U.S. Department of Energy
[redacted]
P.O. Box 450, MSIN H6-60
Richland, Washington 99352

07-TOD-052

JUN 14 2007

Mr. M. S. Spears, President
and Chief Executive Officer
CH2M HILL Hanford Group, Inc.
2440 Stevens Center Place
Richland, Washington 99354

Dear Mr. Spears:

CONTRACT NO. DE-AC27-99RL14047 – U.S. DEPARTMENT OF ENERGY, OFFICE OF RIVER PROTECTION (ORP) TANK FARM PROJECT MONTHLY REPORT FOR MAY 2007

The ORP Tank Farm Project Facility Representatives and Technical Staff conducted evaluations of the Tank Farms and 222-S Laboratory operations and activities during May 2007. The attached report documents the results of the evaluations. A quarterly evaluation report will no longer be issued; the monthly report provides more timely information and feedback to the contractor.

You are expected to enter the deficiencies identified in the attached report into your corrective action management system and manage them to closure.

If you have any questions, you may contact me, or your staff may contact Mark Brown, Director, Tank Farm Operations Division, (509) 373-9150.

Sincerely,

Delmar L. Noyes, Acting
Assistant Manager Tank Farms

TOD:MCB

Attachment

cc w/attach:
E. J. Adams, CH2M HILL
C. E. Anderson, CH2M HILL
J. J. Badden, CH2M HILL
T. E. Bratvold, CH2M HILL
R. A. Dodd, CH2M HILL
G. N. Hanson, CH2M HILL
D. B. Hardy, CH2M HILL
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CH2M Correspondence Control

