RL-675 (03/99)

United States Government **Department of Energy**

memorandum

Office of River Protection

DATE: DEC 2 9 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.

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.