning. The most recent updated Master Oversight Plans (4Q05) for DOE-RL projects indicate work planning (four projects) and hazard identification (one project) as performance issues that are being monitored by assigned FRs during their routine and planned oversight.

DOE-RL oversight of work planning is performed primarily by qualified FRs; although Subject Matter Experts (OSH, electrical, Criticality Safety, SSO) and Mission Elements do perform periodic oversight that include work planning aspects. DOE-RL FR facility specific qualification cards include contractor work planning and hazard identification procedures and processes. Each FR is evaluated against their understanding of the contractor work control processes and resulting oversight is documented in operational awareness reports and surveillances.

As discussed above, the bulk of DOE-RL oversight of work planning/control is documented in operational awareness reports performed on a routine basis against project operations. Planned oversight of specific work tasks (typically high risk, first-time, complex) is incorporated into the Integrated Evaluation Plan for each project. Processes are established to evaluate work planning on a nominal annual basis in the form of Core Surveillances for each DOE-RL project. For-cause surveillances are performed when contractor performance indicates a need for additional oversight.

As discussed above, DOE-RL has scheduled and performed formal oversight across all projects in the form of a Core Surveillance of work planning/maintenance since Fiscal Year 2002. The scope and detail of this oversight has been performed against a surveillance guide that is evaluated and updated on an annual basis, based upon contractor performance, events, and changes in requirements. Evaluation of the recent EM Work Planning criteria against DOE-RL existing surveillance guides resulted in minor refinements to the guide to ensure alignment. For FY 2006, DOE-RL has a work planning core surveillance (eight projects), 18 planned work planning related oversight items in the Integrated Evaluation Plan, and routine oversight of operations documented in Operational Awareness reports. The FY 2006 Integrated Evaluation Plan was found to be issued and available in RIMS. Discussions with DOE-RL management and Federal Project Directors indicate this oversight has been adequate to ascertain the status of the contractor's processes.

Review of FY 2005 work planning oversight indicates activities are observed during all stages of work planning and hazard identification/control. A large portion of FR field oversight involves either work in accordance with procedures or work packages, and FRs periodically provide oversight of the planning and hazard identification aspects that support field work. Minor issues are documented and resolved using Operational Awareness reports, while more significant issues are documented in surveillances that are transmitted to the contractor for action. All DOE-RL oversight is planned based upon the degree of risks, hazards and complexity of the work activity as described in the Integrated Evaluation Planning and FR Instruction 05 (Master Oversight Plan) procedures.

DOE-RL performs quarterly evaluation of oversight results including Pareto analysis of issue functional areas for each project as documented in the OA database. This analysis supports future oversight planning as well as evaluation of contractor performance against conditional payment of fee criteria. In addition, DOE-RL monitors the corrective actions and verifies closure of actions from work planning corrective actions requested via formal oversight. Overall programmatic progress is evaluated during development of the surveillance guide for each annual core surveillance, and the roll-up evaluation performed upon completion of each suite of core surveillances. The roll-up includes evaluation of past events, contractor self-assessment/independent assessment, and the results of DOE-RL oversight for the last year. This oversight has contributed to the evaluation and final determination of multiple contractual actions.

Conclusions

DOE-RL processes are in place to ensure evaluation and oversight of contractor work planning. Oversight planning includes consideration of risk, hazards and complexity of the work activity and the identification of performance issues. Evidence exists that oversight is performed and used to support trending and tracking of issues, continuous improvement, and contractual actions, when necessary.

SEPARATION

PAGE

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RL-F-1325.8 (02/98)

United States Government **Department of Energy**

Richland Operations Office

memorandum

DATE: JAN 12 2006

REPLY TO ATTN OF: OOD:RMI/06-OOD-0032

SUBJECT: DNFSB RECOMMENDATION 2004-1, RL FEEDBACK AND IMPROVEMENT ASSESSMENT AND ACTION PLAN

TO: I. R. Triay
Chief Operating Officer, EM-3, HQ

In accordance with your November 27, 2005, memorandum "Feedback and Improvement Assessments and Site Action Plans for Defense Nuclear Facilities Safety Board Recommendation 2004-1, Commitment 25," attached is the DOE-Richland Operations Office feedback and improvement assessment and associated action plan. The assessment was performed in accordance with the Criteria and Review Approach Document (CRAD) at the 2004-1 Knowledge Portal and the supplemental lines of inquiry provided by HQ-EM staff via email on December 2, 2005. Attachment 1 provides the completed assessment and associated issues, and Attachment 2 documents the action plan that was developed to address the issues and drive continuous improvement in this critical element of ISMS.

If you have questions, please contact me, or your staff may contact Doug S. Shoop, Assistant Manager for Safety and Engineering, on (509) 376-0108.

Keith A. Klein
Manager

Attachments

cc w/attachs:
T. T. Evans, EM 3.2
C. C. Scott, EM 3.2
R. G. Gallagher, FHI
P. L. Pettiette, WCH

Attachment 1

RL-F-1325.6 (02/98)

United States Government **Department of Energy**

Richland Operations Office

memorandum

DATE: DEC 2 3 2005

REPLY TO ATTN OF: OOD:RMI/06-OOD-0016

SUBJECT: RL FEEDBACK AND IMPROVEMENT ASSESSMENT

TO: Doug S. Shoop, Assistant Manager
for Safety and Engineering

Attached is the OOD assessment of RL and FHI feedback and improvement processes. Processes and performance were evaluated against the feedback and improvement criteria provided by the November 9, 2005, memorandum from David K. Garman "Defense Nuclear Facilities Safety Board Recommendation 2004-1, Integrated Safety Management System Feedback and Improvement," and documented in the attached assessment report. RL and FHI feedback and improvement programs were found to be adequate with nine opportunities for improvement. The nine items will be incorporated into a Feedback and Improvement Action Plan to drive continuous improvement.

The review was completed immediately following the Core Surveillance oversight of contractor Independent/Management Assessment. If you have any questions, please contact me on (509) 376-9824.

Rob G. Hastings, Director
Operations Oversight Division

Attachment

DOE-RL Assessment

EM Directed Feedback and Improvement

SA-06-OOD-CIPE-002

December 2005

Scope:

This assessment performs an analysis of DOE-RL and FHI performance against the HQ Criteria Review and Approach Document for Feedback and Improvement. Since WCH is currently submitting an ISMS system description, followed by ISMS Phase 1 and 2 verifications, they will not be evaluated in this assessment (**F&I-1-01**). An evaluation of site processes is provided against each criteria and a conclusion summary is provided for each performance objective. Issues are referenced in parenthesis in the body of the assessment and summarized at the end of the assessment. An Action Plan will be produced to address each issue.

Performance Objective F&I-1: Program Documentation

Line management has established a comprehensive and integrated operational assurance system which encompasses all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.

Criteria:

1. **A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by contractor management, and forwarded to DOE-RL for review and approval. The program description is reviewed and updated annually and forwarded to DOE-RL for review and approval.**

DOE-RL has not fully implemented DOE O 226.1 that was issued on September 15, 2005. DOE-RL has developed a Record of Decision (ROD) and suite of associated actions to incorporate this directive into DOE-RL management systems and prime contracts (**F&I-1-02**). The individual elements of the assurance system have been implemented by the contractor (ISMS, QA, Emergency Management, Cyber security, ISSM, Business Systems); however, they are not tied together as described in DOE O 226.1.

2. **The contractor assurance system includes assessment activities (management assessments, and internal independent assessments as defined by laws, regulations, and DOE directives such as quality assurance program requirements) and other structured operational awareness activities; incident/event reporting processes, including occupational injury and illness and operational accident investigations; worker feedback mechanisms; issues management; lessons-learned programs; and performance indicators/measures.**

The overall QA program is described in the FHI QA Program Description (HNF-MP-599). Existing programs for assessments are established in accordance with the QA program for management (HNF-PRO-246) and independent assessment (HNF-PRO-9662, HNF-PRO-9769) of management systems. In addition, programs are in place to investigate injuries (HNF-PRO-077) and events (HNF-PRO-060, 058). Mechanisms are in place for worker feedback from safety councils (HNF-RD-9982), work packages (HNF-PRO-12115), corrective action management (HNF-PRO-052), lessons learned (HNF-PRO-067), performance indicators (HNF-PRO-4294), and the Performance Analysis Process (HNF-PRO-24741).

Feedback and Improvement, specifically Corrective Action Management, has been a focus area of DOE-RL oversight for the past three years. DOE-RL performed a core surveillance of corrective action management each of the last years and Core Surveillances are scheduled for Independent/Management Assessment and ISMS/Feedback and Improvement for FY 2006. In each case, a surveillance guide is developed and performed simultaneously at each FHI project to determine individual and site-wide issues. DOE-RL just completed a core surveillance on Independent/Management Assessment described below.

A summary of the previous oversight is as follows:

- On March 31, 2005, DOE-RL transmitted six surveillance reports to FHI with one crosscutting issue that had been self-identified by FHI. The individual surveillances of the projects identified eight findings and seven observations that have been processed through the FHI corrective action management process. The oversight identified general improvement in FHI CAM against the previous year and initial progress in implementing Value Engineering improvements.
- In December 2004, FHI performed a Value Engineering study to drive process improvement in corrective action management and event reporting/evaluation.
- On May 12, 2004, DOE-RL transmitted nine surveillance reports to FHI with four crosscutting concerns and two findings. FHI developed a corrective action plan and committed to performance of the December 2004 Value Engineering study.
- On April 17, 2003, DOE-RL transmitted 12 surveillance reports to FHI with five crosscutting issues. FHI had recently centralized their corrective action management process and a corrective action plan was developed to address the issues.
- In addition to CAM oversight, feedback and improvement issues have also been identified during work planning, hazardous energy control, and lessons learned oversight.

In addition to the formally transmitted oversight described above, DOE-RL performs routine operational awareness oversight (over 3300 entries in FY 2005) documented in Operational Awareness (OA) reports that are provided to FHI if issues are identified. The routine Facility Representative oversight includes periodic oversight of the implementation of corrective action management and routine oversight of feedback and improvement during work performance and planning. Throughout FY 2005, 137 issues (24 good practices, 74 observations, 38 findings, one concern) were identified with a

trend code of ISMS-Feedback or QA-quality improvement. Additional entries were made where no issues were identified and many other issues (Conduct of Operations, Nuclear Safety, OSHA) have indirect impacts on feedback and improvement. This operational awareness oversight, coupled with the work planning core surveillance and for-cause surveillances, represents the DOE-RL Feedback and Improvement baseline oversight as prescribed in the DOE-RL RIMS Contractor Integrated Performance Evaluation processes and procedures.

In parallel with this feedback and improvement assessment, DOE-RL completed eight FR Surveillances of FHI project implementation of Management Assessment and Independent Assessment programs in December 2005. The individual surveillances resulted in one Concern, 15 Findings and 19 Observations that are being transmitted to FHI for processing through their corrective action management process. The roll-up evaluation of these surveillances performed by DOE-RL identified a need for increased self-critical evaluation to improve the effectiveness of the FHI management assessment program to identify and resolve latent organizational conditions.

Corrective actions to resolve these issues will be incorporated into the DOE-RL action plan. **(F&I-1-03)**

3. **The contractor's assurance system monitors and evaluates all work performed under their contract, including the work of subcontractors.**

This is currently implemented in accordance with ISMS requirements. **(See F&I-1-01).** The ISMS system description (HNF-MP-03) and its implementing processes include mechanisms for ISMS implementation flow-down and oversight for subcontractors. In FY-05, both FHI and DOE-RL performed oversight of ISMS flowdown to subcontractors. Corrective actions were identified and implemented. From a DOE-RL perspective, oversight of both prime and subcontractors are performed in the same manner following RIMS Contractor Integrated Performance Evaluation.

4. **Contractor assurance system data is formally documented and available to DOE-RL line management. Results of assurance processes are periodically analyzed, complied, and reported to DOE-RL line management as part of formal contract performance evaluation.**

Contractor programs that represent the assurance system are evaluated and reported to DOE-RL line management in accordance with Richland Integrated Management System (RIMS) procedures. See discussion in Criteria 2 above.

5. **Contractors have established and implemented sufficient processes (e.g., self-assessments, corporate audits, third-party certifications or external reviews, performance indicators) for measuring the effectiveness of the contractor assurance program.**

See evaluation of Criteria 2 above.

6. **Requirements and formal processes have been established and implemented that ensure personnel responsible for managing and performing assurance activities possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities.**

Overall training and qualification program requirements are captured in the FHI QA program description (HNF-MP-599). FHI ensures competence commensurate with responsibility through ISMS implementation of training programs per HNF-PRO-164 and HNF-PRO-175. These systems have been found to be adequate.

F&I-1 Conclusion:

Based upon the documented assessment above, DOE-RL and FHI have established the necessary operational assurance programs; however the programs are not integrated in accordance with DOE O 226.1, requirements. DOE-RL is in the process of implementing DOE O 226.1 in site contracts, and these actions are incorporated into the associated DOE-RL Feedback and Improvement action plan. Thus, with the exception of Criteria 1, this objective and its criteria have been met and DOE-RL would identify the overall health of this objective as yellow pending full DOE O 226.1 implementation.

Performance Objective F&I-2: Program Implementation

2.1 **Assessments & Performance Indicators:** Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance, and this information is effectively used as the basis for informed management decisions to improve performance.

Criteria:

1. **Line management has established and implemented a rigorous assessment program for performing comprehensive evaluations of all functional areas, programs, facilities, and organizational elements, including subcontractors, with a frequency, scope, and rigor based on appropriate analysis of risks. The scope and frequency of assessments are defined in site plans and program documents, include assessments of processes and performance-based observation of activities and evaluation of crosscutting issues and**

programs, and meet or exceed requirements of applicable DOE-RL directives.

For DOE-RL, the oversight program is described in the Richland Integrated Management System (RIMS) Oversight Program Description and primarily implemented in the Contractor Integrated Performance Evaluation management system. Additional oversight areas are captured in the Project Management, Safety and Health, and Environmental management systems. Routine evaluation of contractor performance is implemented in the RIMS Integrated Management and Planning management system. The scope and frequency of assessments are defined by the oversight program description and using the master oversight planning (FRI-05) process and integrated evaluation planning procedure.

For FHI, existing programs are established in accordance with the QA program (HNF-MP-599) for management (HNF-PRO-246) and independent assessment (HNF-PRO-9662, HNF-PRO-9769) of management systems. In addition, programs are in place to investigate injuries (HNF-PRO-077) and events (HNF-PRO-060, 058). Mechanisms are in place for worker feedback from safety councils (HNF-RD-9982), work packages (HNF-PRO-12115), corrective action management (HNF-PRO-052), lessons learned (HNF-PRO-067), performance indicators (HNF-PRO-4294), and the Performance Analysis Process (HNF-PRO-24741). Subcontractor oversight is implemented in the Subcontractor Safety and Health Management Requirements process and associated procedures (HNF-RD-12386, HNF-PRO-186, HNF-PRO-8028). Evidence of continuous improvement on these processes is provided by an Issue Identification Form (20051548) that was initially established in February 2005 and recently revised (October 18, 2005) to establish a process to accelerate prompt action on potential crosscutting issues from the formal quarterly trending analysis. Additional examples of FHI improvement include establishing a Facility Manager's Forum in 2001 to share information between facilities and the recent establishment of a Functional Area Forum to share information between the various key functional areas (e.g. CAM, radiological protection, QA) on a monthly basis.

2. **Rigorous self-assessments are identified, planned, and performed at all levels periodically to determine the effectiveness of policies, requirements, and standards and the implementation status.**

For DOE-RL, self-assessments are expected to be performed in accordance with the RIMS RL Performance Improvement management system and self-assessment procedures. However, a recent independent audit concluded that: "Management self-assessments appear to be conducted inconsistently across DOE-RL." RL (OEC) is developing a corrective action plan that includes training of RL staff regarding self-assessments and establishment of requirements for refresher training.

For FHI, the self-assessment program is implemented in accordance with the Management Assessment procedure (HNF-PRO-246).

3. **Appropriate independent internal assessments are identified, planned, and performed by contractor organizations or personnel having the authority and independence from line management, to support unbiased evaluations.**

For FHI, independent assessments are identified, planned and performed in accordance with the independent assessment (HNF-PRO-9662, HNF-PRO-9769) procedure and associated implementing procedures. Recent DOE-RL oversight in October 2005 of the FHI management assessment and independent assessment program found the program to be generally adequate with some opportunities for improvement as described in F&I-1, Criteria 2.

4. **Line managers have established programs and processes to routinely identify, gather, verify, analyze, trend, disseminate, and make use of performance measures that provide contractor and DOE-RL management with indicators of overall performance, the effectiveness of assurance system elements, and identification of specific positive or negative trends. Approved performance measures provide information that indicates how work is being performed and are clearly linked to performance objectives and expectation established by management.**

For DOE-RL, RIMS provides procedures and processes (Integrated Management and Planning Management System and Performance Measures Program Description) to regularly evaluate contractor performance for trends and overall contractor performance.

For FHI, programs and processes are in place to routinely identify and evaluate performance measures using corrective action management (HNF-PRO-052), lessons learned (HNF-PRO-067), performance indicators (HNF-PRO-4294), and the Performance Analysis Process (HNF-PRO-24741). These tools are used to support the annual ISMS evaluation and declaration, and the development and approval of Performance Objectives, Measures, and Commitments (POMCs).

This data is routinely communicated to DOE-RL and are used in parallel with DOE-RL data to identify and take action on trends. DOE-RL evaluates contractor performance data on a monthly basis per RIMS Contractor Integrated Performance Evaluation and the Integrated Management and Baseline management systems and associated procedures through monthly project performance reports and performance indicators.

5. **Line managers effectively utilize performance measures to demonstrate performance improvement or deterioration relative to identified goals, in allocating resources and establishing performance goals, in development of timely compensatory measures and corrective actions for adverse trends, and in sharing good practices and lessons learned.**

Programs are in place as described in criteria 4 above, and DOE-RL oversight indicates that these programs are generally effective. Opportunities for improvement are routinely identified, data is evaluated regularly, and when necessary, contract actions are taken.

F&I-2-2.1 Conclusion:

Based upon the documented assessment above, DOE-RL and FHI have established adequate assessment and performance indicator processes, with some minor opportunities for continuous improvement. Thus, this objective and its criteria have been met and DOE-RL would identify the overall health of this objective as green with exceptional practices for DOE-RL (MOP and IEP) and FHI oversight (QDAWG) planning.

2.2 Operating Experience: An Operating Experience program has been developed and implemented that communicates Effective Practices and Lessons Learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.

Criteria:

1. **Formal processes are in place to identify applicable lessons learned from external and internal sources and any necessary corrective and preventive actions, disseminate lessons learned to targeted audiences, and ensure that lessons learned are understood and applied.**

Currently the DOE-RL lessons learned program is implemented through the RIMS RL Performance Improvement management system Lessons Learned program description. The program is based on the DOE-RL complex lessons learned program, but does not reflect the draft requirements provided in DOE O 210.x. **F&I-2-01** identifies that DOE O 210.x has not been approved and implemented for DOE-RL and its contractors.

FHI implements the lessons learned program through HNF-PRO-067. Lessons learned reports are routinely developed and transmitted to address feedback and improvement opportunities. The FHI work control process (HNF-PRO-12115) includes mechanisms for post-job reviews and routine documentation and use of feedback for future work planning. In addition, the FHI job hazards analysis process (HNF-PRO-079) includes mechanisms for documenting feedback and use of past hazard analysis, and controls

lessons learned in future hazard analysis activities. The requirements of draft DOE O 210.x are not implemented, although programs are implemented in accordance with current requirements.

2. **Line managers effectively identify, apply, and exchange lessons learned with the rest of the DOE-RL complex. Lessons learned identified by other DOE-RL organizations and external sources are reviewed and applied by line management to prevent similar incidents/events.**

Recent EM oversight of DOE-RL indicates that lessons learned are shared within the complex. DOE-RL has taken actions to enhance the RIMS lessons learned program to improve communication of positive lessons learned and enhance overall communication of lessons learned across DOE-RL staff.

Evidence exists to demonstrate that FHI routinely identifies lessons learned across the complex. Recent examples include communication of issues related to Scott air lines that can cause air flow restrictions and an issue related to the types of bottle valves and their compatibility with air lines. FHI also routinely issues lessons learned to communicate lessons related to events that are reported in the Occurrence Reporting program.

3. **Formal programs and processes have been established and implemented to solicit feedback or suggestions from workers and work activities on the effectiveness of work definition, hazard analyses and controls, and implementation for all types of work activities, and to apply lessons learned.**

FHI processes provide multiple areas where worker feedback is solicited and used to support continuous improvement. Work control procedures (HNF-PRO-12115) contain requirements for post-job reviews and capturing of worker feedback for planning of current and future work. This includes the identification and analysis of hazards and development of associated controls. Facility employee zero accident councils and safety logs (HNF-RD-9982) solicit, track, and resolve safety related issues identified by workers. The process for developing technical procedures (HNF-PRO-589) includes worker involvement in the development and revision of procedures. Another avenue for worker feedback and resolution of issues is through the Issues Identification Form that is used to initiate the FHI corrective action management process (HNF-PRO-052). Finally, the FHI lessons learned process (HNF-PRO-067) includes consideration of lessons learned to support work planning, hazard identification and control, where applicable.

4. **Employee concerns related to management of DOE-RL and NNSA programs and facilities are promptly and thoroughly reported and investigated in accordance with applicable DOE-RL directives.**

DOE-RL, Special Concerns Office (SCO), Employee Concerns Program (ECP) is implemented through the Richland Integrated Management System (RIMS). The program is based on DOE O 442.1A and DOE Guide DOE G 442.1-1. A self-assessment of the SCO ECP is conducted annually. Employee concerns received from Hanford Site employees are entered into the employee concerns database and tracked to closure. Employee concerns are managed consistent with the DOE Order and Guide. Concerns that are partially substantiated or substantiated require corrective actions that are logged and tracked to closure by the responsible line organizations. The DOE-RL Hanford contractor ECP expectations are defined in the DOE-RL Contract Requirements Document (DOE CRD 442.1A, Rev 1). The contractor programs are evaluated annually by DOE-RL SCO. The DOE-RL Hanford contractors conduct annual self assessments as well.

F&I-2-2.2 Conclusion:

Based upon the documented assessment above, DOE-RL and FHI have established adequate operating experience processes for the requirements that are currently established. It is recognized that implementation of DOE O 210.x, when approved, will drive numerous changes to the operating experience process. Thus, this objective and its criteria have been met and DOE-RL would identify the overall health of this objective as green with continuous improvement opportunity once DOE O 210.x is approved and implemented (**F&I-2-01**).

2.3 Event Reporting: Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.

Criteria:

1. **Formal programs and processes have been established to identify issues and report, analyze, and address operational events, accidents, and injuries. Events, accidents, and injuries are promptly and thoroughly reported and investigated, including the identification and resolution of root causes and management and programmatic weaknesses, and distribution of lessons learned.**

FHI has implemented a process (HNF-PRO-058) to investigate abnormal events in compliance with Conduct of Operations requirements. Injuries are evaluated and

reported (HNF-PRO-077) and reportable events are processed in accordance with occurrence reporting requirements (HNF-PRO-060). In addition, the FHI corrective action management process (HNF-PRO-052) addresses identification of issues, performance of causal analysis, evaluation for broader scope/crosscutting issues, and identification and tracking of corrective actions established to address causal factors. FHI has also established processes for Price Anderson Amendments Act Noncompliance Tracking System identification, evaluation, and tracking (HNF-PRO-2243). Each of these processes contains links to initiate the formal lessons learned process, when appropriate.

DOE-RL has recently performed oversight of both the injury reporting (SA-05-OEC-RL-OII-003, "Verification of the Adequacy of the U.S. DOE Richland Operations Office (RL) Oversight of Contractor Occupational Injury and Illness Programs, March 31, 2005) and occurrence reporting (S-05-OOD-PHMC-001), and found them to be in general compliance with requirements. Routine oversight of contractor event reporting and analysis is performed in accordance with the DOE-RL performance based corrective action management effectiveness surveillance guide and captured in the Operational Awareness database. In addition, DOE-RL performed a core surveillance of the FHI corrective action management process (05-OOD-0049) in January 2005. This oversight is performed annually and is scheduled for performance again in 2006.

2. **Reporting of operational events, accidents, and injuries are conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE-RL directives, and contract terms and conditions. Trending analysis of events, accidents, and injuries are performed in accordance with structured/formal processes and applicable DOE-RL directives.**

See the evaluation per item 1 above. In addition, trending and tracking is performed per the performance indicator process (HNF-PRO-4294), and the Performance Analysis Process (HNF-PRO-24741) that evaluates data to support ORPS performance analysis requirements and general trending and tracking.

F&I-2-2.3 Conclusion:

Based upon the documented assessment above, DOE-RL and FHI have established adequate event reporting processes. Thus, this objective and its criteria have been met and DOE-RL would identify the overall health of this objective as green.

2.4 Issues Management: A formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions, have been developed and implemented.

Criteria:

1. **Program and performance deficiencies, regardless of their source, are captured in a system or systems that provides for effective analysis, resolution, and tracking. Issues management system elements include structured processes for determination of risk, significance, and priority of deficiencies; evaluation of scope and extent of condition; determination of reportability under applicable requirements; identification of root causes; identification and documentation of corrective actions and recurrence controls to prevent recurrence; identification of individuals/organizations responsible for corrective action implementation; establishment of milestones based on significance and risk for completion of corrective actions; tracking progress; verification of corrective action completion; and validation of corrective action implementation and effectiveness.**

All elements of this criterion are captured in the FHI corrective action management process (HNF-PRO-052). DOE-RL oversight of contractor implementation is captured in the DOE-RL Contractor Integrated Performance Evaluation management system and associated procedures. Per this management system, DOE-RL performs annual surveillances of the implementation of this program with the most recent performed in January 2005.

For DOE-RL, this criteria is met through implementation of the DOE-RL Performance Improvement management system and associated procedures.

2. **Issues management processes include mechanisms to promptly identify the potential impact of a deficiency and take timely actions to address conditions of immediate concern, including stopping work, system shutdown, emergency response, reporting to management, and compensatory measures pending formal documentation and resolution of the issue.**

The FHI corrective action management process addresses the resolution of routine issues; however, imminent safety hazards are addressed in the stop work process (HNF-PRO-3648). All FHI employees have stop work authority in accordance with the site stop work policy. Emergency response procedures are captured at the site level (DOE-EP-0223) and associated facility level emergency response procedures (e.g. Building Emergency Plans).

3. **Processes for analyzing deficiencies, individually and collectively, have been established that enable the identification of programmatic or systemic issues. Line management effectively monitors progress and optimizes the allocation of assessment resources in addressing known systemic issues.**

Mechanisms are in place for analyzing deficiencies individually and collectively per the FHI corrective action management process (HNF-PRO-052). Line management monitors performance indicators (HNF-PRO-4294), and the Performance Analysis Process (HNF-PRO-24741) for trends. Evidence of continuous improvement on these processes is evidenced by an Issue Identification Form (20051548) that was recently issued (October 18, 2005) to establish a process to accelerate prompt action on potential crosscutting issues from the formal quarterly trend analysis. FHI uses a Quarterly Data Analysis Working Group (QDAWG) to identify performance trends, weak areas, recurring events, and the need for additional oversight of functional areas to drive improvement. Additional examples of FHI improvement include establishing a Facility Manager's Forum 2001 to share information between facility managers and the recent establishment of a Functional Area Forum to share information between the various key functional areas (e.g., CAM, radiological protection, QA) monthly.

From a DOE-RL perspective, the Contractor Integrated Performance Evaluation management system includes oversight planning mechanisms to evaluate contractor performance and identify weak areas/performance issues that require additional oversight. This analysis is documented in project specific Master Oversight Plans (MOP) and consolidated in the Integrated Evaluation Plan (IEP) documenting all planned DOE-RL oversight. In addition, DOE-RL has established performance indicators and periodic (monthly and quarterly) reports that evaluate both project and contractor level performance across ES&H functional areas (e.g., Conduct of Operations, Nuclear Safety, Near Miss, Hazardous Energy Control).

4. **Processes for communicating issues up the management chain to senior management have been established and based on a graded approach that considers hazards and risks. Line management receives periodic information on the status of identified deficiencies and corrective actions and holds organizations and individuals accountable for timely and effective completion of actions. Line management has executed graded mechanisms such as independent verification and performance-based evaluation to ensure that corrective action and recurrence controls are timely, complete, and effective. Closure of corrective actions and deficiencies are based on objective, technically sound, and verified evidence. The effectiveness of corrective actions is determined on a graded basis, and additional actions are completed as necessary.**

See discussion for Criteria 3. In addition, routine reports (OA report, monthly project reviews, quarterly evaluations) are communicated to line management and used to

support future oversight and contract actions (e.g., conditional payment of fee). Trending and tracking is performed against key ES&H performance indicators and oversight data is evaluated for crosscutting or systemic issues. The DOE-RL oversight process includes evaluation of corrective action effectiveness for identified oversight issues.

5. **Results of various feedback systems are integrated and collectively analyzed to identify repeat occurrences, generic issues, trends, and vulnerabilities at a lower level before significant problems result.**

See discussion for Criteria 3 and 4. In addition, as a result of a self-assessment and at the direction of the DOE-RL Deputy Manager, OEC is examining whether DOE-RL can develop a process to better identify and respond to vulnerabilities and improvement opportunities. The actions from this self-assessment are tracked in the RL Issues Tracking System **(F&I-2-2)**.

6. **Individuals or teams responsible for corrective action development are trained in analysis techniques to evaluate significant problems using a structured methodology to identify root and contributing causes and corrective actions to prevent recurrence.**

Corrective action training requirements are captured in HNF-PRO-052. FHI corrective action management (CAM) staff receive training on the following minimum topics; CAM process, root cause analysis basics, root cause techniques, and implementing apparent cause. FHI implements a structured approach that is graded based upon the significance of the issue to identify and resolve causal factors. For minor deficiencies an apparent cause and associated corrective action are identified and tracked in the CAM process. For more significant issues, a formal causal analysis tool (e.g., event and causal factors, MORT, barrier analysis, change analysis, fault tree, REASONS) is selected and used to determine the apparent and root causes and associated corrective actions.