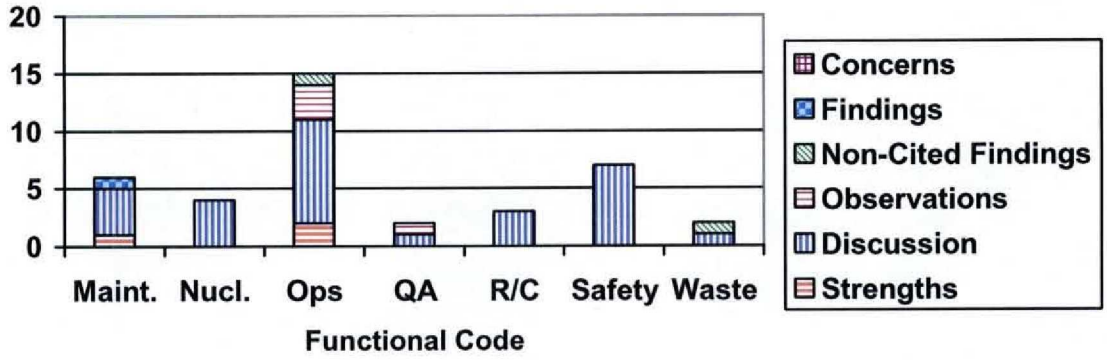
Office of River Protection

Tank Farm Project Monthly Report for May 2007

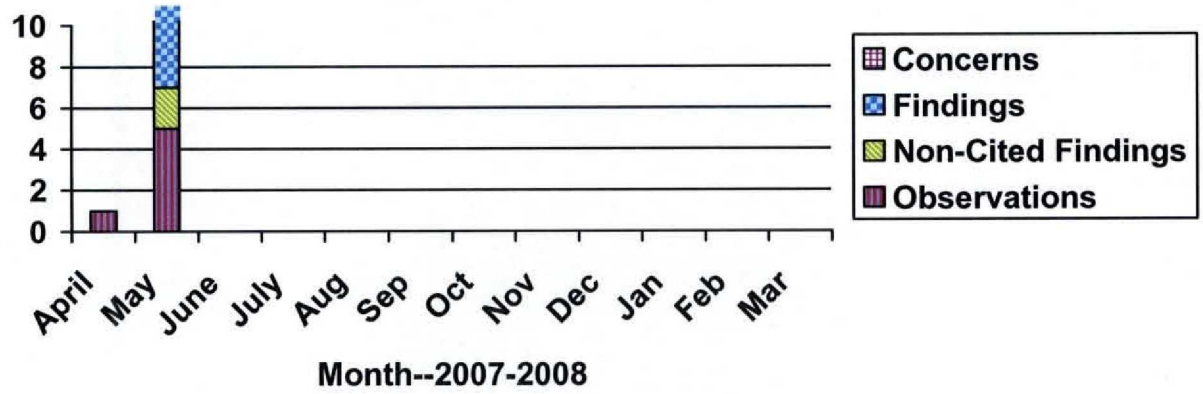
I. Introduction/Summary

During the month of May 2007, the U.S. Department of Energy (DOE), Office of River Protection (ORP) Facility Representatives (FRs) and technical staff reviewed maintenance and operations at the Tank Farms and 222-S Laboratory. For this reporting period, 34 entries were made into the Operational Awareness (OA) database. The graph below groups the entries by functional area; since some entries cover more than one functional area they may be represented in the graph more than once. The area with the most OA entries is in the Operations functional area, which is consistent with activities at the Tank Farms and 222-S Laboratory. Three Strengths, six Findings, and five Observations were noted during the month (detailed in Section V of this report).

Number of OA Entries by Category



Number of Deficiencies by Type



II. Analysis and Discussion

In May 2007 the ORP FRs and technical staff performed 30 surveillances in areas that included operations, nuclear safety, industrial safety and radiological protection. No discernable trends were identified.

The FRs conducted field oversight and program reviews during the month. Some of the complex or hazardous field activities observed included:

- Phase one of the Demonstration Bulk Vitrification System (DBVS) full scale dryer test—first time testing;
- Remote Water Distribution Device removal from S-112—complex/hazardous;
- SY-103 Push Mode Core Sampling—complex/hazardous; and
- Waste packaging of the C-109 salt well pump and screen—high radiological dose rates.

ORP technical staff completed two reviews during the month (enclosed). An assessment of the Unreviewed Safety Question (USQ) Process Implementation identified three Findings and one Observation. The USQ Process review team determined all performance objectives were met for the assessment. A programmatic review of the Laboratory Information Management System (Omni-LIMS) in use at the 222-S Laboratory determined the system to be accurate and effective, and resulted in no Findings and no Observations.

III. Occurrences and Injuries

During the month of May 2007 there were no recordable injuries and no injuries that resulted in days away from work. The last recordable and lost work day injury occurred on April 3, 2007, when a CH2M HILL Hanford Group, Inc. (CH2M HILL) employee was rolling up cable on a reel and felt pain in their lower back. The employee received initial and follow-up treatment and was on home rest. The contractor conducted an ergonomic evaluation of the work activity and implemented corrective measures.

The following two occurrence reports were issued during the month of May 2007.

Crane Out-Rigger Pad Punches through Compact Gravel Road Causing Crane to Tilt and Operator Lowering Load onto Fencing (EM-RP--CHG-ANALLAB-2007-0002): On May 16, 2007, during load out of contaminated equipment with a crane from the 2727-WA storage yard to rail cars, located adjacent to the facility, a crane out-rigger pad "punched" through the compact gravel road it was sitting on and caused the crane to tilt. The crane was lifting a connex box for placement on the rail car. The crane operator maintained control of the load and was able to safely and immediately set the connex box down. The connex box was set down on a chain link fence section of the facility, causing minor damage to the fence. The box and crane experienced no damage. No personnel were injured during the event. This event was categorized 10(2)SC4.

Washington State Department of Ecology (Ecology) Issues Temporary Transfer Line Management Plan Notice of Violation (EM-RP--CHG-TANKFARM-2007-0004): On May 15, 2007, CH2M HILL was informed that Ecology issued a Notice of Violation to ORP and CH2M HILL based on a Finding during an inspection of the temporary waste transfer line management plan in March 2007. Ecology found that CH2M HILL and ORP were not in compliance with "Temporary Waste Transfer Line Management Program Plan" (RPP-12711) and as a result, Ecology identified a violation of Washington Administrative Code 173-303-640, "Tank Systems," and 40 Code of Federal Regualtion 264, Subpart J, "Tank Systems." Installed hose-in-hose transfer lines are not being removed per the schedule in the management plan. This event was categorized 9(2)SC4.