For DOE-RL, select staff have received training on root cause analysis techniques and issues are processed through the DOE-RL Corrective Actions RIMS procedure to determine causal factors and associated corrective actions. The process allows for the use of informal or formal causal analysis based upon the complexity of the issue and DOE-NE-STD-1004-92, Root Cause Analysis Guidance Document.

F&I-2-2.4 Conclusion:

Based upon the documented assessment above and routine DOE-RL oversight and self-assessment, DOE-RL and FHI have established adequate issues management processes, with some minor opportunities for continuous improvement that have been documented and evaluated. Thus, this objective and its criteria have been met and DOE-RL would identify the overall health of this objective as green.

Performance Objective F&I-3: DOE-RL Line Management Oversight

DOE Headquarters and field element line management have established and implemented effective oversight processes that evaluate the adequacy and effectiveness of contractor assurance systems and DOE-RL oversight processes.

Criteria:

1. **DOE-RL line management has established a baseline line management oversight program that ensures that DOE Headquarters and field element line management maintains sufficient knowledge of site and contractor activities to make informed decisions concerning hazards, risks and resource allocation, provide direction to contractors, and evaluate contractor performance.**

For DOE-RL, the oversight program is described in the Richland Integrated Management System (RIMS) Oversight Program Description and primarily implemented in the Contractor Integrated Performance Evaluation management system. Additional oversight areas are captured in the Project Management, Safety and Health, and Environmental management systems. Routine evaluation for contractor performance is implemented in the RIMS Integrated Management and Planning management system. The scope and frequency of assessments are defined by oversight program description and using the master oversight planning (FRI-05) process and integrated evaluation planning procedure. Baseline oversight is established in the Oversight Program Description and is accomplished using a combination of Operational Awareness, Core Surveillances (annually performed against select functional areas), planned or reactive surveillances, and formal assessments of functional areas. Daily DOE-RL oversight is captured in Operational Awareness reports that are routinely communicated to senior management (bi-weekly OA reports, monthly project reports, quarterly performance evaluations) and formalized for more significant issues that require contractor formal response. DOE-RL uses oversight results to support identification of weaknesses/performance issues and planning for future oversight using the Master Oversight Plan. Planned oversight is then captured in the IEP.

Although interfaces have not been established, the DOE-RL IEP is available to HQ to support DOE Headquarters oversight planning and execution (**F&I-3-01**). Two recent EM assessments have been performed at DOE-RL. The first evaluated DOE-RL lessons learned, operations oversight, and worker safety assurance programs and found DOE-RL programs adequate with minor issues. The second assessment was performed against the DOE-RL QA program and contractor QA oversight. For FY 2006, EM has scheduled a review of the FHI CAIRS program in December 2005, a DOE-RL FEOSH assessment in June 2006, and an ORR assessment in September 2006.

2. **DOE-RL line oversight program includes assessments, operational awareness activities, performance monitoring and improvement, and assessment of**

contractor assurance systems. Documented program plans have been established that define oversight program activities and annual schedules of planned assessments and focus areas for operational awareness. Operational awareness activities must be documented either individually or in periodic (e.g., weekly or monthly) summaries. Deficiencies in programs or performance identified during operational awareness activities are communicated to the contractor for resolution through a structured issues management process.

Per the discussion in Criteria 1, the DOE-RL oversight program is documented and established in RIMS. Oversight is planned through development of quarterly updates to the Master Oversight Plan to identify project weaknesses and performance issues. Oversight of these areas is scheduled in the Integrated Evaluation Plan and performed in accordance with the plan. The IEP is integrated with contractor independent and management assessment to minimize overlap and maximize the effectiveness of oversight resources. In addition to planned oversight, for-cause oversight is performed against emerging issues or in response to events.

Operational awareness oversight is documented routinely (typically daily) in the operational awareness database and transmitted to the contractor for evaluation and processing through the corrective action management process. Formal oversight is also periodically performed as planned in the IEP or in response to issues, and transmitted to the contractor for corrective action. Significant issues are formally transmitted to the contractor with requests for corrective action plans (CAP) or DOE-RL closure verification, when appropriate.

3. **Oversight must include structured and rigorous processes for validating the accuracy of information collected during assessments. DOE-RL line management requires that findings must be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans.**

The RIMS Contractor Integrated Performance Evaluation process, Technical Surveillance/Assessment procedures contain the criteria for CAP and DOE-RL closure verification processes. In addition, formal requirements are incorporated into the contract for the format and content of contractor CAP submittals. The contractor manages corrective actions in a Deficiency Tracking System (DTS) database that is used to communicate corrective action status. DOE-RL issues are captured in the Richland Issues Tracking System (RITS). Contractor issues are tracked to support DOE-RL verification of corrective action completion and identify trends with corrective action timely performance.

4. **DOE-RL line management must regularly assess the effectiveness of contractor issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback). DOE-RL line management must also evaluate contractor processes for communicating information, including dissenting opinions, up the management chain.**

DOE-RL evaluates the contactor CAM and work control processes in annual Core Surveillance activities performed across the site. In addition, ISMS Core Surveillances are performed to evaluate ISMS implementation. Each core surveillance contains an evaluation of recent subject area events, contractor self-assessments, verification of resolution of past weaknesses and any lessons learned.

DOE-RL routine operational awareness oversight is performed against contractor communication processes and dissenting opinions, when they occur. DOE-RL performs routine oversight of worker feedback mechanisms through employee zero accident councils, work planning/execution, turnover meetings, event critiques, post-job reviews, and hazard identification activities. This oversight is typically documented in Operational Awareness reports with issues included, when applicable. DOE-RL routinely evaluates and disseminates lessons learned documents.

5. **DOE-RL line management must verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE-RL assessments or reviews are closed, and requires that deficiencies are analyzed both individually and collectively to identify causes and prevent recurrences.**

The RIMS Contractor Integrated Performance Evaluation process, Technical Surveillance/Assessment procedures contain the criteria for requesting and performing DOE-RL closure verification of DOE-RL surveillance and assessment findings prior to DOE-RL closure. Items are requested for DOE-RL closure verification when the issues are formally transmitted to FHI for action. An action is tracked in both the contractor and DOE-RL corrective action management databases (DTS and RITS respectively) to complete the DOE-RL closure verification of corrective action completion and effectiveness. Once all contractor actions are complete, DOE-RL is notified and the corrective action objective evidence reviewed to ensure the corrective actions were completed adequately. In addition, DOE-RL performs additional oversight as necessary to ensure the corrective actions were effective in resolving the underlying causes. If the actions were not effective, DOE-RL rejects the closure package and FHI takes the necessary actions to resolve the basis for rejection. If the actions are determined to be adequate, DOE-RL communicates acceptance of the package and the FHI and DOE-RL verification actions are closed. Requirements have been incorporated into prime contracts for causal analysis and evaluation for broader scope or crosscutting issues when developing CAPs.

The FHI CAM process (HNF-PRO-052) and trending and tracking processes contain mechanisms to evaluate deficiencies for both local and crosscutting or broader significance. Causal analysis requirements are in place to apply appropriate causal analysis tools and ensure causal factors are addressed by subsequent corrective actions.

6. **DOE-RL line management has established appropriate criteria for determining the effectiveness of site programs, management systems, and contractor assurance systems, and includes consideration of previous assessment results, effectiveness of corrective actions and self-assessments, and evidence of sustained management support for site programs and management and assurance systems. Review criteria are based on requirements and performance objectives (e.g., laws, regulations, and DOE directives), site-specific procedures/manuals, and other contractually mandated requirements and performance objectives.**

DOE-RL uses a suite of surveillance and assessment guides to evaluate the effectiveness of site programs and management systems. The Core Surveillance guide development includes consideration of previous assessments and events to support development of focus areas, criteria, lines of inquiry, and verification of past corrective actions. All surveillance guides are developed and reference applicable requirements. Formal surveillances include an evaluation of contractor self-assessment for the subject matter of the oversight. Previous oversight results are evaluated during DOE-RL closure verification, which may lead to for-cause oversight or additional programmatic assessments.

During oversight planning, the Master Oversight Process requires identification of project areas of weakness, project events, high risk activities, or key routine activities that require oversight to support development of the Integrated Evaluation Plan. This planning tool is updated quarterly. In addition, overall contractor performance is evaluated at the project level monthly and at the contract level quarterly. Additional oversight or contract actions are performed based upon the quarterly evaluation or routine oversight of contractor performance.

7. **DOE Headquarters and field line management regularly assesses site assurance systems to determine appropriate level of overlap and redundancy of DOE Headquarter and field element oversight. The effectiveness of the contractor assurance system, hazards at the site/activity, and the degree of risk are factors in determining the scope and frequency of DOE-RL line management oversight activities.**

Currently mechanisms are not in place to effectively evaluate HQ and DOE-RL overlap and redundancy (**F&I-3-01**). HQ oversight schedules are incorporated into the DOE-RL IEP and are considered when scheduling DOE-RL oversight. Mechanisms are established in the RIMS CIPE Integrated Evaluation Planning procedure to evaluate

DOE-RL and contractor oversight for overlaps and opportunities to perform joint oversight. An access database is used to track the oversight from both the contractor and DOE-RL, and the data is consolidated to allow for ready comparisons and improve efficiency of oversight.

8. **DOE-RL line management has established and maintained appropriate qualification standards for personnel with oversight responsibilities, and a clear, unambiguous line of authority and responsibility for oversight.**

In addition to FR qualification programs, training and qualification standards are established in RIMS for all DOE-RL staff performing technical surveillances and assessments. The FR qualification program (Facility Representative Instruction 14 and suite of qualification cards) contains extensive standards for oversight knowledge and skills. Oversight responsibilities are established in RIMS, although recent EM oversight has identified opportunities to clarify responsibilities for QA oversight (**F&I-3-02**).

9. **DOE-RL line management has established and implemented formal processes for ensuring requirements and performance expectations are established and communicated through formal contractual mechanisms to the contractor. Performance expectations are established through the development and approval of required program documents such as quality assurance program (QAP), integrated system management (ISM), integrated safeguards and security management (ISSM), etc. Line management periodically reviews established performance measures to ensure performance objectives and criteria are challenging and focused on improving performance in known areas of weakness.**

RIMS processes are in place and implemented to review and approve required program documents and performance measures are developed and approved annually to support ISMS implementation. DOE-RL uses performance measures to track and trend contractor performance and key safety criteria (personnel contamination, TSR violations, etc.) are captured in site specific conditional payment of fee criteria that are invoked when minimum performance expectations are not met. DOE-RL performance indicators have been established to monitor performance against these criteria, as well as other areas of known weakness, and are monitored monthly for trends and need for DOE-RL action. DOE-RL has instituted monthly project reviews that include evaluation of these performance indicators and quarterly evaluation of contractor performance using more formal trending (e.g., Pareto analysis) analysis.

10. **DOE-RL line management has established effective processes for communicating line oversight results and other issues up the DOE-RL line management chain, using a graded approach based on the hazards and risks. Established processes provide sufficient technical information to allow informed decision-making by line managers, and include provisions for**

communicating and documenting dissenting opinions. Formal structured processes for resolving disputes for oversight findings and other significant issues have been implemented, and include provisions for independent technical reviews for significant findings.

Formal oversight is communicated through DOE-RL line management during the approval and transmittal of oversight to the contractor. Routine communication of oversight results are communicated to DOE-RL line management semiweekly from the OA database. Oversight results and performance indicators are evaluated and communicated monthly for each DOE-RL project and are evaluated for trends. The monthly evaluation includes tracking of key safety performance indicators (near miss, hazardous energy events, skin contaminations, OSHA, etc.), and evaluation of events for recurring or site-wide implications. Quarterly evaluation of contractor performance is performed using more formal trending tools (e.g., Pareto analysis) to identify crosscutting trends or recurring events. Finally, contractor performance is routinely evaluated against Conditional Payment of Fee (CPOF) criteria and communicated through DOE-RL management for initiation of the CPOF process. The DOE-RL organization structure has established the ESH&Q organization (including FRs) independent of project organizations to allow for free flow of oversight results to DOE-RL line management. ESH&Q performs the majority of technical and safety oversight and are key members of the Integrated Project Team supporting the federal project directors. This structure and oversight reporting mechanisms have reduced the historical level of disputes regarding oversight results.

11. **Headquarters line management periodically reviews the results of field oversight organization oversight and other information to maintain awareness of site conditions and trends. Headquarters line management oversight program activities include elements for reviewing the adequacy and scope of field office self-assessment activities, field office oversight activities, and field office assurance systems.**

N/A for DOE-RL

12. **Central Technical Authorities (CTAs) periodically monitor, participate, and review the results of field oversight organization oversight and other information for high consequence nuclear operations to maintain operational awareness and to ensure the Department's nuclear safety policies and requirements are adequate and properly maintained.**

N/A for DOE-RL

13. **DOE-RL line management annually reviews and approves contractor assurance system program descriptions updates, and performs periodic reviews of the contractor assurance system program and processes for consistency across the DOE-RL complex and ensures that they reflect industry best practices.**

Although a single, consolidated contractor assurance system has not been implemented (**F&I-1-01**), mechanisms are in place to review and approve the key elements (QA, ISMS, etc.) of the assurance system defined in DOE O 226.1. Mechanisms are not currently in place to evaluate across the DOE-RL complex or industry practices. (**F&I-3-03**)

14. **DOE-RL line management monitors contractor performance and assesses whether performance expectations are met, that contractors are assessing site activities adequately, self-identifying deficiencies, and taking timely and effective corrective actions. Responsibilities for line oversight and self-assessment are assigned and managers, supervisors, and workers are held accountable for performance assurance activities. Deficiencies must be brought to the attention of contractor management and addressed in a timely manner.**

See evaluation of Criteria 13 and 2 above.

15. **DOE Headquarters and field organizations must have a structured, documented self-assessment program for environment, safety, and health; safeguards and security, cyber security, emergency management, and business operations. DOE-RL organizations must perform self-assessments of programmatic and line management oversight processes and activities (e.g., security surveys, facility representative programs, personnel qualification standards, and training programs) to assess whether requirements and management expectations are met. Continuous improvement mechanisms (e.g., corrective action processes) must be in place to improve the effectiveness and efficiency of oversight programs and site operations.**

Although DOE-RL self-assessment mechanisms are implemented in RIMS, requirements associated with each element of the assurance program are not necessarily identified. (**F&I-1-02**). The RIMS self-assessment procedure contains the requirements for assessment planning, identification of issues, and resolution of issues through the DOE-RL corrective action management process. The DOE-RL self-assessment schedule is captured in the Integrated Evaluation Plan that is updated on a quarterly basis. Each organization is required to perform a self-assessment of all work processes and procedures every three years.

16. **An effective employee concerns program been established and implemented in accordance with DOE Directives that encourages the reporting of employee concerns and provides thorough investigations and effective corrective actions and recurrence controls.**

DOE-RL, Special Concerns Office (SCO), Employee Concerns Program (ECP) is implemented through the Richland Integrated Management System (RIMS). The program is based on DOE O 442.1A and DOE Guide DOE G 442.1-1. A self-assessment of the SCO ECP is conducted annually.

Employee concerns received from Hanford Site employees are entered into the employee concerns database and tracked to closure. Employee concerns are managed consistent with the DOE Order and Guide. Concerns that are partially substantiated or substantiated require corrective actions that are logged and tracked to closure by the responsible line organizations. The DOE-RL Hanford contractor ECP expectations are defined in the DOE Contract Requirements Document (DOE CRD 442.1A, Rev 1). The contractor programs are evaluated annually by DOE-RL SCO. The DOE-RL Hanford contractors conduct annual self- assessments also.

F&I-3 Conclusion:

Based upon the documented assessment above, DOE-RL has established adequate line management oversight processes, with some minor opportunities for continuous improvement. Thus, this objective and its criteria have been met, and DOE-RL would identify the overall health of this objective as green with exceptional practices for routine documentation, communication, and trending of DOE-RL oversight using the Operational Awareness database.

Supplemental Lines of Inquiry

This section of the assessment was performed in response to an EM informal email request to evaluate these criteria.

Issues Management

1. **Causal analysis seeks to determine not only the immediate and direct causes of the event/near-miss, but also the organizational factors that created the environment where the events could occur.**

The FHI corrective action management process (HNF-PRO-052) contains requirements for causal analysis including the root causes or organizational factors related to an event. Recent efforts to foster an error identification/resolution environment have been initiated

in the form of Human Performance Improvement (HPI) Training. A number of actions are planned and addressed in the action plan to further strengthen HPI principles (**F&I-Sup-01**).

From a DOE-RL perspective, performance indicators are monitored on a regular basis and oversight is planned and performed to identify and understand latent organizational factors. The most recent example is the results of Independent/Management Assessment oversight identifying an opportunity to improve self-critical identification and resolution of errors.

2. **Events/near-miss are evaluated to determine the extent to which the contributing factors exist across the organization, and corrective actions are developed to address the full extent of condition.**

The FHI corrective action management process (HNF-PRO-052) contains mechanisms to evaluate the extent of condition for identified issues and to establish corrective actions to resolve the broader scope issues. See criteria 1 discussion for additional HPI and DOE-RL oversight perspective.

3. **Critiques, accident investigations, and associated casual analysis are focused to identify conditions and organizational factors, not to apportion blames to individuals or organizational units.**

The FHI event/near miss investigation and critique process (HNF-PRO-058) includes mechanisms to identify organizational factors and includes criteria to avoid assignment of blame. This process supports the accident investigation process and resulting casual analysis are designed to identify and resolve the root cause without assignment of blame.

4. **Casual analysis and the resulting development of corrective actions are not constrained by organizational boundaries or management hierarchy.**

The FHI corrective action management process (HNF-PRO-052) includes mechanisms to evaluate the extent of condition for identified issues and resolution of the issues irregardless of organization or hierarchy boundaries. DOE-RL oversight indicates that FHI does identify broad corrective actions when necessary to address cross-cutting latent organizational conditions. It is expected that improved HPI implementation will strengthen this practice (**F&I-Sup-01**).

5. **Evaluations of events/near-misses that find human error to be a causes or contributor consider the limitations of human performance and examine whether the expectations and work environment were structured for success.**

This criteria is not institutionalized in FHI or DOE-RL processes, although the recent HPI training and proposed actions provide tools to foster a work environment of error identification and minimization of latent conditions that increase the probability of error (**F&I-Sup-01**).

Event Reporting

1. **Line managers throughout the organization encourage and are responsive to employee feedback.**

The FHI Zero Accident Council process (HNF-RD-9982) establishes safety councils across FHI projects and at the President's level to foster employee feedback and resolution of identified issues. This process is considered a strength of FHI and DOE-RL oversight has verified that it is robust and effective.

2. **Employees openly report errors and performance challenges to line management, with confidence that the information will be used to drive improvement.**

DOE-RL oversight indicates that errors are typically reported, although there are opportunities to improve the management evaluation and resolution of latent organizational conditions. Improvement in this area and the confidence of employee identification of errors is an expected benefit of the recent HPI FHI actions (**F&I-Sup-01**).

Operating Experience

1. **The feedback sources monitored and integrated by line management to identify improvement opportunities include indications of safety culture, such as open reporting and a receptive, learning environment.**

DOE-RL and FHI are currently working jointly to tailor feedback and safety performance indicators to foster open reporting and resolution of latent organizational conditions that increase error probability. Actions will be taken to foster this growth in safety culture and error identification (**F&I-Sup-01**).

DOE-RL Feedback and Improvement Issue Summary

Action Reference	Title
F&I-1-01	Approve WCH ISMS system description and complete verifications
F&I-1-02	Incorporate CRD 226.1 into the FHI and WCH contracts
F&I-1-03	DOE-RL Management Assessment oversight corrective actions
F&I-2-01	Incorporate DOE O 210.x into FHI and WCH contracts
F&I-2-02	Resolve DOE-RL self-assessment issues from EM oversight
F&I-3-01	Establish RIMS processes to routinely evaluate HQ and DOE-RL overlap of oversight.
F&I-3-02	Clarify responsibilities for QA oversight in RIMS and communicate to DOE-RL staff.
F&I-3-03	Revise RIMS to include evaluation of contractor assurance programs against the DOE complex and industry practices.
F&I-Sup-01	Enhance site error identification and resolution through application of Human Performance Improvement principles.

Feedback and Improvement Action Plan

SA-06-OOD-CIPE-003

January 2006

RL Feedback and Improvement Action Plan

This document has been developed to meet DOE-EM direction for an Action Plan demonstrating site Feedback and Improvement enhancements. The actions were developed to resolve the issues identified during completion of the Feedback and Improvement assessment (S-06-OOD-CIPE-002). In addition to resolution of the assessment issues, site improvement actions in the areas of work planning and Human Performance Improvement were included to illustrate other recent initiatives that support feedback and improvement.

RL Feedback and Improvement Evolution History

For each of the last three years, RL has performed a Core Surveillance (~8 simultaneous surveillances at each RL project with a crosscutting roll-up evaluation of issues) in the area of feedback and improvement (Corrective Action Management). Furthermore, each of the formal surveillances (~40/year) includes an evaluation of the contractor self-assessment program adequacy for the functional area of oversight. This oversight has supported continuous improvement of the contractor feedback and improvement mechanisms. For FY 2006, RL has just completed a Core Surveillance of Management/Independent assessment and a Core Surveillance of ISMS/Feedback and Improvement is scheduled for January, 2006.

Initial improvements in FHI feedback and improvement were focused on the FHI corrective action management program process and consistent implementation of the program to support continuous improvement. Recent focus has been on improvement of feedback and improvement from performance of work and application in future work planning as well as improvements in the FHI evaluation of corrective action effectiveness.

A number of recently completed FHI actions were specifically designed to improve feedback and improvement. The first was the institutionalization of the Quarterly Data Analysis Working Group (QDAWG). This group was established to supplement the ORPS required quarterly performance analysis and leverage the wide array of performance indicators (OPRS, radiological protection, nuclear safety, injury, etc.) and focus assessment resource to maximize the influence on weak and/or areas of greatest need/opportunity. In addition, FHI has recently established a Functional Area Manager's Forum to foster communication and sharing of lessons learned between the various FHI functional area managers. It is a similar group to the successful Facility Manager's Forum that has been functioning for the last several years. Based upon the assessment above and progress to date, the following represents the joint FHI/RL action plan to drive continuous improvement of Feedback and Improvement processes.

Feedback and Improvement Action Plan

Washington Closure Hanford

The River Corridor Contract was recently awarded. The contractor is currently operating under the previous contractor's ISMS, however they will be submitting an ISMS description to RL in the near future and ISMS verification is scheduled for FY 2006. RL will evaluate WCH implementation of feedback and improvement in the ISMS Phase II verification. Actions for the ISMS will be included in the Action Plan.

F&I-1-01-A1 Complete the WCH ISMS Phase 1 Verification.

Assignee: Doug Shoop

Due Date: May 30, 2006

F&I-1-01-A2 Complete the WCH ISMS Phase II Verification.

Assignee: Doug Shoop

Due Date: September 30, 2006

RL and Fluor Hanford, Inc.

F&I-1-02: Implement DOE O 226.1 at RL.

Discussion: RL has completed the requirements management Record of Decision to evaluate DOE O 226.1. The ROD defines the suite of actions necessary to implement the requirements in both the RL and contractor management systems.

F&I-1-02-A1: Incorporate CRD 226.1 into prime contracts

Assignee: Keith Klein

Due Date: June 30, 2006

F&I-1-02-A2: Incorporate DOE O 226.1 into RL Richland Integrated Management System.

Assignee: Charlie Kasch, RL

Due Date: April 30, 2006

F&I-1-02-A3: Incorporate F&I CRAD into annual RL surveillance guide.

Assignee: Rob Hastings

Due Date: March 15, 2006

F&I-1-03: RL oversight of FHI Management Assessment corrective actions.

Discussion: RL recently completed surveillances of FHI implementation of QA Management Assessment requirements identifying a need for increased self-critical evaluation to improve the effectiveness of the Management Assessment program and resolve latent organizational conditions. Over the last several years, FHI has implemented a number of actions to monitor management assessment quality and establish performance indicators. Some improvement has been observed; however, continued maturation and integration of Human Performance Improvement techniques are warranted to achieve consistent, high quality, error identification and resolution.

F&I-1-03-A1: Enhance management assessment process through the use of mentors, identification of oversight areas using the QDAWG, and Human Performance Improvement (HPI) techniques.

Assignee: Donna Busche

Due Date: June 30, 2006

F&I-2-01: RL and contractors implement DOE O 210.x, when approved.

Discussion: RL has reviewed the draft DOE O 210.x and met with EH to provide initial comments to the draft directive. Once issued, RL will evaluate the directive per the established requirements management process and enhance the existing site process using the requirements of DOE O 210.x.

F&I-2-01-A1: Perform Record of Decision against DOE O 210.x.

Assignee: Al Hawkins

Due Date: Four months after directive issuance.

F&I-2-01-A2: Incorporate DOE O 210.x into site prime contracts

Assignee: Al Hawkins

Due Date: Twelve months after directive issuance.

F&I-2-02: Enhance RL self-assessment processes.

Discussion: A recent EM QA assessment identified opportunities for improvement in the RL self assessment process.

F&I-2-02-A1: Train RL supervisors/managers on the expectations and requirements for self-assessments.

Assignee: Al Hawkins

Due Date: September 30, 2006

F&I-2-02-A2: Establish requirements for DOE-RL self-assessment refresher training.

Assignee: Al Hawkins

Due Date: September 30, 2006

F&I-3-01: Establish RIMS processes to periodically evaluate HQ and RL overlap of planned oversight.

Discussion: Although RL incorporates HQ oversight schedules into our annual Integrated Evaluation Plan, no mechanisms are in place to routinely interface to minimize overlap.

F&I-3-01-A1: Establish RIMS processes to periodically evaluate HQ and RL overlap of oversight.

Assignee: Rob Hastings

Due Date: July 1, 2006

F&I-3-02: Clarify responsibilities for QA oversight in RIMS and communicate to RL staff.

Discussion: A recent EM assessment of RL and contractor QA implementation identified a weakness in staff understanding of responsibilities for QA oversight. RL is currently developing a corrective action plan to strengthen QA oversight roles and responsibilities for RL staff.

F&I-3-02-A1: Clarify responsibilities for QA oversight in RIMS and communicate to RL staff.

Assignee: Charlie Kasch

Due Date: July 1, 2006

F&I-3-03: Mechanisms are not currently in place to evaluate contractor assurance program descriptions across the DOE complex nor industry practices.

Discussion: During RL implementation of DOE O 226.1, RIMS procedures will be revised to include consideration of DOE complex and industry practices.

F&I-3-03-A1: Revise RIMS to include evaluation of contractor assurance programs against the DOE complex and industry practices.

Assignee: Charlie Kasch

Due Date: May 30, 2006

F&I-Sup-01: Enhance site error identification and resolution through the application of Human Performance Improvement principles.

Discussion: Prior to this feedback and improvement assessment, FHI identified an opportunity to improve project performance through training and adoption of Human Performance Improvement principles. This effort will involve a change in culture expected to span multiple years, however, RL and FHI will develop a strategy in accordance with the Human Performance Leadership Framework developed at a 2000 INPO industry working meeting in May of 2000. The eight initiatives include the following: strategic plan, organizational structure, expectations, communication plan, reward and reinforcement plan, work processes and job site conditions, training and education, information system/sharing/learning. The actions below establish the foundation for FHI continuous improvement in this area.

F&I-Sup-01-A1: Develop and approve a joint RL/prime contractor HPI strategic plan that addresses the eight initiatives of HPI leadership framework.

Assignee: Doug Shoop

Due Date: June 30, 2006

F&I-Sup-01-A2: Train FHI line management and senior management on Human Performance Improvement principles and techniques.

Assignee: Tony Umek

Due Date: September 1, 2006

F&I-Sup-01-A3: Train RL Facility Representatives and supervisors on Human Performance Improvement principles and techniques.

Assignee: Doug Shoop

Due Date: September 1, 2006

F&I-Sup-01-A4: RL and contractors collaboratively evaluate and revise event reporting practices and metrics to promote error identification and resolution. It is expected that this will be documented in a revision to Performance Objectives, Measures and Commitments (POMCs).

Assignee: Doug Shoop

Due Date: June 30, 2006

DOE-RL Feedback and Improvement Plan Action Summary

Action Reference	Title	Assignee	Due Date
F&I-1-01-A2	Complete the WCH ISMS Phase 1 Verification.	D. Shoop	May 30, 2006
F&I-1-01-A3	Complete the WCH ISMS Phase II Verification.	D. Shoop	Sept. 30, 2006
F&I-1-02-A1	Incorporate CRD 226.1 into prime contracts.	K. Klein	June 30, 2006
F&I-1-02-A2	Incorporate DOE O. 226.1 into RL Richland Integrated Management System.	C. Kasch	Apr. 30, 2006
F&I-1-02-A3	Incorporate F&I CRAD into annual RL core surveillance guide.	R. Hastings	Mar. 15, 2006
F&I-1-03-A1	Enhance management assessment process through the use of mentors, identification of oversight areas using the QDAWG, and Human Performance Improvement (HPI) techniques.	D. Busche	June 30, 2006
F&I-2-01-A1	Perform Record of Decision against DOE O 210.x.	A. Hawkins	Four months. after issuance
F&I-2-01-A2	Incorporate DOE O. 210.x into site prime contracts.	A. Hawkins	Twelve months after issuance
F&I-2-02-A1	Train RL supervisors/managers on the expectations and requirements for self-assessments.	A. Hawkins	Sept. 30, 2006
F&I-2-02-A2	Establish requirements for RL self-assessment refresher training.	A. Hawkins	Sept. 30, 2006
F&I-3-01-A1	Establish RIMS processes to periodically evaluate HQ and RL overlap of oversight.	R. Hastings	July 1, 2006
F&I-3-02-A1	Clarify responsibilities for QA oversight in RIMS and communicate to RL staff.	C. Kasch	July 1, 2006
F&I-3-03-A1	Revise RIMS to include evaluation of contractor assurance programs against the DOE complex and industry practices.	C. Kasch	May 30, 2006
F&I-SUP-01-A1	Develop and approve a joint RL/prime contractor HPI strategic plan that addresses the eight initiatives of HPI leadership framework.	D. Shoop	June 30, 2006
F&I-SUP-01-A2	Train FHI line management and senior management on HPI principles and techniques.	T. Umek	Sept. 1, 2006
F&I-SUP-01-A3	Train RL FRs on HPI principles and techniques.	R. Hastings	Sept. 1, 2006
F&I-SUP-01-A4	RL and contractors collaboratively evaluate and revise event reporting practices and metrics to promote error identification and resolution. It is expected that this will be documented in a revision to Performance Objectives, Measures and Commitments (POMCs).	D. Shoop	May 30, 2006

SEPARATION

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United States Government

memorandum

Department of Energy (DOE)
Savannah River Operations Office (SR)

DATE: FEB 10 2006

REPLY TO ATTN OF: SRPD (J. Melvin, (803) 952-9473)

SUBJECT: Work Planning and Work Control (WP&C) Assessment and Site Action Plans for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, Commitment 23 (Your Memorandum, 11/18/05)

TO: Dr. Ines R. Triay, Chief Operating Officer for Environmental Management (EM-3), HQ

This memorandum transmits the WP&C Site Action Plan required to meet DNFSB 2004-1, Commitment 23. The assessment was conducted in accordance with the Criteria and Review Approach Document at the 2004-1 Knowledge Portal and the supplemental lines of inquiry provided by EM staff via email on December 2, 2005. The attachment provides the completed Savannah River Site (SRS) WP&C Site Action Plan which includes the corrective actions to address identified opportunities for improvement. DOE-SR will ensure that the elements associated with the Integrated Safety Management System (ISMS) are effectively addressed as we implement the Site Action Plan and drive continuous improvement in this critical element of ISMS.

In addition, upon completion of the ongoing in-depth DOE Office of Independent Oversight inspection, DOE-SR will ensure that any identified issues and their associated corrective actions related to WP&C are adequately addressed.

If you have any questions, please contact me or have your staff contact John Melvin at (803) 952-9473.

Jeffrey M. Allison
Manager

SRPD:JMM:sl

OESH-06-0061

Attachment:
SRS Site Action Plan

cc w/attach:
Dae Y. Chung (EM-24), HQ
Thomas D'Agostino (NA-13), HQ

Assessment of the Work Planning & Control Processes at the Savannah River Site

January 2006

TABLE OF CONTENTS

Results of Assessment of the
Work Planning & Control Processes
at the Savannah River Site

1.0 Executive Summary

1.1 Overall Summary

The results of this assessment determined that DOE-SR meets the objectives for CRAD-1 and CRAD-2 with opportunities for improvement noted in both CRAD assessment areas. WSRC was found to meet the objectives of CRAD-3 through CRAD-7 with opportunities for improvement noted in the assessment area of CRAD-3 and CRAD-7. The following table provides the results of this assessment.

CRAD #	Objective Met	Objective Partially Met	Objective Not Met	Comments
1	X			3 OFI's Noted
2	X			2 OFI's Noted
3	X			4 OFI's Noted
4	X			No issues noted
5	X			No issues noted
6	X			No issues noted
7	X			2 OFI's Noted

This assessment was conducted as part of the Savannah River Site (SRS) response to Commitment #23 of the Department of Energy's Implementation Plan (IP) for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, "Oversight of Complex, High-Hazard Nuclear Operations". The assessment is the product of a joint effort of a DOE-SR/WSRC assessment team. Two members of the team were directly associated with the NNSA workshop responsible for the development of Criteria and Review Approach Documents (CRADS) and associated criteria intended for evaluation of a contractor's integrated work planning and control process, and to evaluate the DOE field office oversight of the activities associated with this process. The team applied the Work Planning and Control (WP&C) CRADS and their associated criteria, provided by Assistant Secretary of Environmental Management memorandum dated November 9, 2005, to all work planning and control processes utilized at SRS. This included the WSRC 2S Manual, Conduct of Operations ,WSRC 1Y Maintenance Manual, WSRC C2 Site D&D Administrative Procedures, Procedure 2.05, "Site D&D Work Control Procedure", WSRC D3 Site Utilities Department Practices and Procedures, Procedure 4.2, "Maintenance Management Process Program Exception", and WSRC-IM-97-00024, "Savannah River National Laboratory Conduct of Research and Development".

The WP&C CRADS and associated criteria were thoroughly reviewed by the team in preparation to conduct the assessment. Additionally, the team reviewed developments in the area of work planning and control evaluation guidelines available from the NNSA work shop for this DNFSB commitment as well as the recently approved NNSA "Activity Level Work Planning and Control Processes Manual", which provides the attributes, best practices, and guidance for effective incorporation of integrated safety management and quality assurance in activity level work planning and control processes. The assessment team experienced some initial issues with the use of the terms "work planning" and "work control" in the performance of this assessment due to the established use of these terms connected with the performance of nuclear maintenance work. This required the team to consciously maintain a broader context of planning work and controlling work than a more narrow view of work planning and work control that is associated with nuclear maintenance.

This review found no central DOE requirements document similar to DOE-O-433.1, "Maintenance Management Program for DOE Nuclear Facilities" that provides focused program requirement for work planning and control of work like that provided for a maintenance program for nuclear facilities. A matrix was developed to aid in the evaluation of how the WP&C CRADS were "nested" from the contract, through the S/RIDS (Standards and Requirements Document), and finally to the programs, procedures and polices for implementation. This matrix is provided as Attachment "A". It was readily apparent, following development of this matrix, that unlike the contractor's functional area for the site Maintenance Program, which is internally reliant on compliance with the 18 elements of conduct of maintenance, the work planning and control processes for task level work such as D&D, non-nuclear site utilities and infrastructure, R&D, and many variations of subcontracted work, rely on the synergistic process that is a product of merging source requirements from numerous program functional areas (e.g.,

quality assurance, occupational safety and health, management systems (ISMS), project management, etc.). Multiple contract requirements generate these various program functional areas which are the Environmental, Safety, and Health related DOE, Federal, State or local regulation and requirements applicable to WSRC work and implemented through company-level programs, procedures, and policies. The team recognized this as a challenge to developing contracts that consistently will result in a proper work planning and control process for non-maintenance work that is for example as effective as that generated for SRS D&D work, especially when flowing down requirements through a subcontract. While the assessment did not find an indication that this had hampered the ability to get SRS work done safely and consistently, the team recommended that a review be done to determine the effect that this has to the self and independent assessment, and track/trend processes of maintaining and improving performance of these non-maintenance based work planning and control processes.

This assessment determined that both WSRC and DOE-SR were able to meet the WP&C CRADS when applied to various work (e.g., operations, maintenance, construction/destruction, research and development, etc.) being performed at the Savannah River Site, and its oversight. This outcome appears to be more a result of mature contractor safety management programs supporting the accomplishment of work, the effectiveness of the enhanced assisted hazard analysis (AHA) WSRC 8Q122, a well developed Conduct of Research and Development, and experienced contractor and DOE-SR personnel. The opportunities for improvement noted by this assessment were generally not the result of a need to align current programs polices or practice to that of the expectations of improved incorporation of integrated safety management and quality assurance into work planning and control processes, but the reasonable maintenance and continual improvement of these items. As an additional opportunity for improvement, and borrowing from the NNSA suggested site action plan content, the team concluded that to enhance the ability to implement the intent of 2004-1 Commitment #23 that a recommendation be made to change DOE Order 5480.19 "Conduct of Operations for DOE Facilities" to add a 19th element for "Integrated Work Planning and Control" and to change DOE-STD-1063 to describe the facility representative oversight of work beyond the currently described as facility maintenance. These change recommendations will be provided to the SRS ISMS Champion to discuss in the complex wide ISMS reinvigoration team meetings.

1.2 Evaluation Process

This assessment was conducted in accordance with the instructions provided in the November 18, 2005 DOE Headquarters memorandum from the Chief Operating Officer for Environmental Management. Specific direction was provided to perform a review of the DOE field office and contractor in the area of work planning and control. The assessment team determined that a combination of existing assessment data and the conduct of a focused assessment would be required to fully evaluate all work planning and control processes utilized by WSRC. Facility Evaluation Board (FEB) assessment reports for Integrated Safety Management Evaluation (ISME) were available for three of the four WSRC WP&C processes. The FEB reports selected for use by this assessment report were chosen not only for their date of execution, which was within that allowed by the WP&C guidelines, but also for their inclusion of the personnel interviews, document reviews, and observation of activities that fully support the HQ WP&C recommended approaches for assessing the provided CRADS. The remaining WSRC WP&C process not addressed by using the FEB reports was assessed through interviews, focused observations of work being performed and assessment of the work control process and procedures, both administratively and work planning, per the performance objectives and criteria in CRADs 3 through 7.

2.0 Opportunities for Improvement

2.1 DOE-SR

1. Management review the DOE-SR Functions, Responsibilities and Authorities Procedure (FRAP) and Facility Representatives (FR) Personnel Description Documents (PDs), to determine if changes should be made to these documents to ensure there is consistent utilization of FRs and to add clarity in the expectation of FR oversight of all aspects of the contractor's work planning and control process (WPC-1-OFI-1).

2. A review should be conducted of those organizations assigned contractor oversight responsibility to determine if there is a need to expand work planning and control oversight responsibilities beyond the FR position (WPC-1-OFI-2).

3. Recommend a revision to DOE-STD-1063 and DOE Order 5480.19, to establish consistent DOE expectation of FR oversight of work planning and control at the task level for all nature of work (i.e., operations, maintenance, construction/destruction, research and development, etc.) and to extend conduct of operations to include the integrated work planning and control process requirements (WPC-1-OFI-3).

4. Extend the Site Issues Management and Technical Assessment System (SIMTAS) to include a Work Planning and Control Process assessment area that uses the HQ WP&C CRADS, and the associated WP&C criteria as lines of inquiry (LOIs) (WPC-2-OFI-1).

5. Review SRIP 430.1 "Facility Representative Program" to determine the need to standardize the expectation of including the Track and Trend requirements in the annual assessment plan and to use SIMTAS to document the Track and Trend assessment (WPC-2-OFI-2)

2.2 Contractor

1. WSRC 1Q, Procedure 5.1 "Instructions, Procedures, and Drawings", Section B "Preparing Procedures/Instructions", Step (4) needs to clearly identify the various Site work control processes for activities such as Operations, Maintenance, Research & Development, D&D, etc. (WPC-3-OFI-1).

2. Currently 8Q, Procedure 122, Assisted Hazard Analysis (AHA) is the site process for identifying hazards, specifying controls, and work authorization and release for the safe execution of work. This procedure includes requirements for work scope definitions, hazard analysis, development and implementation of hazard controls, performance of work within controls, feedback, applicability to new and revised procedures, and applicability to subcontractor work. The Hazard Category Determination (HCD) process within AHA provides a method for grading hazards associated with an activity so the appropriate hazard analysis tool can be applied and the corresponding level of management review and approval can be obtained. This is implemented via facility Standing Orders which vary from facility to facility as determined by the Facility Manager. The effectiveness of this HCD process via Standing Orders is to be evaluated in an effectiveness review of the facilities in March 06. Additionally, WSRC has recognized the inconsistency in implementation of AHA feedback and post work reviews. (WPC-3-OFI-2).

3. WSRC 8Q15 "Subcontractor Safety Requirements" specifies requirements for oversight of subcontractors. SDD exceeded the requirements of 8Q15 by developing a SDD Subcontractor Review Team to establish consistent safety performance of their subcontractors. This is a noteworthy practice may be considered for sitewide application (WPC-3-OFI-3).

4. Documenting turnover is not specifically required by the requirements listed for the CRADS provided by DOE-HQ other than for operations. Turnover requirements for work and maintenance appear to be a good practice for these types of activities. Generally the various projects, such as the nuclear facilities and non-nuclear operations follow 2S Manual, Conduct of Operations. Site D&D Manual, C2, Procedure 2.05 needs to be changed to incorporate the documentation of the turnover to provide objective evidence of performing the management expectation of turnover of responsibilities. (WPC-3-OFI-4).

5. Independent and Self Assessment processes of WSRC 12Q Assessment Manual and SCD-4 currently encompass the Work Planning and Control requirements through multiple functional areas. 12Q Manual describes WSRC's self-assessment process and defines the minimum requirements for the process. The goal of the self-assessment process is to identify and correct problems that hinder the organization from achieving its objectives and to prevent the recurrence of more serious problems. The program consists of assessments that are contractually required, required by procedure, and assessments that are based on management discretion. In reviewing several self-assessment plans (SUD & SDD) it was noted that the existing self-assessment process could result in one or more functional areas not being assessed due to the discretion allowed by the procedure. This discretion needs to be reviewed to determine if the results meet the expectations of the 12Q process. (WPC-7-OFI-1)

   Currently the most obvious area for assessing work planning and control is SCD-4 Functional Area 10, Maintenance. However there are other functions that have processes for work planning and control that are not fully integrated with other applicable site procedures. While there is no DOE requirement to have a central system or single functional assessment for WP&C assessments, WSRC has an integrated approach that inter-relates the contractual requirements to the functional area requirements. Even though this process did not hamper work being performed safely or consistently, it was difficult to evaluate the CRAD criteria for WP&C. This appears to be an opportunity where WSRC could further integrate the various work planning and control processes into existing functional areas and/or site procedures. (WPC-7-OFI-1).

6. Review facilities and projects for consistent use of Site Tracking Analysis and Reporting System Issue Reports (STAR) to capture issues for assignment of corrective actions, tracking corrective action to completion, effectiveness review of the corrective action(s), and for tracking and trending. This is a focus area by the WSRC President and is scheduled for another effectiveness review in 2006. (WPC-7-OFI-2).

3.0 Criteria Assessments

3.1 Performance Objective WPC-1: Work Planning and Control Oversight

The DOE field element has an established process that ensures effective oversight of the contractor's work planning and control process.

3.1.1 Criteria:

1. There is documentation that delineates the roles and responsibilities for DOE field element personnel performing oversight of the contractor's work planning and control process.
2. DOE field element management has established the requirement for oversight of all stages (e.g., planning walk downs, Job Hazard Analysis (JHA) meetings, field execution, etc.) of the work planning and control process.
3. The DOE field element management has designated appropriate personnel (e.g., safety and health, facility representatives, project, etc.) to perform oversight of the contractor's work planning and control process. Designated personnel have received adequate training or were selected based on their experience and knowledge of the work planning/ control process.
4. The field element has a formal system that documents the efforts of their personnel performing oversight of the contractor's work planning and control process.

3.1.2 REVIEW APPROACH (for the initial baseline):

3.1.2.1 Documents Reviewed:

- SRM 300.1B DOE-SR Functions, Responsibilities, and Authority Procedure
- SRIP 430.1 DOE-SR Facility Representative Program
- SRIP 223.4 DOE-SR Technical Assessment Program
- Facility Representative position descriptions (PDs)
- Senior Facility Representative position descriptions (PDs)
- Position development and performance plans (PD&Ps) for FR and Senior FR personnel
- Facility Representative annual assessment plans for line organizations

3.1.2.2 Interviews Conducted:

- AMWDP Operations Division Director (FR Supervisor)
- AMWDP Senior Facility Representative
- AMCP Operations Division Director (FR Supervisor)
- AMCP FCP Senior Facility Representative
- AMCP Facility Representative
- AMWDP Facility Representative
- AMNMSP Senior Facility Representative
- AMNMSP Facility Representative
- DOE-SR Site Maintenance Program Manager
- DOE-SR Technical Assessment Program Manager

- DOE-SR Facility Representative Program Champion

3.1.2.3 Observations:

- None required

3.1.3 Discussion of Results

SRM (Savannah River Manual) 300.1B, DOE-SR Functions, Responsibilities, and Authority Procedure provides the documentation of the delineation of roles and responsibilities for DOE-SR field element personnel. Review of DOE-SR FRAP found it compliant with DOE Policy 411.1 "Safety Management Functions, Responsibilities, and Authorities Policy" and DOE Manual 411.1-1C "Safety Management Functions, Responsibilities, and Authorities Manual". Additionally, it reflects the functions, responsibilities and authorities provided by the HQ Environmental Management FRAP. Neither the HQ FRAM nor the EM FRAP provide as focused a direction or expectation of the oversight responsibilities for contractor work planning and control processes as that of the provided CRADS. Various sections of the DOE-SR FRAP were reviewed to determine if the roles and responsibilities for site personnel performing oversight of the contractor work planning and work control process are clearly delineated. Part 1, Subsection 5.0, "Overall Management Responsibilities Framework" of the DOE-SR FRAP clearly delineates responsibilities of Division/Offices Directors and Line Management Organizations to include ensuring the effective implementation of ISMS. Additionally it requires individuals assigned to these positions to ensure that day-to-day work activities within assigned facilities or scope of responsibility, regardless of who performs the work (i.e., contractor/subcontractor/vendor, etc.) are conducted efficiently and in a safe manner to ensure protection of the workers, the public, and the environment. Part 2 of the DOE-SR FRAP, Subsections 1 through 8 provide the specific assignments of roles, responsibilities, and authorities for all DOE-SR organizations. Typically, those organizations that are assigned direct oversight responsibility of contractor activities utilize Facility Representatives (FR) oversight to verify the contractor's compliance with all aspects of ISMS implementation and effectiveness. Subsections of Part 2 discuss the functions, duties and responsibilities of these organizations, to include responsibility for all aspects of ISMS involving contractors, subcontractors, and vendors in their area of oversight responsibility. Organizations utilizing FRs for contractor oversight have requirements in their subsection that include responsibility to establish and maintain a FR program. Discussion of FR duties and authorities are included in the organization's FRAP subsection. The team found variations in the subsections in their discussion of FR roles and responsibilities for the various organizations. Subsection 6.0 for Office of the Assistant Manager for Waste Disposition Project (AMWDP) provides the clearest reference for inclusion of the contractor's work control in the assessment and day-to-day operational awareness responsibilities of their FRs. Despite this difference, review of PDs for the assignment as a FR did include this responsibility, regardless of the organization to which they were assigned.

Two exceptions were noted. The first is the Office of Safeguards, Security, and Emergency Services (OSSES), which utilizes a FR for oversight of contractor activities. Subsection 8 for this organization does not recognize their use of a FR, nor does it provide the requirement to establish and maintain a FR program. The PD for the OSSES position of FR was identical in content as the FR PDs of other organizations. The second exception involves the Environmental Quality Management Division (EQMD), in the Office of Environment, Safety, and Health (OESH). EQMD is assigned oversight responsibility for activities conducted by the USFS in accordance with the Interagency Agreement and the University of Georgia in accordance with the Cooperative Agreement for operation of the SREL. Though these DOE-SR approved contracts for work are uniquely different than with the WSRC M&O contract, they both involve work activities that as a minimum require DOE-SR oversight due to DOE exercising its statutory authority at SRS to establish and enforce occupational health and safety requirements. EQMD has assigned oversight responsibilities for these activities to two individuals. While these individuals have appropriate knowledge and experience in the oversight of USFS and SREL activities, neither are qualified as a FR or as a Safety Specialist. The team found that OESH had met criteria #3 of this objective by assigning personnel based on knowledge and experience, the use of non FR designated personnel was inconsistent with other organizations assigned line oversight functions of contractor WP&C processes. The team considered designation as a Safety Specialist to be a reasonable alternative based on the regulatory nature of the job position.

A review of SRIP (Savannah River Implementing Procedure) 430.1, "DOE-SR Facility Representative Program" revealed DOE-SR management has established requirements for FR oversight of all stages of the contractor's work activities. Section 6.5 requires the development of an annual assessment plan, and to ensure that assessment activities address procedure compliance and overall program effectiveness. In order to ensure contractor compliance with ISMS requirements, FR's are consistently involved in all phases of the contractors work planning and control activities to include participating in job scoping walk downs with work planners, attending Assisted Hazards

Analysis (AHA) sessions, conducting reviews of work packages, and performing assessment of work activities to ensure controls are properly implemented. SRIP 430.1, Attachment B, "Facility Representative Program Requirements" defines the minimum routine FR assessment activities with detailed implementing guidance for each item. SRIP 430.1 is written as the DOE-SR implementing document of the requirements of DOE–STD–1063, "DOE Standard for Establishing and Maintaining a Facility Representative Program at DOE Facilities". SRIP 430.1 does not appear to provide the clarity of expectation for the focused oversight of the work planning and control process represented in the provided CRADS.

The team determined a need for DOE-SR Management to review the FRAP, FR PDs, and SRIP 430.1 to see if changes should be made to these documents to ensure the consistent utilization of FRs and to add clarity in the expectation of oversight of all aspects of the contractor's work planning and control process. The team determined this to be an opportunity for improvement. **(WPC-1-OFI-1)**

Overall, the DOE-SR FRAP and the FR PDs adequately delineate the roles and responsibilities for FR's providing oversight of all work activities. These oversight activities are performed in compliance with the DOE-SR Safety Management System (SMS). The organizations across the site require their FRs to perform daily assessments that include various work planning and work control topics which are components of ISMS core functions that define the scope of work, analyzing the hazard, implement work controls, perform work within the controls, and provide feedback for continuous improvement. The team concluded, from review of the provided CRADS and associated Criteria, as well as the accompanying instructions on executing this assessment, there is an expectation of intense focused oversight of the contractor's work planning and control process at the task level by the field offices. DOE-SR's approach to contractor oversight is to provide a proper balance of oversight resources to assure the contractor has properly implemented all aspects of their approved ISMS and the ISMS is effective and being properly maintained. This is particularly important in those projects or facilities where FRs balance their oversight between operations and work activities. The team determined a review should be conducted of those organizations assigned contractor oversight responsibility to determine if there is a need to expand work planning and control oversight responsibilities beyond the FR position. The team determined this to be an opportunity for improvement. **(WPC-1-OFI-2)**

DOE site management has designated facility representatives and project managers that perform technical oversight of the contractors work planning and control process of all contractor activities across the site. Project Management personnel are required to oversee project WP&C from the wide range of aspects of DOE-0-413-1. DOE-SR direct management of Asset Acquisition Contracts requires assembling an integrated Project Management team that includes a wide variety of oversight specialists which, when actual construction commences has included a FR designated job assignment. The GWSB #2 Project is an example of this. This individual was responsible for typical FR oversight duties which include WP&C process and ORPS processing and management. The DOE-SR technical staff are trained in accordance with the SRM 300.1B, "DOE-SR Technical Training and Qualification Programs". SRM 300.1B establishes methods and requirements for the development, implementation, and administration of the DOE-SR Technical Qualification Program (TQP). Interviews with various DOE organization management, Senior FRs, and FRs revealed FR's were qualified using selected criteria that are identified on a qualification card and were required to pass a written and final oral examination. Initial qualifications require an interview with the DOE-SR Manager. A review of site organization FR training records identified qualification cards consisted of completed General Technical Base Qualification Standard, Functional Area Qualification Standards, and D&D and SGCP Specific Qualification Standards.

The site DOE organizations implement SRP 223.4, SR Technical Assessment Program" via the Annual Assessment Plan. The Annual Assessment Plan defines assessment requirements, implementation and responsibilities for the DOE organizations across the site. Oversight of contractor activities is performed by an individual or a team via formal planned technical assessments, reactive assessments, management walkthroughs, and documented surveillance activities. FR's provide day-to-day oversight of contractor operations across the site. Minor issues are generally resolved on the spot, whereas more significant issues are documented in DOE-SR's tracking database (Site Issues Management and Technical Assessment System (SIMTAS)). This system enables the contractor to respond to the DOE issues until closure is reached. Pertinent issues are discussed on a periodic basis. Significant issues are presented to upper management in DOE and the contractor in exit reports. Upgrades planned for SIMTAS, which will be implemented in the first part of FY06, will include a link between SIMTAS and the contractor's Site Tracking, Analysis and Reporting (STAR) system so that DOE issues are immediately communicated to the contractor for resolution as soon as they are identified in SIMTAS.

Site personnel utilize a variety of resources to document the contractor's safety performance. Technical assessments (Focused and Topical) performed by FR's are documented SIMTAS. Periodic performance feedback meetings are

held between FR's and contractor project managers. Weekly or bi-weekly senior management team meetings are held between DOE management and contractor management including a discussion of operational and safety incidents since the last meeting. Monthly performance feedback meetings are held in accordance with DOE's contract with WSRC, and bi-monthly/quarterly exit meetings are held with DOE Management/FR's and contractor management.

As a roll up to the issue that generated WPC-7-OFI-1, this assessment found no central DOE requirements document similar to DOE-O-433.1, "Maintenance Management Program for DOE Nuclear Facilities" that provides program requirement focus for work planning and control of work like that provided for a maintenance program for nuclear facilities. A matrix was developed to aid in the evaluation of how the WP&C CRADS were "nested" from the contract, through the S/RIDS (Standards and Requirements Document), and finally to the programs, procedures and polices for implementation. This matrix is provided as Attachment "A". It was readily apparent, following development of this matrix, that unlike the contractor's functional area for the site Maintenance Program, which is internally reliant on compliance with the 18 elements of conduct of maintenance, the work planning and control processes for task level work such as D&D, non-nuclear site utilities and infrastructure, R&D, and many variations of subcontracted work, rely on the synergistic process that is a product of merging source requirements from numerous program functional areas (e.g., quality assurance, occupational safety and health, management systems (ISMS), project management, etc.). Multiple contract requirements generate these various program functional areas which are the Environmental, Safety, and Health related DOE, Federal, State or local regulation and requirements applicable to WSRC work and implemented through company-level programs, procedures, and policies. The team recognized this as a challenge to developing contracts that consistently will result in a proper work planning and control process for non-maintenance work that is for example as effective as that generated for SRS D&D work, especially when flowing down requirements through a subcontract. While the assessment did not find an indication that this had hampered the ability to get SRS work done safely and consistently, the team recommended that a review be done to determine the effect that this has to the self and independent assessment, and track/trend processes of maintaining and improving performance of these non-maintenance based work planning and control processes.

As an additional opportunity for improvement, and borrowing from the NNSA suggested site action plan content, the team concluded that to enhance the ability to implement the intent of 2004-1 Commitment #23 that a recommendation be made to change DOE Order 5480.19 "Conduct of Operations for DOE Facilities" to add a 19th element for "Integrated Work Planning and Control" and to change DOE-STD-1063 to establish consistent DOE expectation of FR oversight of work planning and control at the task level for all nature of work (i.e., operations, maintenance, construction/destruction, research and development, etc.) **(WPC-1-OFI-3).** These change recommendations will be provided to the SRS ISMS Champion to discuss in the complex wide ISMS reinvigoration team meetings.

3.1.4 Conclusion

The criteria of this objective were met with some opportunities for improvement noted.

Issues: Finding (F), Observation (O), Strength(S), Opportunity for Improvement (OFI)

WPC-1-OFI-1 – Review DOE-SR FRAP, FR PDs, and SRIP 430.1 to see if changes should be made to these documents to ensure the consistent utilization of FRs and to add clarity in the expectation of oversight of all aspects of the contractor's work planning and control process. The team determined this to be an opportunity for improvement.

WPC-1-OFI-2 – Review should be conducted of those organizations assigned contractor oversight responsibility to determine if there is a need to expand work planning and control oversight responsibilities beyond the FR position

WPC-1-OFI-3 – Recommend change to DOE-STD-1063 and DOE Order 5480.19

3.2 Performance Objective WPC-2: Work Planning and Control Oversight

The DOE field element performs effective oversight of the contractor's work planning and control process.

3.2.1 Criteria

1. The field element has scheduled periodic oversight activities (e.g., assessments, surveillances, observations, etc.) of the contractor's work planning and control process. These activities are of sufficient scope, detail, and quantity that the field element can ascertain the status of the contractor's work planning and control process.

2. The scheduled oversight activities are conducted during all stages of work planning and control process (e.g., planning walk downs, JHA meetings, field execution, etc.), and are chosen based upon the degree of risks, hazards, and complexity of the work activity.

3. The field element tracks and trends the results of oversight activities performed on the contractor's work planning and control process and takes appropriate actions.

3.2.2 Review Approach (for the initial baseline)

3.2.2.1 Documents Reviewed

- SRM 300.1B DOE-SR Functions, Responsibilities, and Authority Procedure
- SRIP 430.1 DOE-SR Facility Representative Program
- SRIP 223.4 DOE-SR Technical Assessment Program
- Site Issues Management and Technical Assessment System
- SRS Calendar Year 2005 Assessment Plans

3.2.2.2 Interviews Conducted

- AMWDP Operations Division Director (FR Supervisor)
- AMWDP Senior Facility Representative
- AMCP Operations Division Director (FR Supervisor)
- AMCP FCP Senior Facility Representative
- AMCP Facility Representative
- AMWDP Facility Representative.
- AMNMSP Senior Facility Representative
- AMNMSP Facility Representative
- DOE-SR Site Maintenance Program Manager
- DOE-SR Technical Assessment Program Manager
- DOE-SR Facility Representative Program Champion

3.2.2.3 Observations

- DOE Facility Representative assessment of two AHA team meetings (AHAs FDD-10221 & FDD-10280)

3.2.3 Discussion of Results

Scheduled field oversight activities such as assessments, surveillances, and observations are implemented through SRP 223.4, "SR Technical Assessment Program" via the Site Annual Assessment Plans. The team reviewed the calendar year 2005 assessment plans for SRS. These assessment plans have approximately 1390 assessments scheduled for 2005, which contain various aspects of work planning and control. Of these assessments, 185 are assessments of work activities specific to maintenance from across the site.

The site FRs periodically attend the contractor's facilities periodic activity scheduling and status meetings as is required by SRIP 430.1, Facility Representative Program. These meetings are held to discuss all the facilities organization's schedules and status of activities on these schedules. Discussions with some site FRs indicated that their attendance at these meetings helps them make the determination for the scope and depth of their assessments in the facility, as well as to choose work activities based on their degree of risk, hazards, and complexity.