IV. Monthly Focused Review for May: Work Planning and Control

During the month of May 2007 ORP FRs reviewed the Tank Farm Contractor's (TFC) work planning and control process including procedure reviews, observation of work planning sessions, work performed in the field, post-job reviews and event investigations.

Scope:

The FRs performed the following activities using the Integrated Safety Management (ISM) surveillance guide 20-1 criteria:

- The FRs reviewed procedure number TFC-OPS-MAINT-C-01, Rev M-2, *Tank Farm Contractor Work Control.*

- The FRs monitored work planning activities such as; a planning/path forward meeting for the C-Farm exhauster belt replacement job, the Team Planning Meeting for the 241-SX Sludge Cooler Mechanical Isolation (CLO-WO-07-0418), and the Alara Joint Review Group (AJRG) for 242-A work in evaporator room.

- The FRs reviewed field work activities including; a AW flush pit pressure switch functional test, a pressure switch hydro test in AW Farm, aerosol testing of the primary and annulus breather filters at 244-S Double-Contained Receiver Tank, the S-102 camera light troubleshooting job in riser #7 and conducted a walkthrough of the S-Farm contamination event area.

In May 2007 the FRs were also involved in fact finding meetings for a crane footing issue at 2727-WA, and a personnel contamination event at S Farm. Additionally, the FRs assessed the adequacy of planning for hazardous energy control for 242-A evaporator room access.

Results:

The TFC's work control procedure TFC-OPS-MAINT-C-01, Rev M-2, *Tank Farm Contractor Work Control*, defines work management from the initiation of a work request through work order closeout. The procedure outlines the basic process for work control

using the ISM system core functions, and identifies roles and responsibilities, and interfaces through which this process is implemented.

FR Observations of TFC planning sessions, work performed and post job reviews found that the process described in the TFC's work control procedure is being followed as described, with a few exceptions described below.

Weekly reports from the covered period reported two Strengths, one Observation, one non-cited Finding, and one Finding related to the work planning and control process as shown below. *Other issues identified during the month that dealt with field work implementation issues (not directly related to work control process) are not included below.* Details of the Strengths and Deficiencies can be found in Section V of this report.

Strengths:

- **Pre-job Briefing Demonstrates Effective ISM System Performance.** (Brandon Williamson, May 3, 2007)
- **The FR found a well described Temporary Modifications program** (Navarro, May 11, 2007)

Findings:

- **No Senior Supervisory Watch (SSW) was present during the pre-job briefing for a high risk work activity.** (Sorensen, May 1, 2007)
- **Non-Cited Finding: Untimely Incorporation of a Standing Order into Procedures/Processes.** (Blanchard, May 31, 2007)

Observations:

- **Inconsistent Procedural Guidance on Assessment Report Timeliness** (Blanchard, May 9, 2007)

Conclusion:

The FR focus area review of May 2007 found that the TFC's Work Planning and Control Process attributes are documented and described in sufficient detail to ensure successful development and implementation at the activity level. Organizational structure, functional roles, responsibilities, levels of authority, accountability, and interfaces for those managing, planning, performing, and assessing work are clearly defined and documented. The process described is implemented well with the exceptions detailed above. The FRs will continue to monitor the issues as described in the above Observations and Findings.

V. Strengths and Deficiencies

Strengths:

Pre-job Briefing Demonstrates Effective ISMS Performance. (Brandon Williamson, May 3, 2007)

The pre-job briefing for the Ultrasonic Testing activities in the 242-A evaporator room was very well run and thorough. Job site photographs were used as a tool to ensure that workers were aware of radiological conditions and general hazards of the worksite, facilitating worker involvement and discussion. The Field Work Supervisor captured worker feedback from these discussions for inclusion in the Worksite Hazard Analysis.

Superior Conduct of Operations Observed During 1F Hot Cell Drain Line Replacement (Courtney Blanchard, May 3, 2007)

On May 3, 2007, craft were observed using effective three-way communication and team work during the 1F Hot Cell work. Radiological Control Technicians clearly articulated dose and contamination levels including the appropriate units. After the repeat-back communication, the originator completed the three-way-communication by stating, "Correct," or made the appropriate clarification which was followed by repeat-back. Team work observed included operators assisting each other when moving tools and securing the ladder while entering and exiting the hot cell. Effective communication ensured hazards were accurately identified and team work mitigated the hazards of the work.