The team reviewed various completed facility representative assessments of work activities across the site. All the various stages of work planning and work control were discussed in all of the reviewed assessment reports. Those reviewed assessments were from almost all of the functional areas of responsibility for the facility representatives and not specifically work planning and control. None of the completed assessments reviewed covered all aspects of work planning and control. Some discussed the planning walk down. Some discussed the AHA meetings and procedure. However, collectively all the completed assessments had discussions on reviewing the work packages both prior to, during the performance of, and after the completion of the work activity. Discussion with the DOE Technical Assessment Program Manager determined that there is software flexibility to extend the SIMTAS to

include a WP&C assessment area that uses the HQ WP&C CRADS, and the associated WP&C criteria as lines of inquiry (LOIs). This action would provide a more focused assessment of the contractor's WP&C process which is the product of numerous functional areas requirements in its development and execution (i.e., ISMS, quality assurance, worker safety, maintenance, etc.). The team determined the action to extend SIMTAS to provide focused work planning and controls assessments, with CRADS that can be assessed individually or collectively to be an Opportunity for Improvement. **(WPC-2-OFI-1)**

SIMTAS is the system that lists all DOE assessments, both technical and FR. The status of all assessments is tracked in SIMTAS. The results of all assessments and any issues raised are transmitted to the contractor and entered into SIMTAS. The status of all issues that require a response from the contractor is maintained in SIMTAS.

There are no specific requirements to perform a focused tracking and trending of work planning and control processes. Opportunity for improvement recommended for SIMTAS (WPC-2-OFI-1) and SRIP 430.1 (WPC-1-OFI-4) to establish the base for a more focused track and trend analysis of the contractor's work planning and control process. All organizations of the DOE field element perform track and trend analysis assessments. This analysis looks at all assessments, observations, occurrence reports, etc. to determine if there are trends developing in the contractor's performance in implementing and maintaining an effective ISMS. SRIP 430.1 requires a Track and Trending assessment to be performed every six months. The team determined that the Assistant Manager for Waste Disposition Project includes the conduct of track and trend analyses in their annual assessment plan and documents them in SIMTAS. While the other line organizations were conducting their track and trend requirement, they were not utilizing their annual assessment plan to schedule them or SIMTAS to document them. The team recommends SRIP 430.1 "Facility Representative Program" be reviewed to determine if a change is necessary to standardize the expectation to include the track and trend assessment in the annual assessment plan and to use SIMTAS to document it. The team determined this to be an Opportunity of Improvement. **(WPC-2-OFI-2)**

Through review of documents and conduct of interviews, the team found there was objective evidence of appropriate action taken by the DOE field element based on FRs track and trend analysis of contractor performance. The objective evidence included regularly scheduled out briefs with contractor facility/project management and letters from DOE line management and the Manager informing contractor management of trending issues. Some examples include TSR compliance, surveillance issues, inadvertent transfers, electrical safety, and others.

3.2.4 Conclusion

The criteria for this objective were met with some opportunities for improvement noted.

Issues: Findings (F), Observations (O), Strength (S), Opportunity for Improvement (OFI)

WPC-2-OFI-1 – Extend SIMTAS to include a Work Planning and Control Process assessment area that uses the HQ WP&C CRADS, and the associated WP&C criteria as lines of inquiry (LOIs).

WPC-2-OFI-2 – Review DOE-SR SRIP 430.1 to determine if a change is necessary to standardize the expectation to include the track and trend assessment in the annual assessment plan and to use SIMTAS to document it.

3.3 Performance Objective WPC-3: Work Control Program Documentation

The contractor has developed an effective work planning and control process.

3.3.1 Criteria:

1. Contractor work control manual/procedure for initiating, analyzing, and developing work control documents, including job hazard analysis, is approved and implemented.

2. The contractor's work control process establishes the level of review and approval for different types of work control documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work activity.

3. The contractor has established work planning/control requirements for all personnel performing work at their site, including subcontractors. Affected personnel are trained on these requirements.

4. The contractor's work control manual/procedure includes turnover requirements when line management and/or first line supervisor responsibilities are transferred.

5. The contractor's work control manual procedure includes a process for lessons learned/feedback during the execution of work control activities, including incorporation of lessons learned into active and in development work control documents.

6. The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or work control manual/procedure.

7. The qualification requirements for Work Control Managers and Planners are established.

8. Records that document the successful completion and qualification of Work Control Managers and Planners are retained and auditable.

3.3.2 Review Approach (for the initial baseline):

3.3.2.1 Document Review:

1Y Conduct of Maintenance Manual
2S, Conduct of Operations Manual
4B, Training and Qualification Program Manual
1B, Management Requirements and Procedures
1Q, Quality Assurance Manual
8Q, Employee Safety Manual
WSRC-IM-97-00024, SRNL Conduct of Research Procedure
C2 Site D&D Manual
FDP 2.05, Site D&D Work Control Procedure
FDP 1.01, Site D&D Organization Roles & Responsibilities
D3, Site Utilities Department Practices and Procedures
1E6, Construction Management Department Manual
Manual 8Q, Procedure 122 (interim), "Hazard Analysis", Rev 0
Manual C2, Procedure FDP 2.05, "Site Demolition and Decommissioning (SDD) Work Control Procedure"
Manual C2, Procedure FDP 2.18, "Hazard Analysis Guidance", Rev 0
CBU-HCD-2005-FDD-0001, "Hazard Category Determination for Demolition of 777-10A"
PROGSDDTPDES000104, "SDD Training and Qualification Program"
SDD Technician Qualification Card (2)
SDD Planner Qualification Card (2)
WSRC-RP-2004-4540, "Subcontract Safety Basis Control of Subcontracted Work"
Work Package, FDD-10150, "719-A: Isolation and Removal of X-Ray Machine"
STAR Item No. 2005-CTS-000087 - 003 (FDD)
Work Package, FDD-10027, Work Status Log, page 4
SDD Safety Toolbox, August 15, 2005
FDD-10105, "Bldg 185-K Asbestos Interference Removal and Abatement and Low Point Draining"
DOE-SR SIMTAS 3241 (and associated closure documentation)
Management/Professional Job Description: "Mgr., SDD Surveillance, Maintenance, and Planning"
Manual 8Q, Procedure 15, Workplace Safety and Health Program for SRS Visitors, Vendors, and WSRC/BSRI Subcontracts
WSRC 11B, Subcontract Management Manual

3.3.2.2 Interviews:

SDD Work Control Manager
SDD Planning Manager
SDD Operations Manager
SDD Subcontract Technical Representative (STR)
SDD Programs Coordinator

3.3.2.3 Observations:

Daily First Line Manager (FLM) briefing and Plan-of-the-Day meeting for SDD - Thursday, December 15, 2005

3.3.3 Discussion of Results

WSRC has company-level manuals and procedures that define the mechanisms that direct the safe conduct of work at all facilities, for all activities and organization levels, covered by the WSRC Contract, which itself is a mechanism. Also primary manuals serve in satisfying the ISMS Core Functions and Guiding Principles. Vertical integration is the flow down of ISMS requirements to the primary company-level procedural mechanisms (manuals) and other supporting company-level manuals and procedures. The following manuals serve as primary vertical integrators:

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

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

- WSRC-1-01, *Management Policies*
- Procedure Manual 1B, *Management Requirements and Procedures*
- Procedure Manual 1Q, *Quality Assurance Manual*
- Procedure Manual 4B, *Training and Qualification Program Manual*
- Procedure Manual 5B, *Human Resources Manual*

The team determined through discussions and review of the governing procedures for work control processes, WSRC 1Q, Procedure 5.1 "Instructions, Procedures, and Drawings", Section B "Preparing Procedures/Instructions", Step (4) needs to be updated to recognize that work instructions are being generated by Work Control processes other than 1Y 8.20 Work Control Procedure. The team determined this to be an opportunity for improvement **(WPC-3-OFI-1).**

Work progress documentation is emphasized within the procedures for smooth turnover when a job is interrupted or when a job is not completed within a single shift. These requirements are defined in Procedure Manuals 2S, Conduct of Operations; 1Y Conduct of Maintenance; D3, Site Utilities Department Practices and Procedures; and C2, Site D&D Manual.

For work performed by subcontractors, Procedure Manual 3E, *Procurement Specification Procedure Manual,* Procedure 11B, *Subcontractor Management Manual,* and Procedure Manual 8Q, Procedure 15, *Subcontracted Service Workplace Safety and Health* direct the specification and documentation of safety and health requirements in purchase requisitions and Subcontract Statements of work

For maintenance type activities, 1Y Conduct of Maintenance is the DOE approved Site Maintenance Implementation Plan (MIP). Within the 1Y Manual are specific procedures that set maintenance standards and requirements for work in both nuclear and non nuclear facilities (i.e., work control, preventive maintenance, post maintenance testing, etc.). The 1Y manual contains references to functional areas beyond Maintenance (i.e., Engineering, Quality, Operations, Training, etc.). Additionally procedures in 1Y cross reference Site procedure requirements for Hazard Analysis, Subcontractor Safety, Facility Operation, etc. All facilities follow the 1Y process except for approved addendum.

Procedure 1Y, 8.20 Work Control Procedure includes requirements for:

- screening,
- planning,
- review & approval,
- performance and evaluation

- incorporation of lessons learned during the planning process
- mechanic feedback that can be incorporated into subsequent work planning
- post work review and approval requirements, and
- record retention

Planner feedback is input into the Site's electronic work management system, PassPort, by mechanics as they enter their labor and history. This feedback is automatically pulled from PassPort through a Site Program Reporting Tool (PRT) and sent electronically to the respective planner for a response.

Research and Development activities performed in Savannah River National Laboratory (SRNL) are governed by WSRC-IM-97-00024 SRNL Conduct of Research Procedure. It is the responsibility of the Principal Investigator (PI) for a given activity to work with the Laboratory Custodian to ensure lab safety and identify the required support needed from Laboratory Services Department, as well as other SRNL organizations. This responsibility is coordinated with SRNL Operations through the operations control room. All control room activities are conducted per Manual 2S requirements, and all maintenance activities are performed to 1Y Conduct of Maintenance.

The Facility Evaluation Board conducted a performance-based evaluation of the Site Utilities Department (SUD) during February 2005. The evaluation team spent approximately 600 hours in the field conducting the evaluation. Routine as well as non-routine evolutions (i.e., lockout/tagout installations & removals, equipment switching, waste water pant operation, outfall inspections, etc) were observed during the evaluation. The evaluation concluded that SUD provides low cost utilities and utility services to site administrative and process areas utilizing cross functional, multi-disciplined, self managed teams which use commercial practices. Documents reviewed during the evaluation included the D3 Manual, Site Utilities Department Practices and Procedures, Self-Assessments, Team based assessments, AHAs, STAR reports, etc.

A detailed review of Site Demolition and Decommissioning (SDD) work control documents was performed. 8Q Manual, Procedure 122 (interim), Hazard Analysis, provides site-wide guidance for performing hazard analyses for work activities. C2 Manual, Procedure FDP 2.05, Site Demolition and Decommissioning (SDD) Work Control Procedure, defines the process for initiating, analyzing and developing SDD work control documents. C2 Manual, Procedure 2.18, SDD Hazard Analysis Guidance, provides guidance for performing hazard category determinations (HCD) in accordance with the requirements of 8Q Manual, Procedure 122 (interim). This review determined that contractor/SDD work control procedures for initiating, analyzing, and developing work control documents, including job hazard analysis, are approved and implemented. A review of these procedures, taken together, reveals that they address the aspects of work control identified in Criterion 1.

Additionally, CBU-HCD-2005-FDD-0001, "Hazard Category Determination for Demolition of 777-10A" was reviewed for compliance with the requirements of Manual 8Q, Procedure 122 (interim), "Hazard Analysis" and Manual C2, Procedure FDP 2.18, "Hazard Analysis Guidance". It was determined that this HCD fulfills the requirements of its parent documents.

SDD was one of four SRS organizations to pilot the site's new hazard analysis program. This pilot program has been completed and SDD work packages reflect the enhanced hazard analysis process of Manual 8Q, Procedure 122 (interim), "Hazard Analysis". A recently completed SDD work package, FDD-10150 "719-A: Isolation and Removal of X-Ray Machine", was reviewed to confirm that the new hazard analysis process has been implemented, e.g. that the Safe Work Permit and associated controls are properly incorporated into the package. This review determined that the implementation is satisfactory.

The contractor's work control process in SDD utilizes SDD Procedure 2.05, "SDD Work Control Procedure". This work control process invokes the use of the WSRC 8Q Manual, Procedure 122 (interim), "Hazard Analysis" for identification of hazards and the application of controls for those hazards. The AHA procedure adequately addresses that the depth of hazard analysis is dependent upon the complexity of the task in terms of the number, type, and severity of the hazards involved. The Hazard Analysis protocol includes a Hazard Category Determination (HCD) process which provides a method for grading hazards associated with an activity so the appropriate hazard analysis tool can be applied and the corresponding level of management review and approval can be obtained. HCD's are required to be performed for high risk activities as determined by the facility manager and documented in a facility standing order.

During the team's review of several FEB reports, discussions with the contractor, and review of SDD work control, several items were noted concerning the AHA process. It was noted that SDD has prescribed high risk SDD activities requiring an HCD in a procedure (SDD Procedure 2.18, "SDD Hazard Analysis Guidance") rather than a standing order. The team believes documentation of high risk activities in a procedure to be superior to a standing

order as procedures receive formal, documented annual reviews. The contractor is in the process of revising the 8Q Manual Procedure 122 to improve the feedback process and the post review process. Planned is an 8Q Manual Procedure 122, Assisted Hazard Analysis (AHA) Procedure change to utilize a feedback process internal to the AHA procedure versus the current arrangement of utilizing other external tools such as the electronic work management system, Passport, to accomplish the feedback. This current arrangement does not provide a consistent feedback process for those work processes. Also included in this planned 8Q-122 revision is the increased post job reviews. The team concurs with the changes for AHA 8Q Procedure 122 to improve the post review process of AHA to include Full AHA as well as Team AHA. The team also recognized this to be an opportunity for improvement. **(WPC-3-OFI-2).**

A review of Procedure 2.18 revealed that adequate guidance is provided for contractor personnel to determine the appropriate application of the HCD process. Specific personnel responsibilities related to the process are provided and the process is explained well. A review of a completed HCD (CBU-HCD-2005-FDD-0001, "Demolition of Building 777-10A") was performed; the work consisted of demolition of Building 777-10A. This building is referenced in Procedure 2.18 as requiring an HCD. The process determined the work to be Hazard Category C, requiring an AHA and facility manager approval, which is considered appropriate.

Work planning/control requirements were evaluated to determine their adequacy. Interviews were held with SDD Planning, Operations, and Programs and Work Control managers to assess their understanding of work planning and control requirements. Their responses were consistent with the expectation that personnel performing work for SDD are qualified and trained on these requirements. The SDD Programs Coordinator was interviewed regarding documentation and retention of training and qualification records. He stated that these records are complete and are tracked via the Automated Qualification Matrix (AQM). The SDD Training and Qualification Program Description (PROGSDDTPDES000104) and Qualification Cards define the SDD training program requirements. A review of two of the SDD technicians' qualification cards revealed a comprehensive listing of position and task specific training requirements for SDD technicians.

Subcontracted work for SDD is controlled by site-level documents Manual 8Q, Procedure 15, "Workplace Safety and Health Program for SRS Visitors, Vendors, and WSRC/BSRI Subcontracts" and Manual 11B, Subcontract Management Manual. Additionally, SDD has established a subcontractor review team as described in document WSRC-RP-2004-4540, "Subcontract Safety Basis Control of Subcontracted Work". This document was evaluated against Criterion 3, and it was determined that the SDD subcontractor control program enhances the level of rigor mandated by site procedures. Specifically, it requires the SDD team to review and approve the subcontractor's Worker Protection Plan (Occupational Safety and Health Administration (OSHA) compliance document) and all task specific plans (TSPs). TSPs describe in detail how work will be performed for each task, and SDD requires that a TSP be submitted for every task, not just a representative few. An interview was held with the SDD STR to determine the level of oversight provided for subcontractors. The STR stated that he is assigned to provide full time oversight of the subcontractor. In cases where the subcontractor is working multiple jobs, additional knowledgeable and qualified individuals are assigned to provide this full time oversight. He said that this was done for Enviro-Tech, an asbestos abatement subcontractor used extensively by SDD. This subcontractor control program is unique to SDD and goes beyond the site requirements. The team recommends WSRC 8Q15 be reviewed for possible change based on "best practices" by SDD in oversight of subcontractors. The team determined this to be an opportunity for improvement **(WPC-3-OFI-3).**

An interview with the SDD Programs and Work Control Manager revealed that there is a management expectation that First Line Managers (FLM) document the transfer of responsibility for performing work (turnover) on the work package status log. He stated that the FLMs have been trained to do this. A copy of a Work Status Log from FDD-10027 was produced as evidence of this expectation. A thorough review of FDP 2.05 determined that this requirement is undocumented; the interviewee confirmed that this was in fact the case. The team recommends a revision to C2 Procedure 2.05 to incorporate requirements for documentation of turnover. The team determined this to be an opportunity for improvement **(WPC-3-OFI-4).**

Requirements for addressing feedback and incorporating it into SDD work control documents are addressed in FDP 2.05. Planners and Project Managers are specifically mentioned as being responsible for performing this aspect of work control. Section 3.5 of FDP 2.05 states "feedback mechanisms such as Post-Job Reviews, self-assessments and normal on-the-job communications are considered essential to the safe performance of work. Key lessons learned will be identified and communicated through the site lessons learned process and incorporated into future planning activities." Additionally, Section 6.10.4 of FDP 2.05 discusses Post-Job Reviews as being a key element of the feedback process.

A variety of SDD documents were reviewed to ascertain the level of effectiveness of incorporation of lessons learned into work control documents. The SDD Safety Department issues a weekly "Safety Toolbox". These

documents address a wide variety of safety topics. The toolbox for August 15, 2005 covered two topics related to the performance of work.. One topic, pipe containment, resulted in a lesson learned during removal of pipe in 420-D. The toolbox addresses controls required for effective pipe containment. FDD-10105, "Bldg 185-K Asbestos Interference Removal and Abatement and Low Point Draining" was reviewed for incorporation of these controls and it was determined that they were adequately addressed as described in the toolbox.

Another document reviewed, DOE-SR SIMTAS (Site Issues Management and Technical Assessment System) 3241, addressed a deficiency in D&D methodology in which a piece of pipe was dropped during deactivation work in 247-F. A lesson learned from this event was that two-point contact is required when cutting and lowering objects from the overhead. The documents used to close this SIMTAS item confirm that this lesson learned was effectively incorporated into SDD work control documents.

An interview with the SDD Operations Manager identified an additional means of propagating lessons learned. A daily FLM briefing and Plan-of-the-Day meeting is held at 1600 with all SDD FLMs. One of the intended purposes of this briefing is to have the FLMs discuss the day's activities in cases in which lessons were learned. During the daily meeting observed on December 15, 2005, there was extensive discussion on the need to support remaining piping as sections of it are removed during deactivation.

FDP 2.05 delineates the process for post work activity review (Post-Job Reviews) of the work control document including in-process improvements. The D&D FLM performs a post job review of the work package prior to signing for work package closure and the Planning organization reviews hard copies of post work reviews for incorporation into in-development work documents. D&D Management determines if a particular lesson learned is appropriate for incorporation into active work control documents. The work control planner attends the post job review to identify possible work planning improvement opportunities for future work control documents. Additionally weekly safety toolboxes are issued and reviewed by the SDD Planning Manager and SDD Program Manager for potential lessons learned to be incorporated into future work control documents.

SDD personnel training and qualification requirements are established in procedure PROGSDDTPDES000104, SDD Training and Qualification Program Description. A review of this document reveals that Planners fulfill a "Task Trained Position". Section 4.2.10 describes the knowledge and skills required by SDD for a Work Control Planner. The Manager, SDD Planning stated in an interview that all SDD Planners are required to meet the training requirements of this program.

The SDD Planning Manager does not occupy a Task Trained or Qualified Position per the SDD Training and Qualification Program Description. The SDD Programs and Work Control Manager, to whom the Planning Manager reports, stated in an interview that the requirements for this position are described in the Management/Professional Job Description for this position. A review of this job description determined that it does provide in great detail the responsibilities, skills, and knowledge required of the individual performing this function.

The SDD Training Coordinator was interviewed regarding documentation and retention of training and qualification records for Planners. He stated that these records are complete and are tracked via the Automated Qualification Matrix (AQM). The SDD Training and Qualification Program Description (PROGSDDTPDES000104) and Qualification Cards define the SDD training program requirements. A review of two of the SDD technicians' qualification cards revealed a comprehensive listing of position and task specific training requirements for SDD technicians.

Qualification requirements for work planners are listed in "Work Control Planner Training and Qualification Program Description - TMAEIPD2". Program Description is dated April 22, 2004. Course Number is TMAC0700, "Work Control Planner Overview". Planner Training is site wide but provisions are available for departments to adjust portions of the training to fit specific needs. Facilities may also utilize different Qualification Cards and adhere to a program description written specifically for their discipline. Program descriptions may exempt them from certain requirements set forth at the site level (e.g. D&D Program Description PROGSDDTPDES000100). The various program descriptions are maintained on the site training home page and can be accessed via training information and training programs. Planner Training course completion documents (normally Classroom Implementation Records (CIR)) are maintained in accordance with WSRC Manual 4B, "Training and Qualification Program Manual" and WSRC Manual 1B, "Management Requirements and Procedures", MRP 3.31, "Records Management".

3.3.4 Conclusion

The criteria of this objective were met with some opportunities for improvement noted.

Issues: Finding (F), Observation (O), Strength(S), Opportunity for Improvement (OFI)

WPC-3-OFI-1 – WSRC 1Q, Procedure 5.1 "Instructions, Procedures, and Drawings", Section B "Preparing Procedures/Instructions", Step (4) needs to clearly identify the various Site work control processes for activities such as Operations, Maintenance, Research & Development, D&D, etc.

WPC-3-OFI-2 – Currently 8Q, Procedure 122, Assisted Hazard Analysis (AHA) is the site process for identifying hazards, specifying controls, and work authorization and release for the safe execution of work. This procedure includes requirements for work scope definitions, hazard analysis, development and implementation of hazard controls, performance of work within controls, feedback, applicability to new and revised procedures, and applicability to subcontractor work. The Hazard Category Determination (HCD) process within AHA provides a method for grading hazards associated with an activity so the appropriate hazard analysis tool can be applied and the corresponding level of management review and approval can be obtained. This is implemented via facility Standing Orders which vary from facility to facility as determined by the Facility Manager. The effectiveness of this HCD process via Standing Orders is to be evaluated in an effectiveness review of the facilities in March 06. Additionally, WSRC has recognized the inconsistency in implementation of AHA feedback and post work reviews.

WPC-3-OFI-3 – WSRC 8Q15 "Subcontractor Safety Requirements" specifies requirements for oversight of subcontractors. SDD exceeded the requirements of 8Q15 by developing a SDD Subcontractor Review Team to establish consistent safety performance of their subcontractors. This noteworthy practice may be considered for sitewide application.

WPC-3-OFI-4 – Documenting turnover is not specifically required by the requirements listed for the CRADS provided by DOE-HQ other than for operations. Turnover requirements for work and maintenance appear to be a good practice for these types of activities. Generally the various projects, such as the nuclear facilities and non-nuclear operations follow 2S Manual, Conduct of Operations. Site D&D Manual, C2, Procedure 2.05 needs to be changed to incorporate the documentation of the turnover to provide objective evidence of performing the management expectation of turnover of responsibilities.

3.4 Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification

Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

3.4.1 Criteria

1. Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries are understood.

2. A team comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health Subject Matter Experts (SME), etc.) is selected by line management to participate in the development of the work control document.

3. The team performs effective walk downs and Job Hazard Analyses in order to develop work step techniques and identify possible hazards and their associated controls.

4. The team considers potential upset conditions, accidents, and "what if" scenarios and their consequences during the walk downs and Assisted Hazard Analysis.

5. The team selects controls based upon the following hierarchy: (1) hazard elimination/reduction, (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.

6. The team ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction). [This criteria addresses potential loss of safety function during D&D and may not be applicable to all work activities]

7. The team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.

3.4.2 Review Approach (for the initial baseline)

3.4.2.1 Document Review

Facility Evaluation Board reports
- Savannah River National Laboratory; 2004-2-6
- Site Utilities Department; 2005-1-1
- Waste Solidification Area Project; 2005-2-3

Assisted Hazard Analysis Implementation Assessment dated 9/20/95
8Q, Procedure 122 Hazard Analysis
Manual C2, Procedure FDP 2.04, Electrical and Mechanical Isolation of Facilities to Support D&D Work
Manual C2, Procedure FDP 2.05, "SDD Work Control Procedure"
Manual C2, Procedure FDP 2.18, "Hazard Analysis Guidance"
TRWGHA01G0100, "SDD Hazard Analysis Training"
SDD Work Scope Definition Checklist
Procedure Manual 2S Conduct of Operations Manual
AHA FDD-10221, Electrical isolation of the 211-F Segregated Solvent Distributive Control System
AHA FDD-10280, Electrical isolation of the 211-F Segregated Solvent
Attendance roster for team AHA review of AHA FDD-10221
Attendance roster for team AHA review of AHA FDD-10280

3.4.2.2 Interviews

Site D&D Work Control Manager
SDD Planning Manager
SDD Operations Manager
SDD Project Manager for Building 420-D
D&D Manager (DDM)
SDD Programs Coordinator
SDD First Line Managers (FLMs)
SDD Work Planners

3.4.2.3 Observations

Team Meeting - AHA FDD-10221, Electrical isolation of the 211-F Segregated Solvent Distributive Control System
Team Meeting - AHA FDD-10280, Electrical isolation of the 211-F Segregated Solvent

3.4.3 Discussion of Results

The team reviewed three FEB reports (Waste Solidification Project, Site Utilities Department, and Savannah River National Laboratory) and one assessment of the new Assisted Hazard Analysis procedure performed at D&D. These documents were reviewed to ascertain if these assessments were sufficient to determine if the contractor was meeting the criteria of WPC-4. Because there has been no FEB performed on the D&D organization, the team assessed if they are meeting these criteria.

At the activity/task level, implementation of an Assisted Hazards Analysis (AHA) process described in Procedure Manual 8Q, Procedure 122 is complete. The AHA process is an enhanced method for the assessment of safety, environmental, and radiological hazards associated with specific tasks, and the identification of controls needed to safely perform those tasks. The AHA process uses a graded approach, based on the complexity of the tasks, to define the level of involvement required for the completion of the AHA. Regardless of the complexity of the tasks, an AHA determination is required to ensure that the scope of the job is defined, the hazards are analyzed, and the controls are identified prior to performing work. The AHA Process, utilizing participation of workers in the identification of hazards, is directed by 8Q, Procedure 122 for work controlled by Procedure Manual 1Y, 8.20 for Maintenance work, Procedure Manual D3 for Site Utilities work, and for other work not controlled by 1Y or D3

Procedure Manuals. In addition for process hazards the Consolidated Hazard Analysis Process (CHAP) is used. CHAP is a comprehensive hazard analysis program to be applied throughout all phases of a facility, project, modification, or activity life cycle which consists of multiple elements that utilize specific proven techniques and a team approach.

Walkdowns are an essential element of the work scope definition process. All jobs must be initially walked down as part of the work scope definition. Teams are required to perform hazard analysis for complex work per 8Q-122. In addition, the Assisted Hazard Analysis (AHA) describes SME involvement required to plan work activities. Maintenance Instructions/Procedures are developed to incorporate input from walkdowns and SMEs. The Work Scope Definition (WSD) Checklist prompts the planner to consider known or potential hazards. The Walkdown Checklist, Hazard Category Determination (HCD), and AHA incorporate considerations for evaluating hierarchy of controls. The HCD process provides a method for grading hazards associated with an activity so the appropriate hazard analysis tool can be applied and the corresponding level of management review and approval can be obtained. If conditions and hazards change during performance of an activity personnel are instructed to call a "time out" and revise the AHA controls, if necessary to reflect the current hazards.

An interview was held with the Manager of the Site D&D (SDD) Work Control Manager. Results of that interview are discussed below:

SDD has a very disciplined work planning process that involves worker input, SME involvement, planners, engineering, and line management in the initial work planning process. The team composite for the initial work planning is dependent on the task type to be performed. This team defines the scope of work to be performed and subsequently the hazard analysis is developed. SDD follows the 8Q, 122 process to determine hazards and develop appropriate controls. SDD also has an approved procedure that defines the review and approval level for various activities as outlined in their hazard categorization determination (FDP 2.18).
If unexpected or unplanned conditions or events occur the job is stopped and re-evaluated based on these changes. They have a change control process for making minor and major changes to work packages. Minor changes as defined in their procedures are documented in the work package status log. Major changes constitute a work package revision requiring initial reviews.

Procedure FDP 2.05 describes the SDD work control process. This process requires that appropriate SME are involved in the initial planning walk downs to ensure the work scope and boundaries are defined and discussed.

In accordance with Procedure FDP 2.05, the project manager is responsible for defining the work scope, assembling the work planning team and managing the work planning process as it applies to the project. The project manager also reviews, provides comments and approves the final work package.

An interview was conducted with a DDM. Interview results indicated that appropriate personnel are involved in initial discussions/walk downs of the work scope to ensure that the work is properly scoped and that boundaries are understood. The team is assembled by the Project Manager who defines the scope of work. The team typically includes the Project Manager, the work planner, engineering representative, industrial safety representative, a DDM, a FLM and two work crew members. Other specialist such as a rigging representative, Industrial Hygienist and radiological control inspectors are in attendance when appropriate. Upper level managers such as an SDD Operations Manager, attend planning walk downs for unique and/or complex work scope. Hazards are discussed during the planning walk down as they are identified. Controls are also discussed when unique hazards are recognized. The results of the interview indicates that initial discussion and walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries are understood.

Two team AHA meetings were observed. The purpose of the team AHA meeting is to have a joint evaluation of hazards and controls for a proposed scope of work. The appropriate SMEs and workers participated in the hazard analysis. Team members included SDD workers and supervisor, Industrial Safety, Industrial Hygiene, Radiological Control, Fire Protection, Engineering and the Waste Generator Certification Official. All SME's were knowledgeable of the process area and the work scope analyzed. The team adequately discussed and identified the appropriate hazards and controls for the scope of work. Some of the hazards and controls discussed included the potential for an electrical arc flash and the use of nonmetallic equipment while conducting the work, the requirement for fall protection, and the use of mats for motorized equipment to traverse the gravel more efficiently.

The team AHA process was effective in evaluating the hazards and controls for the proposed work activities. The various subject matter experts objectively discussed the work hazards and concluded that the hazards and controls identified for the work activities were adequately addressed.

Manual 8Q, Procedure 122 (interim), "Hazard Analysis" and FDP 2.05 were reviewed to determine if guidance was given to the planning team members to consider potential upset conditions, accidents, and "what if" scenarios and their consequences during the walk downs and hazard analyses. No guidance for including "what if" could be found in the FDP 2.05 document. Additionally, the SDD Work Scope Definition Checklist was reviewed with the same results. None of the actual WP&C processes themselves perform this function nor did the team conclude they needed to. The issuance of 8Q122 provides an AHA that is enhanced with specific focus to resolve job hazard analysis and work performance issues that have been previously experienced. Included was the need to address the hierarchy of controls chosen and attention to "what if" aspect of the work to be performed. Manual 8Q, Procedure 122 (interim) does discuss this subject in Section 2.B with regard to the performance of Hazard Category Determinations. The section on hazard category determination suggests that one way to identify any unique controls that are needed to mitigate or prevent hazardous conditions is to postulate what can go wrong given the known hazard (e.g., asking "what if" questions for the activity given the known hazard). Training of personnel for the enhancements was conducted prior to piloting 8Q122. Management expectations for compliance to these additional features of AHA were instilled for those projects chosen to be pilots. SDD was included in the piloting of 8Q122. Interviews were held with the SDD Managers for Planning and Programs and Work Control. They both stated that it is the expectation that potential off-normal scenarios will be considered during the planning process for all hazard analyses (not only during the hazard category determination process). The SR AHA process of 8Q122 is a "work nature" neutral job hazard analysis process that provides a considerable portion of the WP&C process in its job scoping, analyzing hazards, developing hazard controls, verifying hazard controls to be active before work is authorized, maintaining the controls until the hazard is removed and the work completed, and performing feedback and improvement for how a job was performed. In combination with the safe work permit (SWP) which is the work authorization process, 8Q122 provides an ability to flow down a WP&C process that can be utilized for subcontractors.

Manual 8Q, Procedure 122 (interim), "Hazard Analysis" and FDP 2.05 were reviewed to determine if the concept of hierarchy of controls is addressed. Manual 8Q, Procedure 122 (interim) briefly discusses this subject in Section 1.C. A more detailed discussion is given in Procedure Section 2.B. FDP 2.05 also discusses hierarchy of controls in Section 3.3, as well as addressing the potential for positive and negative interaction of controls.

The SDD Programs Coordinator was interviewed to determine if Planners or other planning team members are trained to implement the concept of hierarchy of controls. He stated that all SDD personnel who plan or perform work receive training in hazard analysis. He produced a copy of TRWGHA01G0100, "SDD Hazard Analysis Training". The concept of hierarchy of controls is discussed extensively in TRWGHA01G0100 on pages 37 through 46. Additionally, the interviewee stated that the Site's Assisted Hazard Analysis program has been updated to provide hierarchy of controls "mini-help" dialog boxes to aid the Planner. This enhancement to the AHA process is shown on pages 45 and 46 of TRWGHA01G0100.

Three SDD Planners were interviewed regarding implementation of hierarchy of controls. They were all familiar with this concept and stated that it is applied in SDD's work planning process.

The SDD Managers for Operations and Programs and Work Control, and the SDD Project Manager for building 420-D, were interviewed on the topic of hierarchy of controls. They gave two examples which they felt demonstrated SDD's commitment to the hierarchy of controls concept. First, an expert consultant was hired to evaluate SDD's plan to remove the distillation columns at 420-D. This consultant devised a means to greatly simplify the rigging of these large columns (> 80 feet), thereby reducing the risk to both workers and the heavy equipment.

Another challenge presented by the demolition of 420-D is the removal of a complex arrangement of piping external to the building which is several stories above ground. The SDD Project Manager stated that at first the planning team proposed to remove this piping by hand, with the workers using a sawsall and plunge cutters. After extensive review by the team, a far less hazardous means of piping removal was identified. Instead of removal by hand, the entire three-story piping complex will be pulled over by bulldozers and sheared and loaded into waste containers by large tracked excavators. By employing this method of piping removal and disposal, the major source of potential injury to the workers will be eliminated.

A review of SDD work packages and interviews with SDD managers and FLMs confirms that hazard controls are clearly stated, and are expected to remain in effect for the duration of the work. These individuals stated that PPE may be downgraded by specific instruction in a work package, and cited the electrical isolation work packages in particular. An example of when a reduction in PPE is allowed was found during review of FDD-10247, "Building 185-K Electrical Isolation Verification". Prior to Step 5.3.9, a Note reads "After a "Safe Energy State" is

established by a physical air gap of the incoming power source and an absence of voltage has been verified, downgrading of the NFPA 70E clothing requirements will be allowed".

Interviews were held with two FLMs, one Planner, and the SDD Planning Manager regarding synergistic or conflicting hazard controls identified during the planning process. They stated that these potential effects are considered during the work planning process. Additionally, a review of Manual C2, Procedure FDP 2.05, "SDD Work Control Procedure" revealed that this subject is addressed in Section 3.3, with guidance being given to "ensure that controls are synergistic and implementation will not create or amplify another hazard or make another control ineffective". The FLMs presented an example in which the Industrial Safety representative often allows workers to remove their hard hats to reduce heat stress when they are working on building slab cleanup in summer months, provided that there are no overhead hazards present.

A Facility Evaluation Board conducted a performance based assessment of SRNL during the October timeframe. Interviews (formal and informal) were conducted with facility and support personnel from all departments including all levels of the SRNL management and appropriate division management, as well as a cross section of exempt and non-exempt support personnel. Document reviews during this assessment included Conduct of R&D, self-assessments for R&D ad Operations R&D Job Hazards Analysis, and numerous other facility documents.

3.4.4 Conclusion

Based on document reviews and assessments performed on D&D, SRS meets the criteria for this objective.

Issues:

None

3.5 Performance Objective WPC-5: Work Planning and Control Process

The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

3.5.1 Criteria

1. The work scope and associated boundaries are clearly defined.
2. The work control document is written in a clear, concise, and worker friendly manner.
3. The work steps for activities are properly sequenced.
4. Work control documents adequately incorporate technical and administrative requirements (e.g., contract, safety basis, regulatory, consensus codes, etc.).
5. Work hazard controls identified in the JHA have been incorporated into the work control document.
6. The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.

3.5.2 Review Approach (for the initial baseline)

3.5.2.1 Document Review

1Y, Procedure 8.20 Work Control Procedure
2S, Procedure 1.1 Procedure Administration
2S, Procedure 1.3 Procedure Compliance
8Q, Procedure 122, Hazard Analysis
AHA # FDD 10135 – 719-A Electrical Isolation Verification
AHA # FDD 10097 – 183-4L Electrical Isolation Verification
AHA # FDD 10143 – 701-2C Electrical / Mechanical Cold & Dark
AHA # FDD 10248 – 107-C Electrical Isolation

STAR Database Report Numbers:
2005-CTS-004949
2005-CTS-00365
2005-CTS-006260
2005-CTS-005456
2005-CTS-9006758
2005-CTS-009545
2005-CTS-006503
2005-CTS-004292
2005-CTS-003301
2004-CTS-011466
AHA FDD-10097, 183-4L Electrical Isolation Verification
FDP 2.05, Site D&D Work Control Procedure
OSR Form 20-202, Electrical Work Expectations Acknowledgement
WSRC Manual 18Q, Procedure 2, Safe Practices On or Near Electrical Conductors
WSRC Manual 8Q, Procedure 32, Hazardous Energy Control (Lockout/Tagout)
WSRC SCD-2, Procedure Writing

3.5.2.2 Interviews

D&D Operations Support Manager
D&D Operations Support Crew FLM
D&D Operations Support Crew Mechanics (2)

3.5.2..3 Observations

Pre-job Briefing on work package FDD-10135 (12/19/05)
719-A Electrical Isolation Verification activities (12/19/05)
SDD Cold and Dark All-Hands Meeting (12/20/05)
Critique on "292-F Incident" (12/20/05)

3.5.3 Discussion of Results

Savannah River Site Level Procedural system establishes requirements for developing a work scope that ensure:

- a clearly defined scope of work is developed to safely perform any proposed activity,
- hazards associated with the work environment, process system fluids, or facility specific hazards are identified
- identification of facility impacts
- breakdown of specific tasks required to complete the scope of work
- technical requirements (i.e., safety basis, regulatory, codes & standards, etc.)
- work methods, tools, and equipment are identified, and
- identification of worker involvement

Maintenance Instructions and/or procedures are included in the work implementing documents. The Maintenance Instructions as well as procedures contain sequenced steps to be completed as ordered unless specified otherwise. Also delineated in the Maintenance Instructions/procedure in the form of Notes, Caution Steps, or Warning Steps are hazards associated with a particular step/activity. If unexpected job hazards are encountered, workers are instructed to stop until the hazard is eliminated or mitigated.

The team reviewed three FEB reports (Waste Solidification Project, Site Utilities Department, and Savannah River National Laboratory) and one assessment of the new Assisted Hazard Analysis procedure performed at D&D. These documents were reviewed to ascertain if these assessments were sufficient to determine if the contractor was meeting the criteria of WPC-5. Because there has been no FEB performed on the D&D organization, the team assessed if they are meeting these criteria.

A review of SDD work packages #FDD-10135 "719-A Electrical Isolation Verification" and #FDD-10097 "183-4L Electrical Isolation Verification" revealed that the work scope and associated safe boundaries are clearly defined. Under the section entitled work scope documentation, the specific scope of activities to be performed are identified. In addition, Electrical Isolation packages include work scope guidance documents such as drawings and photographs of the components that will be isolated and removed. 8Q Manual, Procedure 122 (interim), Hazard Analysis, provides site-wide guidance for performing hazard analyses for work activities. C2 Manual, Procedure FDP 2.05,

SDD Work Control Procedure, defines the process for initiating, analyzing and developing SDD work control documents. C2 Manual, Procedure 2.18, SDD Hazard Analysis Guidance, provides guidance for performing hazard category determinations in accordance with the requirements of 8Q Manual, Procedure 122 (interim).

During this assessment, a critique was attended on an incident that occurred in F-Area where an alarm was received on a common alarm panel in 254-13F. A brief investigation identified the alarm was caused by a wire that became disconnected in panel 9 in 292-F. This panel was opened by SDD workers as part of an intrusive investigation for cold & dark activities associated with 221-1F. The critique revealed that SDD workers exceeded their work scope by reconnecting the disconnected wire without written instruction and not informing F-Canyon management that they were working within the canyon facility boundary. The scope as described in the AHA and work package was clearly stated. The critique determined that the WP&C process utilized by SDD was not at issue. The critique determined that personnel involved made discretionary errors in coordinating their work in F-Area and secondly, in attempting to respond to the wire that had slipped from its terminal connection when the panel cover was removed for inspection. The team determined the need to include the event in the report to demonstrate that abnormal events are investigated but did not conclude that the event represented a systemic weakness in the SDD WP&C process. SDD personnel were able to demonstrate the expectation of being vigilant to scope change. This is addressed in the discussion below that involves performance of work under AHA FDD-10097, which is more representative of SDD management expectation, SDD training and WP&C process execution. The corrective actions identified during the fact finding critique are being incorporated in SDD work documents to prevent recurrence of this incident. The corrective actions will be tracked in STAR. Since the event will be tracked in STAR, it will be included in SDD's tracking and trending evaluation.

Two SD&D work packages, AHA # FDD 10143 – 701-2C Electrical / Mechanical Cold & Dark, and AHA # FDD 10248 – 107-C Electrical Isolation were reviewed with the following results.

The work scope and associated boundaries are clearly defined in the "Scope Section" of the above referenced work packages. The work instructions are written in a clear, concise, and worker friendly manner using a SDD specific work package format. This format sequences activities for performance of work. The work instructions incorporate technical and administrative requirements (e.g., AHA, engineering guidance, etc.). Work hazard controls identified in the AHA are incorporated into the work control documents at the appropriate step. The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance (i.e., lockout verification and absence of voltage signatures are required prior to hands on work). Criteria for WPC-5 were met with these two SDD documents. There were no issues to resolve.

Discussions were held with SDD cold and dark technicians and FLMs on how well SDD work packages are written. Feedback revealed that work package instructions for performing work are concise and workers have no problem using them in the field. A review of SDD work packages #FDD-10135 "719-A Electrical Isolation Verification" and #FDD-10097 "183-4L Electrical Isolation Verification was also performed to evaluate this criterion. No issues were noted. Additionally, WSRC Source and Compliance Document, SCD-2, requires technical procedures to be presented clearly, consistently, and in the proper sequence.

A work planning and control assessment was performed for the Site D&D task to verify electrical isolation of the 183-4L Facility. This task was directed by work package AHA FDD-10097 in which the scope of work was separated into five distinct sections. Upon completion of the package precautions and limitations and preliminary actions, the work group proceeded to the work instructions to "Perform verification of I&SD isolations". During this evolution, it was determined that one of the isolation points was not "air gapped" as required for D&D activities and the task was stopped immediately since control of hazardous energy could not be verified. The package indicated that a welding receptacle was supplied from one cubicle when it was actually supplied from a different cubicle due to mislabeled panels. The D&D Crew placed the area into a safe configuration by taping, labeling, and barricading the safety concerns within their scope area and by placing a Do Not Operate tag on the cubicle in question. A follow-up walkdown was scheduled with I&SD Personnel in order to establish a path forward. D&D Support personnel were familiar with their ability to stop work when unexpected hazards are discovered. Hazard control inclusion into the work documents reviewed is evident. Of note is the insertion of Warning Steps just prior to the work step that establishes arc flash boundaries per Manual 18Q, Procedure 2.

Instructions for performing "Verification of Isolation" and "No Voltage Check" are properly sequenced and include warning notes and signoff requirements. At the top of every page in the work instructions section of all SDD work packages is the statement "Work instructions below **SHALL** be performed in the sequence provided, unless specific instruction is given that allows step(s) to be worked in parallel or out of order. Non performance of written instructions requires documented concurrence from the DDM on the Work Package Status Log, unless the

instruction allows the step to be marked N/A if it is not applicable." Additionally, WSRC Source and Compliance Document, SCD-2, "Procedure Writing", requires technical procedures to be presented in the proper sequence.

SDD work control documents adequately incorporate the technical and administrative requirements. For example, Electrical Isolation Verification work packages incorporate safety requirements from consensus documents like NFPA 70E. All SDD work control documents are derived from the Standards/Requirements Identification Documents (S/RID) and all work packages are reviewed by SDD Engineering for applicability of a Management of Safety Basis or Unreviewed Safety Question review. In addition, SDD work packages are written to accomplish specific decommissioning endpoints that are identified in the contract between DOE and Westinghouse Savannah River Company. Work hazard controls that are identified in the AHA are incorporated into the work control document through the involvement of SMEs (Safety, Industrial Hygiene, Radiological Controls, etc.). The information identified in the AHA is used to develop the work instructions for performing electrical isolations activities. During the AHA, if the team of SMEs decides that a specific control needs to be included, a Disposition Report is generated with the Safe Work Permit. The Disposition Reports are divided into Management Controls, Technical Work Document Controls, Work Scope Definition Controls, and Other Controls (User Defined). In work package FDD-10135 "719-A Electrical Isolation Verification", information from the AHA identified asbestos as a significant hazard to SDD workers. An asbestos inspection in building 719-A identified asbestos in the walls, caulking, thermal system insulation, and in the building exterior. Controls were put in place by the work planner and FLM to ensure that workers do not disturb asbestos containing material.

A review of SDD work packages FDD-10135 "719-A Electrical Isolation Verification" and FDD-10097 "183-4L Electrical Isolation Verification" showed that controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered. The hazards are delineated in warning statement blocks in bold typing describing the hazards. In addition, notes are also in bold alerting workers to the appropriate personal protective equipment and pertinent administrative requirements. For example, in work package FDD-10097, before an activity specific hazard is encountered, the work instructions alert workers with the following statement: "**WARNING** Electrical shock hazard may exist. Everyone inside the Arc Flash Boundary **SHALL** be protected by the proper PPE listed in 18Q, procedure 2. NOTE: A qualified buddy per Manual 18Q, procedure 2 is **NOT** required to be in the Arc Flash Boundary unless needed to aid in the task of verification of absence of voltage."

3.5.4 Conclusion

The criteria for this objective were met.

Issues:

None

3.6 Performance Objective WPC-6: Work Planning and Control Oversight

Contractor personnel perform work in accordance with approved work control documents.

3.6.1 Criteria

1. First line supervisors and workers are knowledgeable of their work control documents and meet all applicable training and medical requirements.

2. Operations work control authority reviews and authorizes all work control documents prior to commencement of work. He/she is required to evaluate all work at a facility and/or site to ensure work activities of one scope do not adversely affect the safe work of another.

3. Effective pre-evolutionary briefings are performed.

4. First line supervisors and workers follow work control document instructions as written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their change control process.

5. First line supervisors and workers understand their stop work authority.

6. Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.

7. Lessons learned/feedback is incorporated into active and in-development work control documents in a timely manner.

3.6.2 Review Approach (for the initial baseline)

3.6.2.1 Document Review

1Y, 2.01 Maintenance Organization and Administration
2S, 4-3 Watchbill Administration and Watchstanding Proficiency;
2S, 5-3 Control Area Activities;
2S, 5-5 Control of Equipment and System Status
4B, 4.0 Qualification and Certification Programs
8Q, 122 Hazard Analysis
AHA # FDD 10135 – 719-A Electrical Isolation Verification
AHA # FDD 10097 – 183-4L Electrical Isolation Verification
AHA # FDD 10143 – 701-2C Electrical/Mechanical Cold & Dark
AHA # FDD 10248 – 107-C Electrical Isolation
STAR Database Report Numbers:

- 2004-CTS-011300
- 2005-CTS-001904
- 2005-CTS-003025
- 2005-CTS-002941
- 2005-CTS-004395
- 2005-CTS-004649
- 2005-CTS-005077
- 2005-CTS-005327
- 2005-CTS-006281
- 2005-CTS-007476
- 2005-CTS-006735
- 2005-CTS-008821
- 2005-CTS-008944
- 2005-CTS-001781

OSR Form 20-202, Electrical Work Expectations Acknowledgement
OSR Form 29-125, Electrical Worker/Supervisor/Manager Qualification
AHA FDD-10135, 719-A Electrical Isolation Verification

FDP 2.05, Site D&D Work Control Procedure
WSRC Manual 8Q, Procedure 32, Hazardous Energy Control (Lockout/Tagout)
WSRC Manual 18Q, Procedure 2, Safe Practices On or Near Electrical Conductors

3.6.2.2 Interviews

Site D&D Work Control Manager
D&D Operations Support Manager
D&D Operations Support Crew FLM
D&D Operations Support Crew Mechanics (2)

3.6.2.3 Observations

Pre-job Briefing on work package FDD-10135 (12/19/05)
719-A Electrical Isolation Verification activities (12/19/05)
SDD Cold and Dark All-Hands Meeting (12/20/05)
Critique on "292-F Incident" (12/20/05)

3.6.3 Discussion of Results

At Savannah River Site physical demands imposed upon personnel that are required to perform both routine and emergency functions are determined by the Operating and/or support management. Certified operators, fissionable material handlers, and certified supervisors receive a medical examination periodically to verify health and physical fitness to safely perform their assigned tasks. Certification records are kept in Site Training Records. Facility Management maintains a Qualified Watchstander List and ensures watchstanders whose names appear on the list are qualified on the watchstation(s) and have maintained proficiency. The Site Maintenance Training Manager develops and maintains the site core maintenance training programs. Maintenance Line Managers ensure that the maintenance staff has time for training activities, develops career progression plans and ensures he and his workers meet all applicable training requirements.

The team reviewed three FEB reports (Waste Solidification Project, Site Utilities Department, and Savannah River National Laboratory) and one assessment of the new Assisted Hazard Analysis procedure performed at D&D. These documents were reviewed to ascertain if these assessments were sufficient to determine if the contractor was meeting the criteria of WPC-6. Because there has been no FEB performed on the D&D organization, the team assessed if they are meeting these criteria.

On 12/19/05, a Pre-job Briefing on work package FDD-10135 "719-A Electrical Isolation Verification" was evaluated. The DDM discussed the hazards and controls for each of the six work scope sections. In addition, he discussed SDD specific information including the requirement to use low voltage gloves while cutting conduit with a portaband saw and the requirement for personnel entering the building to have a flashlight. The DDM signs on the cover of the Safe Work Permit authorizing work, signifying that he/she concurs with the hazard analysis and that applicable controls have been implemented or will be implemented prior to work execution; assigned personnel are qualified; current conditions and hazards are as analyzed; and the required pre-job briefing will be conducted before work execution. The FLM and workers also sign the Safe Work Permit acknowledging agreement with the hazards and controls, work scope, and compliance with safe work methods.

The LOQI reflects the SDD Training program requirements of PROGSDDTPDES000104, "SDD Training and Qualification Program". The SDD LOQI contains a comprehensive listing of SDD technicians and their training data. A current LOQI is disseminated weekly to each FLM to aid in ensuring only trained individuals are performing work. Additionally, the LOQI contains individual medical qualifications for the Hearing Conservation Program and Pulmonary Test. SDD is working with the Site Medical Department on releasing medical information relating to Beryllium, Lead, Asbestos and Hazardous Waste Operator qualifications so that this information can be included in the LOQI. (SDD can access this information through the AQM.) The reluctance to release the information pertains to the Medical Privacy Act.

All SDD work packages are reviewed by SDD Engineering to ensure that work performed by SDD does not impact other facilities' authorization basis. SDD Engineering performs a Management of Safety Basis (MSB) review if applicable. It is the responsibility of the DDM and FLM to verify facility conditions will support scheduled activities and to ensure that work activities are performed safely and in accordance with the work control documents as described in Procedure FDP 2.05. Procedure FDP 2.05 also requires the DDM and FLM to review the work scope, identified hazards and controls, and associated work documents to ensure the facility conditions support safe performance of work prior to authorizing the work activities. The FLMs sign the Safe Work Permit signifying that

he/she concurs with the hazard analysis and those applicable controls that have been (or will be) implemented. The FLMs also ensure that the facility conditions will support the safe performance of the work. For example, during the dismantlement and removal of building 221-35F in November of 2005, SDD had to evaluate all of the hazards associated with dismantlement of this facility to ensure their activities did not adversely affect the F-Canyon operations since Building 221-35F was located on the roof of the F-Canyon. Numerous rigging and lifting evolutions were performed to complete the dismantlement of the building. The building was safely dismantled and did not adversely affect the safe work in F-Canyon. Finally, it is the responsibility of all workers to stop work if an unsafe condition develops.

Pre-job briefings are required for work activities. Based upon the complexity of work, briefings may range from verbal communication between a Work Group Supervisor and Worker to a formal documented briefing. Work Control management reviews work order packages to ensure task readiness and verifies all requirements are satisfied, including permits and materials. The Work Control Operations authority provides or obtains work release after ensuring work package approvals have been obtained, and work scope will not adversely affect the facility or safe work of another ongoing work scope. Work release is authorized using the Safe Work Permit (SWP) as specified in 8Q, 122. The Shift Manager maintains overall authority and responsibility for the direction and control of all activities within the facility, and maintains an awareness of the facility status ensuring that facility equipment, including equipment operated by others in support facility operations is operated in accordance with written and approved procedures.

A pre-job briefing for electrical isolation verification of 719-A was observed. The FLM referenced the AHA and work package documents during the pre-job briefing. The planning of the work package included considerations for encountering asbestos during task performance and as a result, asbestos abatement personnel were included in the pre-job brief. The DDM discussed the hazards and controls for each of the six work scope sections. In addition, he discussed SDD specific information including the requirement to use low voltage gloves while cutting conduit with a portaband saw and the requirement for personnel entering the building to have a flashlight. Multiple times during the pre-job brief, the manager used photos and sketches incorporated in the work package to illustrate specific hazards and safety expectations. The FLM and mechanics were actively engaged in the briefing which made the briefing more effective. The workers questioned the need to obtain permission to re-enter the building prior to work. The FLM answered questions relating to personnel qualification requirements pertaining to safe electrical practices, arc flash determination, adequacy of the area public address system, and the availability of a standby fire extinguisher.

Work control documents are followed as written unless specified otherwise. Individual employees at all levels are the first line of defense to safe work. If issues arise during performance of a job scope first line managers/workers are expected to call for a 'time out'/'stop work' to reassess and resolve the issue. Therefore, all employees have the obligation and right to stop work immediately rather than continuing in an unsafe manner. Likewise, timeouts should be called anytime there are questions about whether work can proceed safely. This is defined in Procedure Manual 8Q, Procedure 1, Safety Policy and Program Responsibilities which is reviewed annually by every employee.

A work planning and control assessment was performed on the SDD task to verify electrical isolation of the 183-4L Facility. This task was directed by work package AHA FDD-10097 in which the scope of work was separated into five distinct sections. Upon completion of the package preliminary actions, the work group proceeded to the work instructions to perform verification of Infrastructure and Services Department (I&SD) isolations. During this evolution, it was determined that one of the isolation points was not "air gapped" (physical break) as required and the task was immediately stopped since control of hazardous energy could not be verified. The package indicated that a welding receptacle was supplied from one cubicle when it was actually supplied from a different cubicle due to mislabeled panels. The work crew placed the area into a safe configuration by taping, labeling, and barricading the area of concern within their scope and by placing a "Do Not Operate" tag on the cubicle in question. A follow-up walkdown was scheduled with I&SD personnel in order to establish a path forward. The crew followed the work instructions as written and when they discovered an unexpected condition they stopped work. Through interviews and observations, the assessment team concluded that D&D workers are familiar with their responsibility to stop work when unexpected hazards are discovered.

For Maintenance activities, PassPort Work Management System is updated with current status for work orders. Workers are instructed to document work progress in the PassPort system to provide smooth turnover and/or resource allocation when a job is not completed within a single shift or when work is stopped prior to completion. Workers input their labor hours and history into PassPort upon completion of a job. This history provides valuable information for future work planning and for trending of equipment performance. It also helps identify opportunities to improve work practices and increase maintenance productivity.

Document reviews confirmed that SDD work control documents contain a Work Package Status Log to record events incurred during the work activities including work package changes, work status, problems encountered, Lessons Learned, unexpected conditions, transfer of FLM responsibility, etc. Lessons learned and other feedback information is incorporated into active and in-development work control documents in a timely manner. Document reviews, interviews and observations indicate that planners review the site lessons learned database and Safety Toolboxes as part of developing work packages. Applicable lessons learned are incorporated into work methods, hazard controls, etc., by the Planners. For feedback impacting ongoing activities, a time out is taken and appropriate changes are made in accordance with FDP 2.05 change process.

Two SDD work packages, AHA # FDD 10143 – 701-2C Electrical/Mechanical Cold & Dark, and AHA # FDD 10248 – 107-C Electrical Isolation were reviewed. Each work package contained a section that included a detailed status log for the work being performed. The status for the work packages included information relative to the progress of work.

An interview was held with the Manager of the SDD Work Control Manager. Results of that interview are discussed below:

In SDD, the work control manager screens lessons learned for applicability to SDD planners. Applicable lessons learned are discussed and documented through routine forums such as staff meetings with work planners, tool box meetings, etc. The primary source of lessons learned is obtained from onsite events. In addition the work control manager has the primary responsibility for screening and approving/rejecting proposed changes to the SDD Work Control Procedure (FDP 2.05)

During the work planning and control assessment performed for the SDD task to verify electrical isolation of the 719-A Facility, a pre-job briefing was held at the work location using the AHA and work package information. The D&D Operations Support Manager discussed the hazards and controls for each of the six work scope sections as well as D&D specific information. The Support Crew FLM and Mechanics were visibly involved with the briefing.

3.6.4 Conclusion

The criteria for this objective were met.

Issues:

None

3.7 Performance Objective WPC-7: Work Planning and Control Oversight

The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in development work control documents.

3.7.1 Criteria

1. The contractor has scheduled and performed independent and self assessment of the work planning and control process.

2. These activities are of sufficient scope, detail, and quantity that the contractor can ascertain the status of their work planning and control process.

3. Line managers periodically perform surveillances, which include the observations of job walk downs and JHA walk downs/meetings, pre-evolution briefings, and work performed to work control documents.

4. Line managers periodically review in-development and approved work control documents.

5. The contractor tracks and trends the results of oversight activities performed on their work planning and control process and takes appropriate actions.

3.7.2 Review Approach (for the initial baseline)

3.7.2.1 Document Review

WSRC MP 1-01 5.35 Correction Action Program
WSRC 1B 4.23 Site Tracking, Analysis and Reporting
WSRC 1Q 15-1 Control of Nonconforming Items
WSRC 2S, 1.3 Procedure Compliance
WSRC MP 1.22, Integrated Standards Based Safety Management Program
WSRC 12Q, Assessment Manual
WSRC Q11, Procedure 3.0 Facility Evaluation Board Procedure
Assisted Hazard Analysis Implementation Assessment October 2005
AHA Control by Task Functionality Assessment March 2005
SDD Self Assessment Schedule 2005
SDD Self Assessment Schedule 2006
SDD Performance Analysis October 30, 2005
Site Tracking, Analysis and Reporting (STAR) Database
Manual C2, Procedure FDP 2.05, Revision 3, SDD Work Control Procedure
Work Package FDD-10143, 710-2C Electrical and Mechanical Isolation Verification
Work Package FDD-10248, 107-C Electrical Isolation
8 DDM Field Observations
Mentoring Feedback Meetings

3.7.2.2 Interviews

Site D&D Work Control Manager

3.7.2.3 Observations

None

3.7.2 Discussion of Results

The contractor has established the WSRC 12Q Assessment Manual, which provides a requirements-based two-tiered system consisting of a) *Management Assessment*, based on 10 CFR 830.120 Subpart A, (QA Rule) and DOE O 414.1C Criterion 9, comprised of self-assessments and performance analysis using strong Line Management involvement; and b) *Independent Assessment* based on 10 CFR 830.120 Subpart A, and DOE O 414.1C, Criterion 10, *Independent Assessment:* a consolidated, multi-disciplined, independent, company-level ISM Evaluation (ISME) activity, performed by Facility Evaluation Boards. WSRC 12Q, Procedure SA-1, "Self-Assessment" provides the self assessment process requirements. WSRC 12Q Procedure SA-1, "Performance Analysis" provides the performance analysis process requirements. WSRC 12Q, Procedure FEB-1, "Facility Evaluation Board" and Procedure FEB-2, "Facility Evaluation Board Annual Planning and Reporting" provides the process requirements for Operations Evaluation Department (OED) personnel assigned as members of the FEB and FEB Project Review Team (FEB PRT) program as well as performing independent assessment and reporting the results of each evaluation directly to the WSRC President. Specific process requirements for performing these independent ISMEs is provided by WSRC 11Q, "Operations Evaluation Department Administrative Procedure Manual", Procedure 3.0, Facility Evaluation Board Procedure". The scope of these WSRC procedures includes application to all WSRC activities and that of their subcontractors using a graded approach.