The FR Found a Well-Described Temporary Modifications Program (Navarro, May 11, 2007)

The FR determined that the TFC had a well-detailed procedure for the processing of temporary modifications and bypasses, OPS-OPER-C-11 *Equipment Temporary Modifications and Bypasses*, which includes a recent change requiring the Deputy Vice President of Waste Feed Operations and Closure Operations (WFO/CO) approves extensions of time for these modifications. The updated WFO/CO Temporary Modification Logbook is readily available on-line, providing up-to-date status of temporary installations to anyone with access to a computer.

Findings:

No SSW was Present During the Pre-Job Briefing for a High Risk Work Activity. (Chris Sorensen, May 1, 2007)

Requirement: TFC-OPS-MAINT-C-01, *Tank Farm Contractor Work Control*, requires the SSW to attend the pre-job briefing for the work instruction steps to be monitored. TFC-OPS-OPER-C-08, *Shift Routines and Operating Practices*, requires the SSW to ensure the roles and responsibilities of each work group are communicated and understood prior to commencing work. This is considered by the procedure to be one of the minimum set of expectations for a SSW from senior management. TFC-OPS-OPER-C-08 is invoked throughout TFC-PLN-05,

Conduct of Operations Implementation Plan/Matrix, specifically in Section 1.C.3, "Monitoring of Operating Performance".

Discussion: The FR observed the first 20 to 25 minutes of the pre-job briefing for packaging the C-109 saltwell screen and loading it into the long length equipment waste box for disposal. This was to be conducted per CLO-WO-07-0519. No SSW was present at the pre-job briefing. The Field Work Supervisor leading the briefing indicated that he would brief the SSW later one-on-one. This is a high radiological risk job that requires a SSW to be assigned to oversee the work. The AJRG determines which steps of the work instruction are to have a SSW present, and they did so for this work package. This was the second time that this FR has observed a SSW being absent from a pre-job briefing for a high risk job.

USQ Process Implementation Assessment Findings (see enclosed report)(Moreno, May 2007):

A-07-AMTF-TANKFARM-002-F01: Per TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2, Fig. 3, *Categorical Exclusion for Inconsequential Changes (GCX-2),* does not allow addition of notes which direct operator action to existing documents. Contrary to this requirement, TF-06-1509-S, *PCA Change to TO-220-106, Rev. A-38,* invoked GCX-2 to incorporate a note which directed operator action.

A-07-AMTF-TANKFARM-002-F02: Per TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2, Fig. 3, *Categorical Exclusion for Inconsequential Changes (GCX-2),* does not allow incorporation of technical changes to existing documents. Contrary to this requirement, TF-06-1583-S, *Review of Change to TF-OPS-005, Rev F-16 Resulting in the Release of Rev. F-17 (Draft),* invoked GCX-2 to incorporate a technical change.

A-07-AMTF-TANKFARM-002-F03: The ORP assessment team identified four out of twenty USQ determinations sampled that have less-than-adequate responses. The details of the individual inadequacies are provided in the assessment report (Appendix A). The USQ determinations are:

- TF-06-1458-D, *ECN-724191-R0, ECN-724191-R1, and Work Packages CLO-WO-06-0020000 and WFO-WO-06-002173, Bypass Humiscan PLC Shutdown Features.*
- 2S-07-0202-D, *Remove POEMS ICP-MS Unit from Room 1L.*
- TF-06-1038-D, *Installation of AY-102 Transfer Supernate Pump and Jumpers (U5-P1-D Rigid Jumper and F-U12 Flex Jumper) in 02A Central Pump Pit per ECN-722557, Rev. 0, ECN-724177-R0, ECN-724187-R0 and ECN-724187-R1 & Work Packages WFO-WO-05-001099, WFO-WO-05-001161, 241-AY-102 Transfer Pump Electrical Upgrades and WFO-WO-06-002556, AY-102 Transfer Pump Power Removal.*
- TF-07-0240-D, *Review Tank Farm Operating Procedure TO-650-090, Rinse and Jet 242-A Pump Room Sump During Shutdown Mode, Rev. A-0.*

Non-Cited Finding: Door to SX Change Trailer was Left Open Unattended. (Rob Yasek, May 1, 2007)

While performing a walkdown of S Farm, the FR noted that the back door, adjacent to the clean Anti-C clothing, was propped open and there was nobody present to control access to the Tank Farm Complex. The door was shut and the Shift Manager was notified of this discovery for follow-up.