The expectation basis for performance of both self assessment and independent assessment is documented in WSRC-SCD-4, "Assessment Performance Objectives and Criteria". These Performance Objectives and Criteria (POC) are linked to a "smart sample" of requirements from the WSRC Standards/Requirements Identification Document (S/RID) 20 functional areas (FAs) that are the contract ES&H-related Federal, State, or local regulation applicable to WSRC and implemented by company-level Procedure Manuals. SCD-4 consists of company wide functional areas, which total 24 in number, each representing a management program, singular in scope. Some of the 24 FAs of SCD-4 are in alignment with the S/RID FAs (not necessarily the same FA number), such as FA-10 "Maintenance", FA-08 "Quality Assurance", FA-02 "Construction", while others are FAs unique to SCD-4 such as FA-01 "Design", FA-06 "Safety Documentation", FA-07 "Environmental Protection & Waste Management", FA-09 "Configuration Management", FA-14 "Review, Assessment and Oversight", and others. Each SCD-4 FA is further subdivided into FA Elements, each of which is further divided into one or more POCs.

Assessments using POCs selected from SCD-4 have proven appropriate for the following purposes:

- demonstration of readiness for nuclear activity startup or restart
- effective identification of deficiencies and opportunities for performance improvement through self-assessment and independent oversight of operational activities
- providing a focus for management to evaluate performance data, and
- demonstration of field adherence to WSRC policies and procedures when applied to operational activities

The contractor has numerous methods for conducting both facility independent and self assessments of various aspects of the work planning and control process such as Management Evaluations, Monitored Evolutions, Senior Supervisory Watch, Deliberate Operations, Programmatic Reviews, and Functional Area Performance Analysis. These assessments range from actual field observations which include attending pre-job briefs, monitoring evolutions, and/or personnel interview, to administrative reviews of work control documents. In addition, Shift Managers (or a position of similar duties and responsibilities such as SDD's DDM) review finished procedures to ensure the procedure has been performed in accordance with Site requirements; any discrepancies or omissions are resolved; entries are legible and entered correctly; calculations performed are correct; acceptance criteria has been met/evaluated; identified problems are dispositioned and appropriate corrective actions have been initiated; and reports or notifications required by identified problems or procedural requirements have been performed. Findings/Issues, and other feedback are input and tracked through the Site Tracking, Analysis and Reporting System. An electronic database process, *Site Tracking, Analysis, and Reporting (STAR)* per Procedure Manual 1B, MRP 4.23, defines the process for documenting and managing the resolution of identified problems to meet the requirements of the Corrective Action Program defined in WSRC Management Policy MP 5.35. The STAR process is similarly used for other facility/organization/project commitments and actions (i.e., non-problems) not associated with MP 5.35. The STAR database is an electronic format where problems are entered, analyzed, and associated actions tracked to closure. The STAR program contains Issue Reports that provide a description of the finding, problem evaluation including the root cause, correction actions, and closure documentation.

Performance Analysis (per Procedure Manual 12Q, PA-1) is a process, conducted periodically, for identifying recurring problems and prioritizing improvement opportunities from the analysis of feedback information from a variety of sources. The goal of the Performance Analysis process is to ensure that recurring problems, issues, or events are identified and corrected preventing more serious or significant occurrences. The Performance Analysis process integrates event based and review-based operational data from a variety of sources including occurrence reports submitted to the Department of Energy (DOE) Occurrence Reporting and Processing System (ORPS), WSRC Problem Identification Report (PIR) or Site Tracking, Analysis, and Reporting (STAR) managed problems, Management Assessment processes (including Performance Analysis and Self-Assessments), and other non-ORPS reportable event data. This process meets the ORPS and the Price-Anderson Amendments Act (PAAA) requirements and supports implementation of the DOE Quality Assurance Rule and Order. Line Facility Managers are required to conduct Performance Analyses of their operations semiannually. Performance Analysis at the company level is performed quarterly of both event-based and review based data for a 12-month period. The Performance Analysis Advisory Group (PAAG), sponsored by the WSRC Management Council, manages the quarterly site-level Performance Analysis process. The Disciplined Operations Summary Indicator (DOSI) in the Quarterly Site-level Performance Analyses Reports analyzes WSRC ORPS event data and serves as a site high-level indicator for Disciplined Operations performance. The DOSI utilizes statistical control bands and includes an Alert feature to serve as a leading indicator of declining Disciplined Operations performance.

The team reviewed these WSRC manuals, procedures, and processes against the WP&C CRADS and associated criteria. It was concluded the Independent and Self Assessment processes of WSRC 12Q Assessment Manual and SCD-4 currently encompass the Work Planning and Control requirements through multiple functional areas. 12Q Manual describes WSRC's self-assessment process and defines the minimum requirements for the process. The goal of the self-assessment process is to identify and correct problems that hinder the organization from achieving its objectives and to prevent the recurrence of more serious problems. The program consists of assessments that are contractually required, required by procedure, and assessments that are based on management discretion. In reviewing several self-assessment plans (SUD & SDD) it was noted that the current self-assessment process could result in one or more functional areas not being assessed due to the discretion allowed by the procedure (i.e., FA-8). A matrix was developed to determine how the SCD-4 assessment criteria satisfied the WP&C CRADS and criteria and is provided as Appendix "A". The team's review of applicable SCD-4 criteria identified in the matrix concluded that FA-8 provided essential self assessment criteria for the work planning and control process. This procedural flexibility should be reviewed to determine if the results fully meet the expectations and intent of the 12Q process. The team determined this to be an opportunity for improvement **(WPC-7-OFI-1-1).**

The most obvious area for assessing work planning and control is SCD-4 Functional Area 10, Maintenance. However there are other functions that have processes for work planning and control that are not fully integrated with other applicable site procedures. While there is no DOE requirement to have a central system or single

functional assessment for WP&C assessments, WSRC has an integrated approach that defines the contractual requirements to the functional area requirements. Even though this process did not hamper work being performed safely or consistently, it was difficult to evaluate the CRAD criteria for WP&C. The team recommends this could be an opportunity where WSRC could further integrate the various work planning and control processes into existing functional areas and/or site procedures. The team determines this to be an opportunity for improvement **(WPC-7-OFI-1-2).**

WSRC implemented STAR site wide in July 1, 2004 which was a major step in being able to capture problems in a single database and, more importantly, capture data (causes, functional bins, etc.) associated with problems. The STAR system is a valuable tool that also supports meaningful performance analysis. An effectiveness review has been performed on STAR data and corrective actions have been implemented. This continues to be a focus area by the WSRC President and a second effectiveness review has been scheduled in 2006 to ensure the quality and consistency of data input into the system.. This action has been noted in the response for DNFSB Recommendation 2004-1, Commitment 25, Assessment of Feedback and Improvement Processes at SRS. **(WPC-7-OFI-2)**

Following are the results of assessments from SDD of CRAD WPC-7:

In March 2005, a scheduled assessment of the AHA Control by Task Functionality was performed. The objective was to perform a routine internal assessment to ensure planners are using Control by Task Functionality available in the AHA and to ensure facility personnel adequately discuss the AHA hazards and controls in the pre-job briefings. The scope and detail of the assessment was adequate. The STAR tickler noted that there were no findings.

In October 2005, an assessment of the new "Assisted Hazard Analysis" process was performed to ensure proper implementation of the new process. The assessment was focused primarily on documentation review and personnel interviews. No major issues were identified during the assessment. Quarterly assessments for the Work Planning and Controls Program are scheduled to be conducted in 2006 as delineated in the SDD Self Assessment Schedule for 2006.

DDMs and project managers frequently perform surveillances, which include the observations of job walkdowns and JHA walkdowns/meetings, pre-evolution briefings, and work performed to work control documents. The D&D Manager is responsible for the authorization of work and safe and efficient performance of D&D activities.

Most issues identified in the field are not documented in the STAR database but are corrected on the spot. This prevents the STAR database from being overloaded with nebulous issues and allows for immediate feedback to work crews and improvement in work performance.

Additionally, DDMs perform at least four documented Management Field Observations per month. Eight documented Management Field Observations performed by three line managers were reviewed. The documents contain dates and activities observed.

Document reviews indicate that FLMs are intricately involved in work package development, scope walkdowns, hazard analysis activities and pre-job briefings. Documented pre-evolution briefings are conducted by the FLMs on the first day of every work week. Informal job-task briefings are conducted by the FLM on a daily basis as described in FDP 2.05. First line managers who supervise work crews are expected to be on the job site while crews perform work. Additionally, two work packages were reviewed and both had completed pre-job briefing checklists and attendance rosters.

SDD established and implemented a formal mentoring program in April 2005. SDD mentors are senior level personnel with a considerable level of management training and safety expertise. They provide on-the-job guidance and feedback to workers performing hazardous deactivation activities. Several mentoring feedback meetings were observed. The implementation of the mentoring program appears to be having a positive impact on SDD work crews as indicated by increased recognition of hazards by FLMs and crew members and more self imposed Time-Outs. On November 21, 2005, SDD declared success in the mentoring program objectives and concluded the formal program. The expectation of continued field presence and mentoring was emphasized at the conclusion of the formal program.

DDMs frequently review in-development and approved work control documents as described in FDP 2.05. The FLMs and DDMs provide input on work plans and techniques during the work planning process. A work planning team for complex D&D tasks is assembled to identify hazards and plan work. DDMs are considered subject matter experts and are required to be present for team hazard analysis walkdowns. Project Managers, DDMs and FLMs are required to approve and sign the work packages. DDMs also grant work authorization which requires extensive knowledge of the work package and activity. Two work packages were reviewed and the appropriate levels of

management had approved each of the work packages. The status log in work package FDD-10143 contained documentation of an additional review and approval by the Programs and Work Control Manager.

Additionally, every electrical and mechanical isolation work package is reviewed by designated managers before it can be released to the field to work. This review is a SDD-mandated activity implemented to ensure compliance with SDD's electrical and mechanical isolation program as defined in C2 Manual, Procedure 2.04, Electrical and Mechanical Isolations of Facilities to Support D&D Work.

Two self-assessments of work control were performed in SDD in 2005. The two assessments focused primarily on the use of the AHA and discussions of hazards and controls in pre-evolution briefings.

Review of the FEB reports for the selected facilities found similar documents reviewed, activities included for observation, and personnel interviewed. Results were consistent with that found for SDD.

The STAR Database is used for tracking and trending of corrective actions resulting from oversight activities, management reviews, and critiques. The SDD Performance Analysis, October 30, 2005, was performed in accordance with 12Q, Procedure PA-1, Performance Analysis. The analysis was performed for the 12 month period from October 1, 2004 through September 30, 2005. The process trends data and identifies commonalities within the various issues and determines if any supplementary or additional corrective actions are necessary. No supplementary or additional corrective actions were required as a result of this analysis.

The team concluded from the assessment of SDD, review of the selected FEB reports, and document reviews that the contractor does periodically track and trend the results of general oversight activities and issues in the STAR database. However, this analysis does not specifically focus on work planning and control processes but tracks and trends multiple functional areas. The team found that tracking and trending analysis of work planning and control is also affected by the multiple functional areas that make up the contractual integrated work planning and control process. WSRC has an integrated process that defines the contractual requirements to the functional area requirements.

The contractor has an established process that requires line management and assessment personnel to perform timely assessments/surveillances of the work planning and control process. WSRC meets the objective of CRAD WPC-7 by having a work planning and control process that is derived from a multitude of contractual requirements.

3.7.3 Conclusion

The criteria for this objective were met.

Issues:

WPC-7-OFI-1

1. The Independent and Self Assessment processes of WSRC 12Q Assessment Manual and SCD-4 program consists of assessments that are contractually required, required by procedure, and assessments that are based on management discretion. In reviewing several self-assessment plans, it was noted that the current self-assessment process could result in one or more functional areas not being assessed due to the discretion allowed by the procedure. This procedural flexibility needs to be reviewed to determine if the results meet the expectations of the 12Q process.

2. The most obvious area for assessing work planning and control is SCD-4 Functional Area 10, Maintenance. However there are other functions that have processes for work planning and control that are not as clearly identifiable in other applicable site procedures. While there is no DOE requirement to have a central system or single functional assessment for WP&C assessments, WSRC could further integrate the various work planning and control processes into existing functional areas and/or site procedures.

WPC-7-OFI-2 WSRC continues to capture issues in STAR for assignment of corrective actions, tracking corrective action to completion, effectiveness review of the corrective action(s), and for tracking and trending. Another effectiveness review is scheduled in 2006 to ensure the quality and consistency of data input into the system. This action is documented in DNFSB Recommendation 2004-1, Commitment 25 response.

Appendix A – Team Member Biographies

Mike Ward: Mr. Ward received a Bachelor of Science degree in Mechanical Engineering from Clemson University in 1985. He has been at the Savannah River Site since 1988 and joined the Operations Evaluation Department on October, 2001 as a lead evaluator in the Maintenance functional area. While in this assignment he has performed numerous Integrated Safety Management Evaluations, including several programmatic reviews. Mr. Ward also participated in the 2003 WSRC ISMS Reverification and the Due Diligence Review conducted for the Idaho Cleanup Project for CH2M♦WG.

Prior to his current assignment, Mr. Ward was the Work Management Center Manager for F Canyon responsible for the planning, scheduling and outage management. Prior to that assignment, Mr. Ward was the Crane Maintenance Manager for the Canyons. Prior to that assignment, Mr. Ward held support and line management positions in other maintenance organizations including the Savannah River Technology Center, High Level Waste, Central Services Works Engineering and Reactor Works Engineering.

Dennis Booth: Mr. Booth received his Bachelor of Science in Electrical Engineering (BSEE) degree for the University of South Carolina in 1978. He has over 27 years of service at Washington Savannah River Company(WSRC). In his tenure at WSRC, he has held a number of professional and managerial positions in Operations, Maintenance and Engineering. His work experience has been in nuclear operating facilities, non-nuclear operating facilities and facility manager position for Research and Development (R&D) type facilities. He has held entry level to senior level managerial positions in both Operations and Maintenance where work control processes and procedures have been used extensively. In his senior maintenance manager's assignments, he had responsibility for all facets of maintenance including the work planning, coordination, execution and closure of maintenance activities. For the past 3 years, he has served as the Site's Maintenance Program Manager. He is responsible for assuring maintenance programs are in compliance with regulations, DOE Orders, codes and standards and contractual requirements. This includes development/implementation of a standard maintenance program for cost effective maintenance policies and procedures for site-wide consistency.

Tim Flake: Mr. Flake has been employed with Westinghouse Savannah River Company (WSRC) for more than 24 years. He has moved through positions of increasing responsibility in the Operations, Engineering, and Maintenance functional areas. Mr. Flake is currently the SRS Subject Matter Expert for the Site's CMMS and provides expertise in all facets of Work Control. Mr. Flake was a key member of the Maintenance Reengineering initiative undertaken at the Savannah River Site (SRS). In this capacity he developed Work Control process flows and corresponding CMMS business processes. Mr. Flake is currently participating as a cross-functional expert in the development and implementation of the SRS Hazard Analysis program. Mr. Flake also recently participated on a DOE complex wide team to develop Work Control/ISMS assessment criteria for DOE to use to assess contractors. Mr. Flake has received a WSRC Presidents Award for implementation of the Hazard Analysis program at SRS and a WSRC Vice Presidents award for the start up and implementation of the PassPort work management system.

Mike Gibson: Mr. Gibson has worked at the Savannah River Site for 26 years. After spending five years in the Site Power and Water Facilities as a Maintenance Mechanic, he was transferred to support Reactor restart efforts in 1985. As a result of his restart experience, he was promoted in 1987 to First Line Maintenance Manager in the Saltstone Facility, responsible for spare parts procurement and set-up, equipment and system turnover and checkout procedures, system and component labeling, system cold run procedures, and operational readiness assessments. Following successful Saltstone cold runs, he returned to the Reactor areas to first lead the Maintenance Procedure effort for Reactor Restart and later the Mechanical Maintenance Training Program as Training Manager. During this assignment, he developed the first stand alone Job Performance Measure and Task to Training Qualification Matrix for Mechanical Maintenance Personnel. He also led the Mechanical Maintenance efforts for two training accreditation assist visits and served as a member of the Southeastern States Nuclear Training Association (SSNTA). In 1993, Mr. Gibson accepted a

position as the Operations Procedure Manager in H Canyon and later was assigned as the Acting Operations Administrative Manager responsible for Waste Certification, Document Control, Operating Procedures, Emergency Preparedness, and Waste Handling. Following consolidation of the Canyon Facilities in 1995, Mr. Gibson served as a lead for the Nuclear Materials Management Division Training and Procedures organization and successfully managed the procedural coordination activities as part of the H-Canyon Senior Restart Team. This assignment involved multiple facility start-up activities, including processing LEU shipments for use in TVA Reactors and fuel processing for the Cassini Mission to Mars. Each of the missions required some level of formal start-up activities including Site Readiness Assessments, DNFSB Reviews, or Westinghouse and DOE Corporate Operational Readiness Reviews. Following consolidation of Reactor and Canyon Facilities in June 2001, Mr. Gibson returned the Reactor area and was tasked with improving the Spent Fuel Operations Procedure Program to a level consistent with the Nuclear Materials Management Division. In 2002, Mr. Gibson accepted a position in the Site Maintenance Programs Group responsible for the Site Maintenance Manual, Site Safe Electrical Practices Manual, Site Hoisting and Rigging Manual and the Hazard Analysis Manual. In this assignment, he performs multiple assessments for Operations, Maintenance, and Decontamination and Demolition Activities.

Jackie Wilkinson: Mrs. Wilkinson has been at the Savannah River Site since 1977 and has experience in numerous functional areas. During her years at Savannah River Site, Mrs. Wilkinson has served as electrical mechanic, training instructor, training manager, procedure manager, maintenance manager and a member of the organization responsible for implementation of the overall Site Maintenance Program. For the past 10 years she has been assigned to the Site Maintenance Services Group serving as the Site Subject Matter Expert for Functional Area 10 – Maintenance as it relates to Standards Requirements Identification Documents (S/RID), SCD-4 Assessment Criteria, Labor Standards, and work control.

Prior to the Site Maintenance Services Group assignment, Mrs. Wilkinson was Manager of the General Maintenance Group for a Research & Development facility. This assignment included management of mechanics, work control, maintenance procedures, and training of maintenance personnel. Earlier in her career Mrs. Wilkinson was the Electrical Training Manager for the Reactor Restart Program, where she redesigned the Electrical Mechanical Training Qualification Program for Reactor Restart and led the program through training accreditation assist visits.

Terry Hunter: Mr. Hunter has been at SRS for the past 1-1/2 years. He has 23 years experience in the work control arena. Over the 23 years Mr. Hunter has served as a work control planner, procedure writer and management of work control planners and procedure writers in support of nuclear operations and decommissioning at Fort St. Vrain Nuclear Generating Station and decommissioning and demolition of nuclear facilities as well as non nuclear facilities at Rocky Flats Environmental Technology DOE Site and at Savannah River DOE Site. During his time at SRS, Mr. Hunter has served on teams for AHA Procedure Revision, AHA Implementation, and AHA Sponsor & Champion for SDD facilities.

Edwin Deshong, III: Mr. Deshong has been at SRS for 13 years. His SRS work experience included five years as a Facility Representative providing oversight of Deactivation and Decommissioning activities. Mr. Deshong's former responsibilities include providing radiological engineering technical support to the DOE-SR Assistant Manager for High Level Waste (AMHLW) organization. In June of 2004, Mr. Deshong participated in a Facility Representative (FR) Cross Training assignment with the Richland Operations Office (RL) in Richland, Washington. The primary purpose of this detail assignment was to exchange information, to share operational oversight ideas, and to assist with Deactivation and Decommissioning (D&D) program improvements. Mr. Deshong was assigned to the Assistant Manager for Safety and Engineering (AMSE) organization where he reported to the Director of the Operations Oversight Division. He reported to the Plutonium Finishing Plant (PFP) located in the 200 West Area of the Hanford Site where he assumed his FR responsibilities.

Mr. Deshong is a fully qualified DOE SR Facility Representative providing oversight of D&D and SGCP activities at SRS. In July of 2005, he successfully passed the re-qualification examination to include Dynamic Underground Stripping (DUS). He received a Bachelor of Science degree in

Electrical Engineering Technology from South Carolina State University in 1993. In May of 2000, Mr. Deshong received his MS Degree in Computer Systems Management from the University of Maryland.

Michael Johnson: Mr. Johnson has more than 27 years experience in the nuclear and construction industries, including eight years experience in nuclear decommissioning, more than 15 years experience in nuclear power, and three years nuclear naval shipyard experience. Key areas of expertise include project and program management, personnel management, technical proficiency and systems design, strategic planning, and budget and schedule development. Specialty skills include computer-based hydraulic flow modeling, probabilistic risk assessment, and nuclear accident analysis. Nuclear decommissioning experience encompasses two years at the Savannah River Site, three years at the Rocky Flats Environmental Technology Site and three years at the Maine Yankee nuclear power plant.

Mr. Johnson has been Manager of projects for the deactivation and demolition (D&D) of over 250 nuclear and non-nuclear facilities at the Savannah River Site (SRS) and is responsible for ensuring incorporation of Integrated Safety Management practices into all project work documents and activities, including work hazard identification and implementation of hazard controls. In this position he has developed and implemented the Work Control Program for Site D&D; Supervised development and implementation of SRS Site D&D Project Schedule. Established the SRS Site D&D Project Management Program.

Prior to SRS, Mr. Johnson was Manager of Projects for the decommissioning of two major plutonium production facilities at the Rocky Flats Closure Project where he oversaw Integrated Work Control Safety Management Program for these facilities. At Rocky Flats he was responsible for ensuring incorporation of Integrated Safety Management practices into all project work documents and activities, including work hazard identification and implementation of hazard controls.

Mr. Johnson also has 3 years experience as Project Manager/Senior Engineer at Maine Yankee Atomic Power Company where he served as a top-level project manager and senior engineer for Tekton Resources. His responsibilities included oversight for more than $40 million of decommissioning activities. He was a member of the Maine Yankee Decommissioning Oversight Group and the Maine Yankee Independent Safety Review Committee. He was also responsible for the management of all pre-decommissioning mechanical modifications for the plant and as senior engineer, responsible for the design and initial startup testing of spent fuel pool island HVAC systems.

Larry W. White: Mr. White has been employed by DOE at SRS for 18 years. He is a qualified Facility Representative at F Tank Farm. He is also qualified at all Waste Disposition facilities except Solid Waste. Prior to SRS he served 23 years in the US Navy as a nuclear trained Machinist Mate and retired as a Master Chief (E9). He served on the Replacement Tritium Facility Operational Readiness Review (ORR), reviewing the maintenance portion of the facility. He also served on several Readiness Assessment teams in Waste Disposition and led the Validation Team for sludge removal from Tank 18. Prior to being assigned as a facility representative at Waste Disposition, he was a qualified facility representative for K Reactor start up.

J.J. Hynes: Mr. Hynes is the Senior Facility Representative for Site Deactivation and Decommissioning (SDD) and Soil and Groundwater Projects for the Assistant Manager for Closure Project at the Savannah River Site. He holds a B.S. in Biology with an emphasis in Health Physics and has 24 years of experience in the nuclear field. Mr. Hynes has been with DOE since June 1991 and has previously been assigned as a Facility Representative in all Nuclear Material Stabilization facilities. He has most recently provided oversight of construction, startup, and operation of two significant SRS projects, namely Soil and Groundwater's Dynamic Underground Stripping Project and the Highly Enriched Uranium Blend Down Project, an initiative to provide commercial grade uranium to the Tennessee Valley Authority for use as commercial nuclear fuel. Mr. Hynes has served as a Subject Matter Expert for the Phase I and II ISMS Verification at Wackenhut Services, Inc. at SRS, as a member of the Phase II, Part II ISMS Verification Team at INEEL, and a member of the Focused ISMS Review Team at the Office of River Protection in September 2002. He has also been a team leader and team member for several DOE and contractor led Readiness

Assessments for Nuclear Material Stabilization facilities at SRS. Mr. Hynes served as Chairman of the Facility Representative Council at SRS for three years from 1999-2001. Prior to coming on board with DOE-SR, Mr. Hynes was employed at Charleston Naval Shipyard where he served in the Nuclear Engineering Department as a Chief Refueling Engineer responsible for the safe refueling of naval nuclear powered submarines.

John Melvin: Mr. Melvin is a Senior Technical Advisor in the Safety and Radiation Protection Division, which is part of the Office of Environment, Safety and Health. In the this capacity Mr. Melvin is responsible for Integrated Safety Management and is the DOE program oversight of the contractor's Training and Qualification Program. He has a B.S. in General Engineering with approximately 32 years of experience conducting or overseeing nuclear and non-nuclear work and operations. Mr. Melvin has been with DOE since November 1994 and has previously been assigned as a Facility Representative in the High Level Waste facilities and as a Senior Facility Representative for oversight of Site D&D activities. Experience at SRS also includes assignment as the DOE Program Manager for the Site Radiological Protection Program. Mr. Melvin has participated in two Operational Readiness Reviews (ORRs) that included K-Area Material Storage Facility (KAMS) and H-BLine Phase II as well as a number of other DOE special assignments of this level of impact. Typical area of expertise provided for these assignments were maintenance, start up testing, radiological controls, and nuclear safety. Prior to joining DOE-SR, Mr. Melvin was employed at Charleston Naval Shipyard where he served in the Nuclear Engineering Department as a Nuclear Chief Test Engineer. In this capacity he was the senior civilian responsible for reactor safety of an assigned propulsion plant. Experience in this capacity included all aspects of scheduling, planning, control and performance of overhaul work, preventative maintenance, system testing, refueling operations, reactor plant start up and testing, power range testing, engineering design and conversion work, and decommissioning.

Teresa Tomac: Mrs. Teresa M. Tomac received a Bachelor of Science degree in Civil Engineering from the University of South Carolina in 1993. She has worked at the Savannah River Site for 14½ years. She initially worked in the Separations Program Division and was responsible for H-Canyon programs and Separations projects. In 1995, Teresa became a Facility Representative and provided oversight of the H-Canyon and HB-Line facilities. Since 2003, she has worked as a Facility Representative providing oversight in Site Deactivation and Decommissioning (SDD) and Soil and Groundwater Projects. She has recently performed oversight of construction, start-up and operations activities of the Soil and Groundwater Dynamic Underground Stripping Project in addition to oversight of various SDD projects.

Teresa has served on numerous readiness assessment teams, validation review teams and performed oversight of contractor led readiness assessments. These teams include Readiness Assessments for Start-up of the F-Canyon Second Plutonium Cycle, H-Canyon Restart of Second Uranium Cycle and Neptunium Cycle Processes, Dissolution of Sterling Forest Oxide Fuel in H-Canyon, H-Tank Farm 2H Evaporator Cleaning Process, H-Canyon Shipment of Depleted Uranium to H-Tank Farm, H-Canyon Support of HB-Line Phase II Start-up and Mixed Scrap Processing in HB-Line Phase I. She also served on the DOE HB-Line Phase II ORR Validation Review Team.

Teresa also led an investigation to determine the adequacy of maintenance of stored equipment for the Canyon Exhaust System Upgrade Project which encompassed both F-and H-Areas. Significant issues were identified which caused the contractor to revise their storage program and define protocol for definitive equipment ownership.

Appendix B – List of Acronyms

AHA	Assisted Hazard Analysis
CIR	Classroom Implementation Record
CRAD	Criteria and Review Approach Document
DWPF	Defense Waste Processing Facility
EM	Environmental Management
ESE	Energy, Science, and Environment sites
ETF	Effluent Treatment Facility
FR	Fire Retardant
HCD	Hazard Category Determination
ISME	Integrated Safety Management Evaluation
JHA	Job Hazard Analysis
MIP	Maintenance Implementation Plan
NFPA	National Fire Protection Association
PI	Principle Investigator
PRT	Program Reporting Tool
QA	Quality Assurance
R&D	Research & Development
S/RID	Standards/Requirements Identification Document
SDD	Site D&D
SME	Subject Matter Expert
SRNL	Savannah River National Laboratory
STAR	Site Tracking Analysis and Reporting System Issue Reports
STR	Site Technical Representative
SUD	Site Utilities Department
SWP	Safe Work Permit
WP&C	Work Planning & Control
WSD	Work Scope Definition Checklist
FRAP	Functions, Responsibilities, and Authorities Procedure
FR	Facility Representative
SIMTAS	Site Issues Management and Technical Assessment System
USFS	United States Forestry Service
SREL	Savannah River Ecology Laboratory
CONOPS	Conduct of Operations
AMWDP	Assistant Manager for Waste Disposition Project
TWP	Typical Qualification Program
WSRC	Westinghouse Savannah River Company

Attachment A

Matrix of CRAD Performance Objectives to SRS SCD-4 Functional Area Assessment Criteria

SCD-4 Functional Areas Reviewed for below matrix:

FA-2 Construction
FA-3 Management Systems
FA-4 Training & Qualification
FA-8 Quality Assurance
FA-10 Maintenance
FA-11 Radiation Protection
FA-12 Fire Protection
FA-20 Occupational Safety & Health
FA-21 Procurement
FA 22 Conduct of Operation
FA-23 Project Management

WPC-3	**Performance Objective WPC 3: Work Control Program Documentation**	
	The contractor has developed an effective work planning and control process.	
Criteria 1	Contractor work control manual/procedure for initiating, analyzing, and developing work control documents, including job hazard analysis, is approved and implemented.	SCD **10**-2.1.1; **10**-2.2.1; **22**-22.16.1
Criteria 2	The contractor's work control process establishes the level of review and approval for different types of work control documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work activity.	SCD **8**-2.8.1; **10**-2.4.1; **10**-2.6.1 **22**-16.4.1;
Criteria 3	The contractor has established work planning/control requirements for all personnel performing work at their site, including subcontractors. Affected personnel are trained on these requirements.	SCD **3**-2.2.1; **3**-2.7.1; **4**-2.4.6.1; **10**-2.2.1; **10**-2.3.1; **22**-22.2.9
Criteria 4	The contractor's work control manual/procedure includes turnover requirements when line management and/or first line supervisor responsibilities are transferred.	SCD **22**-22.12.1; **23**-2.3.1;
Criteria 5	The contractor's work control manual procedure includes a process for lessons learned/feedback during the execution of work control activities, including incorporation of lessons learned into active and in development work control documents.	SCD **10**-2.4.1; **10**-2.9.1; **20**-2.9.7
Criteria 6	The contractor's work control manual/procedure includes a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or work control manual/procedure.	SCD **10**-2.4.1; **10**-2.6.2; **10**-2.9.1; **23**-2.1.1
Criteria 7	The qualification requirements for Work Control Managers and Planners are established.	SCD **8**-2.2.1;**10**-2.3.1; **10**-2.4.1; **22**-22.2.9
Criteria 8	Records that document the successful completion and qualification of Work Control Managers and Planners are retained and auditable.	SCD **4**-2.48.1; **10**-2.4.1; **10**-2.1.1; **22**-22.5.5

WPC-4	**Performance Objective WPC-4: Work Planning and Control Activity Definition and Hazard Identification**	
	Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.	
Criteria 1	Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries are understood.	SCD **10**-2.4.1; **10**-2.6.1; **11**-2.1.1; **20**-2.8.1; **23**-2.1.7
Criteria 2	A team comprised of the appropriate personnel (e.g., planner, work supervisor, workers, safety and health Subject Matter Experts (SME), etc.) is selected by line management to participate in the development of the work control document.	SCD **10**-2.4.1; **10**-2.6.1; **20**-2.8.1
Criteria 3	The team performs effective walk downs and Job Hazard Analyses in order to develop work step techniques and identify possible hazards and their associated controls.	SCD **3**-2.7.1; **11**-2.5.1; **20**-2.8.1

Criteria 4	The team considers potential upset conditions, accidents, and "what if" scenarios and their consequences during the walk downs and Assisted Hazard Analysis.	SCD **20**-2.8.1; **20**-2.10.1
Criteria 5	The team selects controls based upon the following hierarchy: (1) hazard elimination/reduction, (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.	SCD **11**-2.5.1; **22**-22.2.5
Criteria 6	The team ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction). [This criteria addresses potential loss of safety function during D&D and may not be applicable to all work activities]	SCD **11**-2.5.1; **20**-2.8.1; **22**-22.2.5
Criteria 7	The team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.	SCD **20**-2.9.1; **20**-2.9.3

WPC-5 Performance Objective WPC-5: Work Planning and Control Process

The contractor work planning process generates work control documents that lead to safe and efficient completion of work activities.

Criteria 1	The work scope and associated boundaries are clearly defined.	SCD **10**-2.6.1; **21**-2.1.1; **22**-22.16.2; **23**-2.2.7
Criteria 2	The work control document is written in a clear, concise, and worker friendly manner.	SCD **2**-2.2.1; **10**-2.6.1; **22**-22.16.2
Criteria 3	The work steps for activities are properly sequenced.	SCD **10**-2.6.1; **22**-22.16.2
Criteria 4	Work control documents adequately incorporate technical and administrative requirements (e.g., contract, safety basis, regulatory, consensus codes, etc.).	SCD **8**-2.4.2; **10**-2.6.1
Criteria 5	Work hazard controls identified in the JHA have been incorporated into the work control document.	SCD **10**-2.6.1; **20**-2.9.3; **20**-2.10.6
Criteria 6	The controls for activity specific hazards are delineated immediately before the work control document step where the hazard is encountered and are highlighted to emphasize their importance.	SCD **10**-2.6.1; **20**-2.10.1; **22**-22.16.2

WPC-6 Performance Objective WPC-6: Work Planning and Control Oversight

Contractor personnel perform work in accordance with approved work control documents.

Criteria 1	First line supervisors and workers are knowledgeable of their work control documents and meet all applicable training and medical requirements.	SCD **4**-2.46.1
Criteria 2	Operations work control authority reviews and authorizes all work control documents prior to commencement of work. He/she is required to evaluate all work at a facility and/or site to ensure work activities of one scope do not adversely affect the safe work of another.	SCD **2**-2.2.1; **22**-22.2.8; **22**-22.8.6
Criteria 3	Effective pre-evolutionary briefings are performed.	SCD **20**-2.8.1
Criteria 4	First line supervisors and workers follow work control document instructions as written, or if unexpected conditions arise, workers and supervisors take action to stop the work and follow their change control process.	SCD **3**-2.7.1
Criteria 5	First line supervisors and workers understand their stop work authority.	SCD **20**-2.8.1
Criteria 6	Work control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.	SCD **8**-2.3.2; **11**-2.2.1; **20**-2.9.3; **22**-22.3.3; **22**-22.8.1
Criteria 7	Lessons learned/feedback is incorporated into active and in-development work control documents in a timely manner.	SCD **3**-2.8.1; **3**-2.9.1; **20**-2.9.7

WPC-7	**Performance Objective WPC-7: Work Planning and Control Oversight**	
	The Contractor has an established process that requires line management and assessment personnel perform timely assessments/surveillances of the work planning and control process, including periodic reviews of active and in development work control documents.	
Criteria 1	The contractor has scheduled and performed independent and self assessment of the work planning and control process.	SCD **8**-2.10.1; **20**-2.9.1; **22**-22.9.8
Criteria 2	These activities are of sufficient scope, detail, and quantity that the contractor can ascertain the status of their work planning and control process.	SCD **10**-2.6.1; **22**-22.3.3; **22**-22.8.1
Criteria 3	Line managers periodically perform surveillances, which include the observations of job walk downs and JHA walk downs/meetings, pre-evolution briefings, and work performed to work control documents.	SCD **10**-2.4.1; **20**-2.9.5; **22**-22.1.3; **22**-22.9.8
Criteria 4	Line managers periodically review in-development and approved work control documents.	SCD **10**-2.4.1; **22**-22.1.3; **22**-22.9.8
Criteria 5	The contractor tracks and trends the results of oversight activities performed on their work planning and control process and takes appropriate actions.	SCD **3**-2.8.2; **20**-2.8.1

Attachment B

Assessment of Work Planning & Control at SRS Signature Page

John Melvin DOE-SR
Co-Team Lead

Dennis Booth, WSRC
Co-Team Lead

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~~ESH-Rad Protection Division Director~~
DIRECTOR, SAFETY AND
RADIATION PROTECTION DIVISION

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~~Field Support Services Business Unit Mgr~~
ACTING MANAGER
TECHNICAL & QUALITY SERVICES

SEPARATION

PAGE

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DOE F 1325.8 (Rev 11-12-91)

United States Government Department of Energy (DOE)

memorandum

Savannah River Operations Office (SR)

DATE: JAN 18 2006

REPLY TO ATTN OF: OESH (S. Robinson, (803) 952-6015)

SUBJECT: Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, Integrated Safety Management System Feedback and Improvement (Memorandum, Garman to Rispoli, 11/9/05)

TO: Dr. Inés R. Triay, Chief Operating Officer for Environmental Management (EM-3), HQ

This memorandum transmits the DOE-SR Feedback and Improvement Assessment and associated draft Site Action Plan completed to meet DNFSB 2004-1 Commitment 25. The assessment was conducted in accordance with the Criteria and Review Approach Document (CRAD) at the 2004-1 Knowledge Portal and the supplemental lines of inquiry provided by EM staff via email on December 2, 2005. Attachment 1 provides the completed assessment report. Attachment 2 documents the draft action plan that was developed to address identified areas of improvement. DOE-SR will ensure that the elements associated with the Integrated Safety Management System (ISMS) are effectively addressed as we implement the final Site Action Plan.

As you requested I am providing a copy of the memorandum to Dae Y. Chung and an electronic copy to Terry Krietz.

If you have any questions, please contact me or have your staff contact Dr. Karen Hooker, Director, Office of Environment, Safety and Health at (803) 952-8379.

Jeffrey M. Allison
Manager

Attachments:
1. Assessment Report
2. Draft Site Improvement Action Plan

cc w/attach:
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Assessment of the Effectiveness of Feedback & Improvement Processes at the Savannah River Site

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Results of Assessment of the
Effectiveness of Feedback & Improvement Processes
at the Savannah River Site

Executive Summary

This information provides the Performance Objectives and Department of Energy – Savannah River Operations Office (SR) and Washington Savannah River Site's (WSRC) assessment responses for Commitment 25 of the Department of Energy's (DOE) Implementation Plan for the Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2004-1, Oversight of Complex, High-Hazard Nuclear Operations. The Assessment was performed using the feedback and improvement Criteria and Review Approach Document (CRAD) located online at the 2004-1 Knowledge Portal. As a result of the assessment, it was concluded that Performance Objectives 2.1, 2.3, and 2.4 are fully met, while Performance Objectives 1, 2.2 and 3 are partially met. Below are the identified Opportunities for Improvement:

Opportunity for Improvement F&IP-1-OFI-1: This performance objective is considered to be partially met since the WSRC S/RID (contractual requirement) was just recently (12/27/05) changed to incorporate DOE O 226.1. With this S/RID change, WSRC will now complete a Compliance Assessment and Implementation Report within 60 days and will further schedule a revision to the WSRC Quality Assurance Management Plan to document WSRC's Contractor Assurance System. WSRC believes that the fundamental elements of the program are in place, but they are not documented as the Contractor Assurance System as required by DOE O 226.1.

Opportunity for Improvement F&IP-2.2-OFI-1: An identified Opportunity for Improvement is to review field lessons learned organizations' actions regarding the screening of site problems/issues and how potentially applicable field events (including results from the recently implemented sub-contractor Focused Observation Program) are best submitted to the Site Lessons Learned Coordinator for sitewide applicability determination.

Opportunity for Improvement F&IP-3-OFI-1: DOE has established adequate line management oversight processes per existing DOE-HQ directives. The site continues to upgrade its current tracking and trending databases and coordinate with the contractor(s) to ensure effective and efficient processes are identified and implemented in a timely manner. However, DOE has not completed a compliance and implementation review for DOE O 226.1.

Performance Objective 1: Contractor Program Documentation

Contractor Line management has established a comprehensive and integrated operational assurance system which encompass all aspects of the processes and activities designed to identify deficiencies and opportunities for improvement, report deficiencies to the responsible managers, complete corrective actions, and share in lessons learned effectively across all aspects of operation.

Results

WSRC has established a comprehensive and integrated operational assurance system. The elements of the system are documented in the WSRC Integrated Safety Management Description and the WSRC Quality Assurance Management Plan and approved by the DOE. The key elements of the program are the Management Assessment process, Independent Assessment process, Continuous Improvement process, Corrective Action process, Lessons Learned process, Performance Indicators, Annual ISMS review, and Personnel Qualification process as described below.

WSRC's approach to Management Assessment incorporates two major program activities: Self-Assessment and Performance Analysis. Both of these activities are jointly implemented to ensure the adequacy and effectiveness of WSRC's management control system is appropriately assessed throughout the organization. While retaining overall responsibility for the Management Assessment, senior management requires managers to assess the performance of the activities assigned to their organization. The Management Assessment program is a major mechanism of WSRC's Integrated Safety Management System.

Self-Assessments are planned and performed to verify conformance to applicable requirements and identify opportunities to improve performance and cost effectiveness. Results and conclusions from these assessments are documented and evaluated. Problems identified are documented using a site-wide database system called "Site Tracking, Analysis, and Reporting (STAR)" for management of problem resolution as required by the company level corrective action program includes provisions to track and follow-up on planned corrective actions from the self-assessment.

STAR was implemented site wide July 1, 2004 and was a major step by the company in being able to capture problems in a single database and, more importantly, capture data (causes, functional bins, etc.) associated with problems. The STAR system is a valuable tool that also supports meaningful performance analysis. An effectiveness review has been performed on STAR data, corrective actions have been implemented, and a second effectiveness review has been scheduled in 2006, to ensure the quality and consistency of data input into the system.

Performance Analysis of event-based and review-based data from various sources {i.e., the WSRC Corrective Action Program, WSRC Management and Independent Assessment Programs, and the DOE Occurrence Reporting System (ORPS)}, is performed periodically to identify recurring problems and identify potential areas of future concern.

This is accomplished at two different levels within the company. Site-level performance analysis is performed quarterly under the leadership of the Performance Analysis Advisory Group, and overseen by WSRC's Management Council, and is used to identify recurring problems. Organizational-level performance analysis is performed semi-annually, as directed by the Business Unit Directors, and identifies recurring organizational problems within their areas of responsibility. All problems identified as recurring are processed in accordance with the company-level corrective action program and as applicable in the DOE ORPS system and DOE PAAA Non-Compliance Tracking System (NTS). Results from the site-level and organizational-level performance analysis activities are documented, and issues are managed through STAR. (For details see WSRC Manuals 1Q and 12Q, and S/RID FA01 and 02.)

Independent performance-based Integrated Safety Management Evaluations (ISMEs) are planned and conducted by the Internal Oversight organization's Facility Evaluation Board (FEB) team(s). These ISMEs, part of the Integrated Safety Management feedback and improvement function, are separate from, and in addition to, the management assessments. These unannounced assessments provide a factually accurate comparative evaluation of performance; evaluate facility and programmatic self-assessment programs; and verify conformance to established requirements and contractual obligations. The allocation of resources is based on the status, hazard, complexity, and prior performance of the activity or process being assessed. The WSRC President has direct organizational oversight of the FEB process and approves and issues the ISME report to the facility manager. In turn, the evaluated organization responds to the President with the corrective actions taken or being planned in response to the ISME.

The group performing independent assessments has sufficient authority and freedom from the line to carry out its responsibilities. Personnel performing independent assessments do not have direct responsibilities in the area they are assessing. Assessment results are tracked and management responsibilities for their resolution are clearly assigned. The need for follow-up review of areas found deficient during an assessment is determined by cognizant management. Continuous improvement is fostered by applying WSRC's formal corrective action methodology to the assessment results.

Readiness requirements for the startup/restart of nuclear activities are determined in accordance with WSRC Manual 12Q, which implements the requirements of DOE Order 425.1 (series). A graded approach is utilized to determine the scope and depth of readiness determinations, the appropriate level of approval authority and the rigor and formality of process documentation. The methodologies range from use of routine restart procedures, to graded approach Readiness Assessments (RA), up to complete Operational Readiness Reviews (ORR). Each process identifies Core Requirements. Independent audits, assessments, and surveillances are also performed by units within designated WSRC organizations to address special programs. These requirements apply only to specific organizations/Business Units. (For details see WSRC Manuals 1Q, 12Q, SCD-4, and S/RID FA 02). The Operations Evaluation Department has established a start-up readiness manager who oversees the entire process.

Problem prevention and continuous quality improvement are addressed in various implementing procedures. These objectives are met by measuring and evaluating performance against key performance indicators/standards. Item characteristics, process implementation, and other quality-related information are reviewed and the data analyzed to identify items, services, and processes needing improvement. This data is also used to identify adverse trends that impact the quality of items and processes. Examples of quality related information used include:

- process capability studies
- performance analysis results
- studies which define assignable and inherent causes of process variability
- deficiencies identified within the Corrective Action Program
- failure rates
- corrective maintenance performance and backlog analysis
- preventive maintenance performance

To assure that appropriate improvement opportunities are identified, information from internal and external sources (DOE, industry data, various subcontractors/suppliers) is used. WSRC policies for managing and continuously improving how work is performed, in order to meet customer expectations for quality and to measure and produce results aligned with strategic objectives, involves all personnel in the respective organizations. (For details see WSRC Policy Manual 1-01 and WSRC Manuals 1B, 9B, 11B, 1Q, 1S, 2S, 11Q, 12Q, E7, and S/RID FA 02, 07, and 09).

Corrective action procedures require personnel to report identified nonconforming items and processes. These procedures define the reporting system used to identify such items and processes; to correct deficiencies; and to ensure adequate closure of corrective actions. All personnel are granted the freedom and authority to identify those items and processes determined to be nonconforming, and, as appropriate, to stop work or request that work be stopped until effective corrective action is completed. Procedures for bringing events, conditions, employee concerns, and issues to management's attention have been established by senior management. These procedures are in compliance with DOE Orders for Occurrence Reporting and the processing of operations information, and encourage and support identification and reporting of unsatisfactory conditions.

Processes to detect and prevent quality problems have been established and implemented. Items, services, and processes that do not meet established requirements are identified, controlled, and corrected according to the importance of the problem and the affected work. Correction includes identifying the causes of problems and taking action to prevent recurrence based on the significance of the problem. The WSRC system for identifying and controlling quality problems incorporates a single company-level problem identification and corrective action control system.

The WSRC Corrective Action Policy is described in WSRC Policy Manual 1-01, MP 5.35, *Corrective Action Program.* While the inputs to the system come from multiple problem identification sources per MP 5.35, the tools used to resolve each type of problem have consistent process steps. The corrective action system, as a whole, forms a comprehensive process with site-wide applicability as defined in implementing procedures. Continuous improvement is fostered by integrating the Corrective Action Program with feedback processes such as:

- Price Anderson Amendments Act (PAAA) noncompliances
- Occurrence Reporting
- Management Assessments
- Independent Assessments
- Lessons Learned processes
- Customer reviews

The corrective action program includes the following elements:

- problem identification/extent of problem determinations
- problem significance determination
- problem evaluation
- lessons learned evaluation
- corrective action development/extent of condition determination
- corrective action implementation
- corrective action closure
- effectiveness reviews of those corrective actions implemented to prevent recurrence.

The corrective action methodology yields quality improvements that are implemented in a tailored manner. The significance of identified problems is the basis for the tailored application of the requirements within the corrective action process. The extent of causal analysis (i.e., Apparent Cause, Root Cause) is commensurate with the importance or significance of the problem: Significance Category 1 Problems include recurring and significant specific problems; Significance Category 1 and 2 Problems are analyzed for Root Cause through the corrective action program.

Implementation of the required corrective actions to all problems is performed and documented by the responsible organization and verified commensurate with the Significance Category of the problem. The Corrective Action Program also includes the requirement for an effectiveness review to be performed on those corrective actions identified to prevent recurrence of the problem for Significance Category 1 and 2 problems. All problems/issues reported into the DOE-HQ, Office of Enforcements, Noncompliance Tracking System are assigned as Significance Category 1.

The WSRC Corrective Actions Program, along with the Management Assessment Program and STAR system, are being used to address both event-based and review-based problems. The Quarterly company-level WSRC Performance Analysis (PA) reports are being used to identify recurring problems that may represent potential adverse performance trends requiring increased management attention. Additionally, the Quarterly PA Report includes a feature for identifying items to be added to a "Watch List" for further monitoring during the next reporting period. Watch List items are identified since they could be precursors to recurring problems and some type of action may be appropriate to proactively address the situation.

Controls exist for preventing the inadvertent testing, installation, or use of nonconforming items and processes. Established controls include tagging of items, segregation of items when possible, and conditional release for post-installation testing. Nonconformances are reviewed and approved by the organizations that reviewed and approved the original items or processes unless another organization with qualified and knowledgeable personnel is designated. Justification for the disposition action is documented in accordance with procedures for those items or processes not returned to their original, as-designed conditions. Nonconforming items that are subsequently reworked, repaired, or replaced are inspected and/or tested to either the original requirements or to specified alternative requirements. Such inspections or tests are conducted prior to the final acceptance of the items or processes.

The Cognizant Technical Function (CTF), chartered with having an adequate technical understanding of the work and access to pertinent background information, is responsible for the analysis and disposition of nonconformances involving "Repair" or "Use-As-Is" dispositions.

QA activities associated with nonconforming items and processes include validation of the nonconformance, review of dispositions, verification of completion of disposition actions, and closure of the reporting document. Alternative reporting documents (for example, deficiency reports and condition reports) may be used depending on the consequence of failure or operational status. Alternative controls are approved by the WSRC Site Quality Assurance Manager in accordance with established procedure. (For details see WSRC Policy Manual 1-01, and WSRC Manuals 1B, 9B, 1Q, and S/RID FA 02).

WSRC has established a comprehensive Operating Experience/Lessons Learned Program that promotes safe, effective operation of Savannah River Site (SRS) facilities and enhances the safety and health of SRS employees and the public by applying the lessons learned from the systematic review of operating experience at SRS facilities, and of similar Department of Energy (DOE) complex and commercial nuclear industry facilities.

The WSRC Lessons Learned Program reviews internal and external events for SRS applicability and shares information from these sources as its applicable. Also, the WSRC Lessons Learned Program routinely submits lessons learned to the DOE ESH Lessons Learned System for sharing of events across the DOE Complex. Also, post-job critiques and reviews are held after job performance to assure that lessons learned/worker feedback/job history information is captured for future improvement.

An effective employee concerns program is established and implemented that encourages the reporting of ES&H concerns. The ECP program provides thorough investigations and effective corrective actions and recurrence controls. All WSRC employees have the right and responsibility to express their workplace issues and concerns with the expectation that they will be addressed, and no adverse action will be taken against them as a result of their voicing concerns.

WSRC uses three individually focused sets of performance measures and indicators:

- The Key Performance Indicators (KPIs), a comprehensive set of metrics developed to measure and guide improvements in overall performance. These metrics are kept on a site basis for corporate use and tailored metrics are kept at lower levels of the organization and at the facility level for internal use. The methodology and display of these metrics were patterned after a system utilized by the commercial nuclear industry.

- The WSRC Disciplined Operations Summary Indicator (DOSI) includes all of the reportable occurrences in the following ORPS Reporting Group classifications as components of the metric: Personnel Safety and Health, Nuclear Safety Basis, Facility Status, Environmental, Contamination/Radiation Control, Transportation and Noncompliance Notifications.

- The WSRC Safety Goals are established on a calendar year basis and are submitted to DOE-SR in December for the following year. Performance to these goals is tracked monthly by WSRC and the status is updated quarterly to DOE-SR.

The annual ISMS review utilizes a number of feedback mechanisms, such as self-assessments, independent assessments, occurrence reports, external assessments, and a host of others that serve a specific programmatic need. Each of those existing appraisal and assessment activities provides necessary feedback to maintain and, coupled with an effective Corrective Action Program, improve the ISMS. WSRC recognizes a higher need to review, from a high-level, holistic perspective, the effectiveness of the entire WSRC Integrated Safety Management System as a system. By analyzing and reviewing the aggregate of those feedback data, it is possible to gain a perspective that can inform top-level line management of any major adjustments that need to be part of a long-term ISM improvement strategy. The Annual ISMS Review is sponsored by the WSRC Management Council to provide that higher perspective. The Annual ISMS review, conducted according to WSRC-IM-2001-00026, *Guidance for Conducting the WSRC Annual ISMS Review*, serves as a basis for continual improvement of the WSRC ISMS, and:

- provides an overall measure of the effectiveness of Integrated Safety Management (ISM) implementation relative to the Continuing Core Expectations contained in DOE G 450.4-1B, *Integrated Safety Management System Guide*
- provides an integrated macro perspective of company performance
- provides a focused input for strategic planning processes
- allows for refinement and improvement of performance metrics
- captures strengths and improvement opportunities for lessons learned sharing (site, DOE Complex, EFCOG Best Practices etc.)

WSRC personnel are trained and qualified, commensurate with their responsibilities, to ensure they are capable of performing their assigned work. Management establishes initial and continuing training and qualification requirements with supporting processes for specific job categories. The qualification of personnel supports the program, all of the ISM core functions, and satisfies the third ISM Guiding Principle to ensure personnel have the competence commensurate with their responsibilities.

Programs are structured to be in compliance with DOE Order requirements for training and qualification of managers, operators, technicians, and maintenance personnel. All requirements are described in WSRC Manual 4B, *Training and Qualification Program Manual*, applicable lower-tier implementing procedures and Training Program plans. (For details see WSRC Manuals 1Q, 4B, and S/RID FA 02 and 04.)

WSRC has demonstrated the sufficiency of the comprehensiveness and integration of the program throughout the organization and its associated programs and operations. During FY05, this was assured by feedback from the following examples of internal and external reviews and assessments:

- Annual WSRC ISMS Review
- Independent Evaluations by WSRC's Independent Oversight Department using the Facility Evaluation Board (FEB) process
- Company Key Performance Indicators (KPIs) presented in this ISMS Declaration
- Quarterly WSRC Performance Analysis Reports
- INPO Assist Visits
- DOE Office of Price-Anderson Enforcement (EH-6) PAAA Program review

Additionally, WSRC has leveraged the feedback and improvement process to manage and direct the program. Examples of effective use of feedback and improvement are evidenced in the Assisted Hazards Analysis process, Employee Concerns, Management Assessment process, and Corrective Action process as cited below.

WSRC has implemented an improved Assisted Hazards Analysis (AHA) process and a new Safe Work Permit (SWP) tool that is responsive to feedback received from several assessments that identified specific weaknesses in the AHA process initiated in FY04.

Elements of work control have been improved to ensure scopes of work are defined in a way that supports proper identification of specific hazards relating to that work scope. The SWP will ensure that any identified controls are in place and remain intact until the completion of the specified scope of work

Industrial Hygiene staff has been increased to better support the exposure monitoring requirements, but continues to be challenged by frequent changes in activity schedules requiring quick unplanned deployment of monitoring personnel and equipment. IH is focusing on improvements in the area of field support and has personnel assigned to work with field operations management to develop solutions for some of the challenges involving their specific activities.

WSRC has an established program to independently investigate concerns raised by employees in the areas of environment, safety, health, safeguards and security, quality assurance, waste, fraud, and abuse, management practices, reprisal, and others. A site Key Performance Indicator is maintained to alert senior managers to adverse trends in the timely resolution of ECP issues. In cases where the resolution process takes more than 30 days, the originator is notified of that fact in writing.

Feedback information from DOE oversight and WSRC's ongoing Integrated Safety Management Evaluations (unannounced Independent Assessments) and implementation of a Management Assessment Program that includes both Self-Assessments and Performance Analysis, have provided the following important conclusions about the WSRC processes:

- WSRC currently has an effective program that has the mechanisms to maintain that effectiveness into the future.

- The WSRC program exhibits minor weaknesses yielding opportunities for improvement that are addressed by maturing causal analysis and corrective action methods and are tracked to closure using a single site electronic corrective action program database (STAR).

As both identified low-significance precursor problems and opportunities for improvement are processed by the improved Corrective Action process, the entire program will benefit. Additionally, the WSRC Lessons Learned Program examines DOE program reviews and other feedback information from other DOE sites to identify similar problems and best practices for possible applicability at SRS. One of those items was a "Best Practices Summary" for "Effective Uses of Time Outs" as a tool to prevent safety incidents and improve performance.

Last year, WSRC introduced a re-engineered Management Assessment Program (MAP) comprised of Self-Assessments and Performance Analysis, institutionalized in WSRC Manual12Q, Assessment Manual Procedures SA-1 and PA-1 respectively. To fully integrate these two elements into the WSRC ISMS, it was necessary to make revisions to the WSRC 1Q Quality Assurance Manual Procedure 18-4, Management Assessment Program and to ensure full integration with the WSRC Corrective Action program in WSRC 1-01, MP 5.35. Implementation of these improvements began in FY04 with the benefits being fully realized in FY05.

In March 2005, an Effectiveness Review of the Management Assessment Program was conducted to evaluate the implementation of the program from the perspective of management's understanding, support and involvement within their areas of responsibility. Also reviewed were the institutionalization and implementation of the program at the company and business unit levels.

The conclusion from the review was that WSRC has adequately implemented the requirements of the MAP as specified in WSRC Manual 12Q. Opportunities for Improvement identified during the review provided a framework of actions that are being addressed with associated actions being tracked and managed using STAR described in WSRC Manual 1B, MRP 4.23.

WSRC has a mature system for the flowdown of requirements into work performed by the WSRC team, and to work and materials obtained through subcontracts and vendors. The primary mechanism for the flowdown of DOE ES&H-related requirements is the WSRC Standards/Requirements Identification Document (S/RID) feeding requirements in 20 Functional Areas (two of which are Environmental Management and Quality Assurance) into the WSRC system of company-level policies and procedures used in the performance of work. That process is governed by WSRC company-level procedures.

The flowdown of requirements for all work performed under the WSRC team contract, regardless of the performer of the work is further satisfied by specific company-level procedures for management of construction and services subcontracts. Those procedures are a well-coordinated set including Requirement Specifications, Purchase Requisitioning, and Workplace Safety and Health Program for SRS Visitors, Vendors, and WSRC/BSRI Subcontracts. Company-level procedures, programmatic tools, and subject matter experts in the 20 S/RID Functional Areas are available to assist the requester in defining the statement of work to include performance of the work to an appropriate set of requirements from the WSRC S/RID that are specifically cited in the subcontracts. Depending on the level of hazard and other considerations, the subcontractor will be required to either develop a task specific worker protection plan or work to the subcontractor's existing safety plans if they are relevant and approved by WSRC. Likewise, the company-level procedures for the procurement process ensure that those and other regulatory requirements are placed as General (and/or Special) Provisions into the subcontracts. All quality requirements associated with the performance of work and the procurement of services and materials are driven by the company-level Quality Assurance Manual and specific roles and responsibilities and controls for quality are specified in each company-level procedure and in the subcontract. After the award of subcontracts, during the conduct of work (delivery of service) phase, monitoring of the subcontractor's performance of work by the appropriately trained WSRC Subcontract Technical Representative assigned to the subcontract, who keeps detailed records of actions and issues associated with the subcontract. Additionally, Focused Safety Observations are conducted by WSRC ES&H staff personnel as defined by the procedures. Subcontractor safety performance data is kept for evaluation of any future bid for work by that subcontractor. At the completion of the subcontract, all records are kept by the procurement organization.