Non-Cited Finding: Untimely Incorporation of a Standing Order into Procedures/Processes. (Blanchard, May 31, 2007)

On May 22, 2007, an Advanced Technologies and Laboratories International, Inc. (ATL) Chemical Technologist performed an analysis on Tank C-202 waste. Tank C-202 waste had been identified to have elevated mercury concentrations. Specific Personnel Protective Equipment (PPE) is required when working with waste that has elevated mercury concentrations. Standing Order ATS-2005-102 defines criteria and requirements for mercury hazard samples. Specifically, the standing order requires designated samples to be labeled, and requires the use of specific PPE (chemical resistant laminated gloves) when working with the samples. The samples were not labeled and the chemical technologist was not wearing the appropriate chemical resistant laminated gloves for the job. Several Analytical Technical Services (ATS) and ATL employees had the opportunity to identify that the requirements of ATS-2005-102 were not in place for the C-202 project (ATS Project Coordinator, ATL Peer Reviewer, ATL Sample Custodian, ATL Chemical Technologist). Although, Standing Order ATS-2005-102 was issued over 2 years ago, the standing order requirements were not incorporated into analytical procedures.

DOE Order 5480.19, *Conduct of Operations Requirements for DOE Facilities*, Chapter XV, *Timely Orders to Operators*," stated that information intended as permanent should be promptly incorporated into appropriate administrative procedures. Procedure ATS-310, Section 11.15, *Timely Orders,* was silent on establishing a timeline for incorporating information into the appropriate procedure(s). This Non-Cited Finding applies to both ATL and ATS. This deficiency has been discussed with both contractors. The management from both companies had started to implement comprehensive corrective actions that the Facility Representative will track to completion.

Observations:

Untimely Issuance of USQ Process Management Assessment Reports. (Blanchard, May 9, 2007)

In review of the USQ Process Management Assessment Reports, the FR determined that the reports were issued excessively late. Quarterly reports in 2005 were issued up to 5 months after the assessment periods ended. For 2006, the second semi-annual report ending in December had not been issued (over 4 months since the end of the period). Procedure TFC-ESHQ-AP-C-02, "Management Assessments," states: "Read and become familiar with the information in DOE G

414.1-1A." DOE G 414.1-1A, *Management Assessment and Independent Assessment Guide,* Section 5.7.7 states:

> Because the true value of an assessment is the improvement opportunities it identified, and its value typically diminishes over time, the best time to release a report is immediately after the post-assessment meeting, which allows the assessed organization to begin improvement actions, yielding the maximum return from those actions.

The Nuclear Safety and Licensing Director agreed that the issuance of the USQ process documentation assessments was not timely and this would be corrected.

Inconsistent Procedural Guidance on Assessment Report Timeliness. (Blanchard, May 9, 2007)

The procedural guidance for management observation program, independent assessments, and integrated assessment schedule administration clearly articulated required completion dates for assessment reports. However, the procedural guidance for management assessments was silent on required completion dates. The Assessment and Corrective Actions Manager agreed that there should be guidance on completion dates for management assessments and that Procedure TFC-ESHQ-AP-C-02, "Management Assessments," would be revised to include this guidance. This action to clarify the deliverable date for management assessments is consistent with the guidance provided in DOE G 414.1-1A, *Management Assessment and Independent Assessment Guide*, Section 5.7.7, "Releasing and Responding to Assessment Reports."

Inattention to Detail for Temporary Plant Modifications. (Navarro May 11, 2007)

The supernatant pump described in temporary modification under work package WFO-WO-06-002556 was initially identified as pump number AY02A-WT-P-001 in document Engineering Change Notice (ECN) 72109 R0. Then R1 was issued to "change all the callouts for pump P-001 to P-002". The description of the change block (#17) stated the problem as, "Two different pump identification numbers (AY02A-WT-P-001 and AY02A-WT-P-002) exist for the same transfer pump". The justification for the change block (#18) stated "Two Equipment Identification Numbers (P-001 and P-002) existed for the same transfer pump. A decision was made to use only the P-002 designation". The issue was further compounded in that subsequent ECN revisions and Field Change Notice identify the pump as AY02-WT-P-001, as well as AY02-WT-P-002. *The last ECN revision provided a consistent and correct equipment number. The WFO Engineering Director indicated the process of ECN revisions to correct the issue of two numbers for the same equipment was judged acceptable for this situation since the ECN revisions were completed before the temporary modification was placed in service (i.e., before the P-002 pump was operated), and the changes were documented in the ECN revisions.*

The temporary modification described by work package WFO-WO-06-002556, to provide temporary electrical power to a supernatant pump in pit 241-AY-02A, was installed on Decmeber 11, 2006, and per procedure, the time allowed for its removal of 90 days expired on March 11, 2007. The Shift Office Tickler system identified this issue on March 11, 2007, and wrote Problem Evaluation Request (PER) No. CH2M-PER-2007-0430, to document the temporary ECN was about to pass its allowed 90 days. The WFO Deputy Vice President allowed an extension to 180 days,

(also approved by the WFO Engineering Director), which would extend the removal date to June 9, 2007. The WFO temporary modification logbook indicated an extension due date of July 1, 2007 (an additional 202 days, not the 180 days). It was later clarified the July 1, 2007 date was mistakenly based on an additional 90 days from the e-mail date approving the time extension from the WFO Deputy Vice president. *The WFO senior Shift Office Manager corrected the logbook to reflect the correct extension date to June 9, 2007.*

Inadequate FR Notification of Significant Operational Issue. (Blanchard, May 31, 2007)

On May 29, 2007, at 9:30 am the on-call FR received a text message via cellular telephone concerning an operational event associated with work on the C-109 sluice box. The text message stated that the radiological work permit void limits had been exceeded. The text message also stated that the personnel were placed in a safe location. At approximately 10:30 am the on-call FR called the Closure Operations Shift Manager to get more details on the event. During the call the FR asked the shift manager why he was not called on the event. The shift manager explained he had sent the FR a page and a call was not procedurally required for this type of event. Procedure TFC-OPS-OPER-D-01, *Event Notification*, Figure 1, WFO/CO Event Notification Matrix, requires the shift manager to notify the on-call FRs when there is a Significant Operational Issue. The Manager of Closure Operations agreed with the FR that the shift managers were required to verbally notify the on-call FR and immediately began corrective actions.

USQ Process Implementation Assessment Observation (see enclosed report) (Moreno, May 2007):

A-07-AMTF-TANKFARM-002-O01: Completed GCX-3 USQ Screen forms do not identify the specific USQ number designation associated with the authorizing facility changes portion of a work package.

VI. Closed Findings:

None

U.S. Department of Energy
Office of River Protection

Tank Farm Contractor
Unreviewed Safety Question Process
Implementation Assessment

Final Report
A-07-AMTF-TANKFARM-002

May 2007

Mario R. Moreno
Team Leader

Report Approval

Mario R. Moreno, Team Leader
Office of River Protection

Jian-Shun Shuen, Team Member
Office of River Protection

Approved: WB Scott for
Dana C. Bryson, Director
Tank Farms Engineering Division
Office of River Protection

EXECUTIVE SUMMARY

The U.S. Department of Energy (DOE), Office of River Protection (ORP) performed an assessment of the CH2M HILL Hanford Group, Inc. (CH2M HILL) Tank Farm Contractor (TFC) Unreviewed Safety Question (USQ) process through a sample review of completed general categorical exclusions, USQ screens, USQ determinations, and field Observations. The TFC USQ process is documented in TFC-ENG-SB-C-03, REV D-2, *Unreviewed Safety Question Process.* As required by 10 Code of Federal Requlation (CFR) Part 830.203, *Unreviewed Safety Question Process*, sub-section (b) the TFC USQ process has been approved by ORP. There are three (3) performance objectives associated with this assessment and are as follows:

1. Determine if temporary or permanent changes in the facility as described in the existing documented safety analysis have been adequately processed through the USQ process.

2. Determine if temporary or permanent changes in the procedures as described in the existing documented safety analysis have been adequately processed through the USQ process.