The WSRC Subcontract Management Program defines the process functions, roles, responsibilities and authority of WSRC personnel involved in subcontract management activities. This Program is implemented by WSRC Manual 11B and includes responsibilities and expectations of Procurement Representatives, Subcontract Technical Representatives, and Subcontract Management Representatives. Subcontract Management includes all relationships between WSRC and the Subcontractor which grow out of subcontract performance. It encompasses all dealings between the parties from the time the subcontract is awarded until the work has been completed and accepted, all badges have been returned, government-furnished equipment has been returned, payment has been made and disputes have been resolved.

Evaluation: Performance Objective partially met.

Opportunity for Improvement F&IP-1-OFI-1:

This performance objective is considered to be partially met since the WSRC S/RID (contractual requirement) was just recently (12/27/05) changed to incorporate DOE O 226.1. With this S/RID change, WSRC will now complete a Compliance Assessment and Implementation Report within 60 days and will further schedule a revision to the WSRC Quality Assurance Management Plan to document WSRC's Contractor Assurance System. WSRC believes that the fundamental elements of the program are in place, but they are not documented as the Contractor Assurance System as required by DOE O 226.1.

Performance Objective 2: Contractor Program Implementation

2.1 Assessments & Performance Indicators

Contractor Line management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance and this information is effectively used as the basis for informed management decisions to improve performance.

Results

WSRC has an established assessment program consisting of self assessments, management assessments, performance analysis and independent assessments. These programs are used to evaluate and demonstrate the adequacy of the WSRC Functional Areas and programs on a periodic basis. The WSRC assessment program is formalized and documented in controlling procedures to ensure a consistent rigor is applied in evaluating processes as well as obtaining performance information. The qualitative and quantitative information resulting from the WSRC assessment program is analyzed and presented to management for their direction on making process improvements.

The WSRC assessment program is detailed in WSRC Manuals 1Q and 12Q, and SCD-4 documents. WSRC Manuals 1Q and 12Q describe the assessment process while the SCD-4 document contains a smart sample of requirements that can be used to perform assessments in each of the various Functional Areas. Assessments and evaluations of contractors are performed under the WSRC supplier surveillance and supplier audit programs.

Construction subcontract field verifications are performed and assessed in accordance with the Construction Management Department Manual (1E6). Operations subcontracts are controlled in accordance with WSRC Manual 11B, *Subcontract Management Manual.*

These programs are applied using a graded approach based on a number of factors including risk. The scope and frequency of management assessments are defined in assessment plans or schedules that are based on past performance as well as importance to the process. Independent assessment schedules are not published and are unannounced. The schedules are based on past performance and emerging issues. The assessment program allows for both performance based and review based evaluations. The performance analysis element of the assessment process is designed to identify precursor issues and trends as well as cross cutting issues.

Self assessments are identified in assessment plans or schedules, performed, and documented. The self assessments are used to determine the effectiveness of processes, compliance to requirements, or degree of implementation.

WSRC independent internal assessments are performed by Internal Oversight's independent Facility Evaluation Board, which reports to the office of the president. These assessments are typically unannounced and focused on key emerging issues. The assessors have the authority and independence from line management to provide in depth unbiased evaluations.

WSRC management has various programs, in addition to the assessment program, established to identify, gather, verify, analyze, trend, disseminate, and improve performance. These include Behavior Based Safety observations, management observations, management-by-walking-around (MBWA), time outs, near miss, lessons learned, post-job work histories, and corporate metrics. The trends are used to identify best practices as well as opportunities for improvement. The corporate metrics have clearly identified goals and standards as well as analysis of the trend. The metrics are indicative of work performance and are clearly linked to various parts of WSRC programs/processes and clearly delineate management expectations.

WSRC uses a Key Performance Indicators (KPIs) system (described in *Savannah River Site Performance Metric Manual*, WSRC-RP-2002-00252, latest revision) that measures performance across the company in the following Focus Areas: Safety and Security; Technical Capability and Performance; Community, State and Regulatory Relationships; Cost Effectiveness; and Contract Performance. Under the Safety and Security Focus Area the specific performance measures are:

- Industrial Safety and Health
- Emergency Services
- Radiological Safety
- Nuclear Safety
- Physical Security

The format for the KPIs is an annunciator-type system of Key Performance Indicators (KPIs) with a color rollup scheme, established by the commercial nuclear industry. It provides a quick status, overall summary of key operational, safety, and business performance. The underlying principle behind each metric is the use of objectivity to assess performance. This system provides not only key information at a glance, but also provides WSRC and DOE-SR Program and Project Managers the ability to "drill down" through the Focus Area Level 1 metrics to help identify the sources and effects of issues and actions. Instead of focusing only on individual events, it provides a view of emerging trends over the past twelve months. These KPIs are kept at the site (company) level. WSRC also uses the same annunciator-type system tailored to the needs of lower levels of the organization and facilities. Senior management reviews the corporate metrics and holds responsible managers accountable. Performance analysis reviews focus on performance improvement, degradation, or identification of precursor minor events before they become serious events.

WSRC management uses the various performance improvement tools in conjunction with the budget process to determine performance against established goals or revise goals as necessary, allocate resources, establish compensatory measures and corrective actions. Management also makes use of the lessons learned process to facilitate the sharing of good practices.

An example of performance trends being evaluated and used to improve performance are the quarterly Site Performance Analysis reports that are used identify repetitive issues and minor problems before they become significant issues.

Evaluation: Performance Objective fully met.

2.2 Operating Experience

The Contractor has developed and implemented an Operating Experience program that communicates Effective Practices and Lessons Learned during work activities, process reviews, incident/event analyses, and post-job work histories to potential users for application to future work activities.

WSRC has established a comprehensive Operating Experience/Lessons Learned Program that promotes safe, effective operation of Savannah River Site (SRS) facilities and enhances the safety and health of SRS employees and the public by applying the lessons learned from the systematic review of operating experience at SRS facilities, and of similar Department of Energy (DOE) complex and commercial nuclear industry facilities.

The program is defined in WSRC Manual 1B, Procedure 4.14, and is the responsibility of Regulatory Services Section of Technical and Quality Services. The program is administered by the Site Lessons Learned Coordinator. A staff of technical reviewers assists in the screening and dissemination of lessons learned information. Lessons Learned Coordinators from each business unit/organization, matrixed to the Site Lessons Learned Coordinator, have the responsibility for implementing and directing their own organizational Lessons Learned Programs. These programs effectively evaluate issues disseminated by the Site Lessons Learned Coordinator and implement appropriate corrective actions.

The Site Lessons Learned Group technical reviewers, who report to the Site Lessons Learned Coordinator, obtain and screen information from several sources for Site applicability. These sources include, but are not limited to:

- DOE Notification Occurrence Reports
- DOE Final Occurrence Reports
- DOE ESH Suspect/Counterfeit Web Page data
- DOE ESH Defective Item Web Page data
- DOE ESH Operating Experience Special Operations Reports
- DOE ESH Operating Experience Safety Alerts
- DOE ESH Special Reports
- DOE ESH Safety Bulletins
- DOE ESH Operating Experience Summaries
- DOE ESH Just-In-Time Reports
- DOE ESH Advisories
- DOE ESH Operating Experience Program Lessons Learned Alerts
- DOE Office of Independent Oversight and Performance Assurance reviews
- DOE Type A & B Investigation Reports
- INPO Operating Experience Reports
- PAAA items from WSRC and the complex
- Defense Nuclear Facility Safety Board information
- OSHA Safety and Health Bulletins

- SRS events
- Wackenhut-SR Lessons Learned items
- Savannah River Ecology Lab (SREL) Lessons Learned items
- US Forestry Service-SR Lessons Learned items

Items with potential lessons learned value to SRS facilities are forwarded to the appropriate Functional Program Manager/Subject Matter Expert (FPM/SME) or designee, for further evaluation or information to assist in making an applicability determination.

Applicable lessons learned documents are then prepared and distributed to the Organization Lesson Learned Coordinators.

All Site Lessons Learned items that are distributed by the Site Lessons Learned Group are entered into STAR and each Organization Lessons Learned Coordinator is given an action in STAR regarding each lessons learned.

The Organization Lesson Learned Coordinators determine which departments in their organizations may need to take action on the lessons learned documents they receive from the Site Lessons Learned Group. They monitor progress of the departmental evaluation, corrective actions, and report the status to the Site Lessons Learned Coordinator. In addition, these coordinators screen their organization occurrences/events for lessons learned that may apply to other WSRC business units/organizations and forward to the Site Lessons Learned Coordinator, if applicable.

The Site Lessons Learned Coordinator administers the program and tracks the progress of required lessons learned item evaluations and corrective actions within STAR. The Site Lessons Learned Coordinator makes the final decision on whether an issue should be brought to the attention of organizational safety committees or WSRC Senior Managers. A hierarchy of lessons learned documents has been established to help identify the relative significance of the items and assist in the development of appropriate corrective actions. These include:

- Site Lessons Learned Directive
- Site Lessons Learned Bulletin
- Site Lessons Learned Product Information Notice
- Site Lessons Learned Special Information Notice
- Site Lessons Learned First Alert
- Site Lessons Learned Best Practice

The WSRC Lessons Learned Program has been effective at communicating lessons learned to potential users. As of 12/16/05, the WSRC Lessons Learned Program has issued 75 site lessons learned internally at WSRC and have shared 45 lessons learned to the other sites in the DOE Complex via the DOE ESH Operating Experience/Lessons Learned System.

At WSRC, a recent lessons learned (2005-LL-0074, Site Excavation Working Group Clarifies Excavation Sketch Layout Information) was issued to the site, clarifying information regarding excavation activities. This information was received/distributed by the Organization Lessons Learned Coordinators, including the Bechtel Savannah River Incorporated (BSRI) Lessons Learned Coordinator. The BSRI Lessons Learned Coordinator shared with BSRI personnel, and subsequently led to this lessons learned being reviewed by all Direct Hire Construction and Construction Managed Subcontractors who perform excavation or trenching activities at SRS. This isn't the only group who has received this information, but does demonstrate how lessons learned information gets shared throughout the site.

Also, WSRC Lessons Learned Program information that has been shared with the DOE Complex has proven to be valuable. Lessons learned shared with the DOE Complex include SRS's Time Out program, results from the DOE Type A Investigation (Pond B Fatality), under-responding neutron electronic personal dosimeters, etc.

An effective employee concerns program is established and implemented that encourages the reporting of ES&H concerns. The ECP program provides thorough investigations and effective corrective actions and recurrence controls. All WSRC employees have the right and responsibility to express their workplace issues and concerns with the expectation that they will be addressed, and no adverse action will be taken against them as a result of their voicing concerns. A technical assistance review was conducted of the Savannah River Site Equal Employment Opportunity and Employee Concerns Program July 18 -27, 2005.

Evaluation: Performance Objective partially met.

Opportunity for Improvement F&IP-2.2-OFI-1:

An identified Opportunity for Improvement is to review field lessons learned organizations' actions regarding the screening of site problems/issues and how potentially applicable field events (including results from the recently implemented sub-contractor Focused Observation Program) are best submitted to the Site Lessons Learned Coordinator for sitewide applicability determination.

2.3 Event Reporting

Contractor line management has established and implemented programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.

Results

WSRC has established formal programs and processes to identify, investigate, report, and respond to operational events and incidents and occupational injuries and illnesses.

Management of operational events and incidents is contractually required {through direct inclusion in the WSRC Standards/Requirements Identification Document (S/RID)} to comply with the Contractor Requirements Document (CRD) specified as Attachment 2 to DOE M 231.1-2, *Occurrence Reporting and Processing of Operations Information.* In accordance with this CRD, WSRC procedural controls are specified in WSRC Manual 9B, Procedure 1-0, *Occurrence Reporting.*

Management of occupational injuries and illnesses is contractually required (through direct inclusion in the WSRC S/RID) to comply with the CRD specified as Attachment 2 to DOE O 440.1A, *Worker Protection Management for DOE Contractor Employees*, as well as the recordkeeping and reporting CRD requirements specified as Attachment 2 to DOE M 231.1-1A, *Environment, Safety, and Health Reporting.* In accordance with the applicable portions of these CRDs, WSRC procedural controls are specified in WSRC Manual 8B, Procedure 18, *Reporting, Responding, Investigation, and Recording of Operational Injury/Illness or Near Miss.*

These programs and processes are further integrated through the WSRC Corrective Action Program (WSRC Manual 1-01, MP 5.35) to ensure, based on a graded approach tied to problem significance, completion of a problem analysis (to identify causes), identification of corrective actions, determination of lessons learned, and completion of appropriate action verifications and effectiveness reviews. Formal Extent of Problem and Extent of Condition determinations are also performed for problems categorized at higher levels of significance. Performance in these areas is routinely evaluated in a variety of manners to determine trends, possible recurrent problems, and/or the need for performance improvements. These include:

- A company-level Quarterly Performance Analysis of reportable occurrences of all significance categories, plus WSRC-determined non-reportable events in order to prevent serious events from occurring.

- A monthly statistical trending of reportable and non-reportable events to identify any statistical trends or "alerts" where statistical trends are being approached.

- A weekly management review of all occupational injuries/illness, along with a monthly review of performance indicators, directed at an overall goal of "zero injuries".

While some elements of the WSRC processes are still relatively new and should be expected to improve as they continue to be implemented, some specific performance improvements can be attributed to these programs. For example, one of the WSRC Quarterly Performance Analyses identified recurring problems related to Inadvertent Transfer and TSR Violation events. This identification led to a rigorous causal analysis that identified corrective actions to realize a performance improvement. Those actions have been completed and WSRC's performance has benefited with measurable performance improvement in both areas.

As another example, WSRC routinely screens Price-Anderson items reported by other contractors across the complex. Occasionally these reviews result in identification of an appropriate action for WSRC to take to determine whether the same or similar problem exists at SRS. Such application of lessons learned from other sites is an important component of feedback and improvement to help identify potential problems before they turn into an event with more serious consequences.

WSRC reporting of operational events and incidents into ORPS is reasonably consistent with the DOE reporting criteria and other contractor practices across the complex. Some WSRC ORPS reported events are conservatively reported into ORPS for some of the subjective reporting criteria. WSRC recently completed an evaluation of 364 H-Completion Project problems/critiques identified between 11/1/03 and 11/1/05 to determine whether any of the items should have been (but were not) reported into ORPS. This evaluation (considered as a representative sample for the site) did not identify any items that should have been reported into ORPS.

Evaluation: Performance Objective fully met.

Noteworthy Practice: Also, WSRC as named one of the 12 safest companies in America by Occupational Hazards magazine. According to the magazine, their choices for safest companies not only have employee involvement and empowerment in safety, but they also have upper management commitment to safety.

2.4 Issues Management

The Contractor has developed and implemented a formal process to evaluate the quality and usefulness of feedback, and track to resolution performance and safety issues and associated corrective actions.

Results

WSRC has implemented an issues management process, detailed in WSRC Manual 1B, to provide documented analysis, resolution and tracking of program and performance deficiencies based on the requirements of the WSRC Policy for the Corrective Action Program identified in WSRC Manual 1-01. The corrective action program has been established to prevent recurrence of problems affecting personnel safety, operational safety, regulatory compliance, or business operations. All personnel are granted the freedom and authority to identify those processes determined to be deficient and, as appropriate, to stop work or request that work be stopped until effective corrective action is completed. While the inputs to the issues management process come from multiple problem identification sources, each type of deficiency is resolved through application of the following process elements in a tailored manner:

- Deficiency identification
- Determination of extent of deficiency
- Determination of deficiency significance
- Evaluation of deficiency for cause
- Evaluation for lessons learned
- Development of corrective action
- Determination of the extent of the condition
- Implementation of corrective action
- Verification of corrective action performance
- Closure of corrective action
- Review for the effectiveness of those corrective actions implemented to prevent recurrence

The significance of identified deficiencies is the basis for the tailored application of the process elements. The extent of causal analysis (i.e., Apparent Cause, Root Cause) is commensurate with the importance or significance of the problem.

Significance Category 1 deficiencies include recurring and significant specific deficiencies. Significance Category 1 and 2 deficiencies are analyzed by qualified personnel for Root Cause through structured methodologies detailed in the SCD-9 Manual. Implementation of the required corrective actions to all deficiencies is performed and documented by the responsible organization and verified commensurate with the Significance Category of the deficiency. The Corrective Action Program also includes the requirement for an effectiveness review to be performed on those corrective actions identified to prevent recurrence of the deficiency for Significance Category 1 and 2 deficiencies.

A site-wide effectiveness review of the issues management system was performed in February of 2005. Findings and observations/opportunities for improvement identified during performance of the effectiveness review were managed through the issues management system established in WSRC Manual 1B.

While some elements of the WSRC issues management process are still relatively new and should be expected to improve as they continue to be implemented, some specific performance improvements can be attributed to this program. For example, this process is now utilized to provide consistent screening of issues for the identification of Price-Anderson items. In conjunction with this, resolution of the Price-Anderson item is consolidated in the single issues management process. Another example of improvements attributable to this new process is in the area of trending. Through this process, issues, integrated from multiple sources across the site, are now trended at lower levels before significant problems result.

Controls exist in WSRC Manual 1Q for preventing the inadvertent testing, installation, or use of nonconforming items and processes. Established controls include tagging of items, segregation of items when possible, and conditional release for post-installation testing. Nonconformances are reviewed and approved by the organizations that reviewed and approved the original items or processes unless another organization with qualified and knowledgeable personnel is designated. Justification for the disposition action is documented in accordance with procedures for those items or processes not returned to their original, as-designed conditions. Nonconforming items that are subsequently reworked, repaired, or replaced are inspected and/or tested to either the original requirements or to specified alternative requirements. Such inspections or tests are conducted prior to the final acceptance of the items or processes. The Cognizant Technical Function, chartered with having an adequate technical understanding of the work and access to pertinent background information, is responsible for the analysis and disposition of nonconformances involving repair or use-as-is dispositions.

A site-wide assessment of the process for documenting identified nonconforming items and managing their resolution to meet the requirements of WSRC Manual 1Q was performed in November of 2004. Findings and observations/opportunities for improvement identified during performance of the assessment were managed through the issues management system established in WSRC Manual 1B.

Evaluation: Performance Objective fully met.

Performance Objective 3: DOE Line Management Oversight

DOE line management have established and implemented effective oversight processes that evaluate the adequacy and effectiveness of contractor assurance systems and DOE oversight processes.

Results

DOE line management oversight at SR is designed with multiple channels to provide diverse perspectives and a degree of check/balance. The organization is structured such that programs/projects, engineering, and operations report through different supervision with some degree of overlap in responsibilities. Information flow starts with morning staff meetings where input from the Facility Representatives is reviewed along with other emergent issues. Daily Reports distribute the FR information internal and external to the organization. Weekly reports summarize both programmatic and performance status/issues. An integrated FR and Technical Assessment Plan is developed for the organization. The results of the technical assessments are reported routinely to their contractor counterparts. Contract performance reports are prepared usually on monthly basis.

Safety Evaluation Reports are prepared for every Safety Analysis change to provide management a technical basis to judge risks and benefits of the proposed limits for operations. The AM and each Director are required to be Senior Technical Safety Manager qualified. In addition, DOE has a management walkthrough program to encourage direct observation of activities and facility material condition.

Per SRIP 200, Chapter 223.4, "Savannah River Technical Assessment Program", the DOE line management develops an "Assessment Plan for Calendar Year 200#," that outlines an integrated plan for all required technical assessments and evaluations of the contractor performed self-assessments (2006 Plan signed out by AM on November 2, 2005). The required assessments historically represent slightly less than half the actual number of assessments performed. This balance allows for individuals and supervisors to conduct reactive assessments of emergent issues and other management areas of interest as well. A list of program elements to be considered for assessment can be found in the Technical Assessment procedure. The Quality Assurance program is included in that listing. In addition, the Assessment Plan integrates Facility Representative walk-downs

and broad-based assessments as required by SRIP 400, Chapter 430.1, "Facility Representative Program".

The results of individual assessment and operational awareness activities are entered into the SR wide database – SIMTAS – and tracked to closure. The results are informally communicated to the contractor at time of performance and formally transmitted under cover letter to the contractor on a routine basis. Formal responses are required for findings and concerns and corrective actions are tracked to closure. Closure is accomplished in the SIMTAS database and formally documented by DOE.

Primary products of the line organizations' contractor oversight activities are comprised of assessments, weekly facility representative (FR) reports documenting operational awareness of their facilities and contractor activities, field walk downs performed by line managers, Safety Evaluation Reviews (SERs) submitted by the line for my approval, and letters of concern or direction to the contractor issued by my line managers. An important source of information for DOE management is the planned and unscheduled assessments performed by both the facility representatives and the line organizations' technical support personnel. In FY05 there were 1020 FR assessments and 508 technical assessments completed and entered into the DOE SIMTAS.. These were a mixture of scheduled and reactive assessments. Also recorded in SIMTAS were 337 FR weekly reports and 1264 management walk downs representing over 1900 field hours. The line organizations also review the contractor's self-assessments, conducted internally by the contractor's facility staff and externally by the contractor's independent Facility Evaluation Board (FEB). This is done to validate that the contractor is performing effective self-assessments, to compare results from these activities with the conclusions generated by the performance monitoring systems at the Site and facility/program level and provide assurance that there is a robust feedback and improvement process. Information from the facility representatives on their operational awareness on facility activities, and occurrences/events is gathered to support my morning staff meeting.

The oversight and analysis of WSRC performance provided by the line organizations has identified issues that are consistent with those flagged by the performance indicators monitored. This provides assurance that the performance indicators that are monitored are a reasonable set to use for monitoring safety performance as well as a validation of the quality and effectiveness of the line organizations oversight. The PIs used by the federal and contractor staff are constantly scrutinized and challenged by internal and by external organizations. A six-month trend assessment is required in the annual Technical Assessment Plan that typically addresses both events, assessment results, and other performance indications.

The adequacy of the line organizations' contractor oversight activities and the quality and accuracy of analysis, conclusions and information resulting from this oversight is critical in enabling DOE-SR to effectively interface with senior contractor management, DOE HQs, and the DNFSB, and to properly manage the site. An example of this are the routine meetings senior staff and line managers have with the site representative from the

Defense Nuclear Facility Safety Board to discuss issues and to ensure we have their perspective on safety. To ensure a balance of perspective the DOE Manager meets routinely with Environment, Safety, and Health (ES&H) staff and line organizations to review and discuss trends that may be emerging from the site safety metrics. To add continuity we also use a technical advisor, who briefs the Manager on all occurrences/safety issues and follow-up research of details to augment the daily flow of information emanating from line organizations and ES&H staff.

Over the past year, there have been several instances in various projects where the contractor has been in some cases slow to recognize some of the performance issues which have required letters to be issued by DOE or line managers. The line organizations are engaged in the daily operation of facilities under their oversight responsibilities by ensuring that the contractor conducts their operations and work in a safe manner and in accordance with the contract. This expectation includes providing the contractor with clear and timely notice of issues and safety concerns identified by DOE through routinely conducted performance out briefs and through formal correspondence when warranted. Examples of this are Documented Safety Basis DSA issues involving transuranic (TRU) waste at the Solid Waste Management Facility (see letter from Charlie Hansen to Conner dated 2/10/05), criticality safety issues identified at H-Canyon (see letter from Kevin Smith to WSRC dated 6/08/05), and the industrial and radiological safety issues affecting D&D projects (see letter from William Spader to Devine dated 3/25/05). All of these performance issues resulted in the contractor voluntarily placing their respective projects in operational stand downs. Once identified, the contractor has been prompt to take corrective actions to address the problems identified. The line organizations are tasked by the DOE-SR Manager to validate their basis and rational for my issuing letters of direction to the contractor or challenge it if they believe there is information that does not support the action. An example where the line organizations and ES&H staff provided sufficient evidence supporting specific direction to the contractor is my 6/15/05 letter addressing Electrical Safety.

The responsibility for line oversight is clearly defined in the SRM 300.1.1B, Chapter 1, Section 1.1, "SR Functions, Responsibilities, and Authorities Procedure (FRAP)". The FRAP provides a mission and function statements for each DOE organizational entity identifying responsibilities assigned to each organization as defined by the DOE Strategic Plan, the Savannah River Site Environmental Management Program Performance Management Plan, and the DOE-SR Organizational Performance Management Plan. Personnel are held accountability for their responsibilities through the annual performance appraisal process.

Specifically, a six month trend assessment is required in the annual assessment plan that typically addresses both events and assessment results.

DOE-SR currently has a process procedure that establishes and maintains appropriate qualification standards for personnel with oversight responsibility. The current procedure is SRM 300.1.1B, Chapter 6, Section 6.1, "DOE-SR Technical Training and

Qualification Program". This procedure is being revised and was submitted to DOE-SR for review and comments. All comments have been resolved and properly dispositioned and the procedure is currently being formatted for the Manager's signature. The revised procedure is titled: DOE-SR Technical Qualification Program and Acquisition Career Development Program Process Procedure. It should be issued shortly.

DOE implements an Employee Concerns Program (ECP), which is available to all SRS employees, in compliance with DOE Order 442.1A, *Employee Concerns Program.* The mechanism for implementing the programmatic requirements within SR is SRIP 400, Chapter 442.1, *Employee Concerns Program.* SR requires that its prime contractors implement ECPs that comply with the Order requirements, accomplished through specific requirements. The DOE ECP is also available to employees of US Forrest Service, SR Ecology Lab, and DOE-managed contracts through provisions of their agreements and/or contracts with DOE regarding operations-related concerns.

All site employees are provided initial information about the ECP by attending General Employee Training and are reminded annually in Consolidated Annual Training. ECP contact information is posted on bulletin boards across the site. Companies on DOE-managed contracts and subcontractors of WSRC and Wackenhut are required to post contact information for the ECP at their respective work sites.

All three ECPs maintain toll-free, 24-hour hotlines, which employees may call to report all types of concerns, including ESH. It is DOE ECPs practice to ensure that, during normal duty hours, the Hotline is answered by ECP personnel, whenever possible, to ensure that all concerns, especially ESH concerns, are addressed expeditiously; however, ECP Hotlines have voice-mail capability for employees to report concerns during off-duty hours. Employees calling during off-duty hours to report imminent danger concerns are instructed to contact the SRS Emergency Operations Center.

DOE O 442.1A has established timeframes for safety-related concerns to be investigated and resolved, based on the severity of the alleged unsafe condition. Concerns received by an ECP identifying imminent danger conditions must be investigated within 24 hours of receipt of the concern. Concerns identifying serious conditions must be investigated within three working days. Concerns identifying other-than-serious conditions must be investigated within 20 working days. Immediately upon receipt of ESH concerns, ECP personnel notify appropriate management and/or ESH organizations in order for the appropriate actions to be taken, such as issuing a Stop Work Order.

Safety-related concerns received by the DOE ECP are coordinated with the appropriate DOE line management with oversight responsibility to determine the appropriate method for investigation of the concern. Since the majority of ESH concerns received by the DOE ECP relate to WSRC operations, the majority of safety-related concerns are referred to the WSRC ECP to investigate. WSRC ECP staff includes investigators with health and safety-related experience appropriate for investigating ESH concerns. A small

percentage of safety-related concerns received by the DOE ECP are investigated by DOE line organizations.

Upon receipt, concern investigation reports are routed to appropriate DOE line management and ESH for review and concurrence. Concern investigations that are inadequate are referred back to the investigating organization for further fact-finding. Upon completion of the investigation and review process, DOE ECP provides a written response, summarizing the results of the investigation, to employees who have identified themselves at the time of raising the concern.

DOE ECP conducts oversight of contractor ECP performance through monthly evaluation reports and meetings with the contractor ECP management. Performance metrics have been established regarding quality of investigation reports and timeliness of concern closure.

In addition to the database that tracks open concerns, DOE ECP maintains a database that tracks corrective actions resulting from substantiated EC investigations. When they concur with EC investigations relating to their line organization responsibilities, DOE line managers commit to ensuring that identified recommendations are implemented. DOE ECP tracks the completion of those corrective actions and periodically assesses the effectiveness of corrective actions identified for concerns.

DOE ECP provides periodic reports and briefings to DOE management regarding concerns received, in addition to complying with quarterly reporting requirements to DOE HQ.

Evaluation: Performance Objective partially met.

Opportunity for Improvement F&IP-3-OFI-1:

DOE has established adequate line management oversight processes per existing DOE-HQ directives. The site continues to upgrade its current tracking and trending databases and coordinate with the contractor(s) to ensure effective and efficient processes are identified and implemented in a timely manner. However, DOE has not completed a compliance and implementation review for DOE O 226.1.

References

WSRC Manual 1Q, *Quality Assurance Manual*

WSRC Manual 12Q, *Assessment Manual*

Standards/Requirements Identification Documents (S/RID) FA 01, *Management Systems*

S/RID FA 02, *Quality Assurance*

WSRC SCD-4, *Assessment Performance Objectives and Criteria*

WSRC Manual 1-01, *Management Policies*

WSRC Manual 1B, *Management Requirements and Procedures*

WSRC Manual 9B, *Site Item Reportability and Issue Management (SIRIM)*

WSRC Manual 11B, *Subcontract Management Manual*

WSRC Manual 1S, *SRS Waste Acceptance Criteria Manual*

WSRC Manual 2S, *Conduct of Operations Manual*

WSRC Manual 11Q, *Facility Safety Document Manual*

WSRC Manual E7, *Conduct of Engineering*

S/RID FA 07, *Engineering Program*

S/RID FA 09, *Conduct of Operations*

WSRC Manual 1-01, MP 5.35, *Corrective Action Program*

S/RID FA 04, *Training and Qualifications*

WSRC Manual 4B, *Training and Qualifications Manual*

WSRC Manual 12Q, Procedure SA-1, *Self-Assessment*

WSRC Manual 12Q, Procedure PA-1, *Performance Analysis*

WSRC Manual 1Q, Procedure 18-4, *Management Assessment Program*

WSRC Manual 1B, MRP 4.23, *Site Tracking, Analysis, and Reporting (STAR)*

WSRC Manual 1B, MRP 4.14, *WSRC Lessons Learned Program*

WSRC SCD-9, *Problem Analysis Manual*

SRIP 200, Chapter 223.4, *Technical Assessment Program*

SRIP 400, Chapter 430.1, *Facility Representative Program*

SRIP 400, Chapter 442.1, *Employee Concerns Program*

SRM 300.1.1B Human *Capital Management Systems Manual*

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