3. Determine if a test or experiment not described in the existing documented safety analysis has been adequately processed through the USQ process.

A closeout meeting was conducted and the TFC was provided the opportunity to review the assessment report for factual accuracy.

Summary of Assessment Results

The sample of General Categorical Exclusion Three (GCX-3), *Categorical Exclusion for Work Instructions, Work Permits, or other Documents used for Execution of Work Packages,* reviewed met the intent, prerequisites, scope and boundaries of the categorical exclusion with only one area of improvement (observation) noted. A prerequisite requirement for use of this categorical exclusion is to verify the facility change authorization portion of a work package has been through the USQ process. The GCX-3 completed forms sampled did not consistently identify specific USQ number designations associated with the authorizing facility changes portion of a work package. The identification of the USQ number designation greatly facilitates review by outside organizations and provides traceability that the prerequisite requirement was met.

The sample of General Categorical Exclusion Two (GCX-2), *Categorical Exclusion for Inconsequential Changes (GCX-2)* reviewed were of generally good quality met, the intent, prerequisites, scope, and boundaries, except for two uses of this categorical exclusion (Finding) out of a sample of thirty seven. One directed operator action and the other made a technical change, both of which are outside the scope of this categorical exclusion.

The sample of USQ screens and determinations whose scope entailed a facility change, procedure change, or a test or experiment were of generally good quality and met requirements.

This review included field evaluation of Documented Safety Analyses (DSA) changes and USQ documentation. No deficiencies were noted in the conduct or documentation of these changes.

During the assessment process, the ORP team identified less-than-adequate written responses for a number of completed USQ determinations. The less-than-adequate USQ determinations do not lead to a positive USQ, but are significant enough that revision of the responses to the USQ determination questions is required. The details of the less-than-adequate written responses are detailed in the assessment report.

FINDINGS

A-07-AMTF-TANKFARM-002-F01: Per TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2, Fig. 3, *Categorical Exclusion for Inconsequential Changes (GCX-2),* does not allow addition of notes which direct operator action to existing documents. Contrary to this requirement, TF-06-1509-S, *PCA Change to TO-220-106, Rev. A-38,* invoked GCX-2 to incorporate a note which directed operator action.

A-07-AMTF-TANKFARM-002-F02: Per TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2, Fig. 3, *Categorical Exclusion for Inconsequential Changes (GCX-2),* does not allow incorporation of technical changes to existing documents. Contrary to this requirement, TF-06-1583-S, *Review of Change to TF-OPS-005, Rev F-16 Resulting in the Release of Rev. F-17 (Draft),* invoked GCX-2 to incorporate a technical change.

A-07-AMTF-TANKFARM-002-F03: The ORP assessment team identified four out of twenty USQ determinations sampled that have less-than-adequate responses. The details of the individual inadequacies are provided in the assessment report (Appendix A). The USQ determinations are:

- TF-06-1458-D, *ECN-724191-R0, ECN-724191-R1, and Work Packages CLO-WO-06-0020000 and WFO-WO-06-002173, Bypass Humiscan PLC Shutdown Features.*
- 2S-07-0202-D, *Remove POEMS ICP-MS Unit from Room 1L.*
- TF-06-1038-D, *Installation of AY-102 Transfer Supernate Pump and Jumpers (U5-P1-D Rigid Jumper and F-U12 Flex Jumper) in 02A Central Pump Pit per ECN-722557, Rev. 0, ECN-724177-R0, ECN-724187-R0 and ECN-724187-R1 & Work Packages WFO-WO-05-001099, WFO-WO-05-001161, 241-AY-102 Transfer Pump Electrical Upgrades and WFO-WO-06-002556, AY-102 Transfer Pump Power Removal.*

- TF-07-0240-D, *Review Tank Farm Operating Procedure TO-650-090, Rinse and Jet 242-A Pump Room Sump During Shutdown Mode, Rev. A-0.*

OBSERVATION

A-07-AMTF-TANKFARM-002-O01: Completed GCX-3 USQ Screen forms do not identify the specific USQ number designation associated with the authorizing facility changes portion of a work package.

CONCLUSION

All performance objectives were met for this assessment. The GCX-2 chosen for this assessment was a random sample (every other one) of 37 from a population of 72. The GCX-2 is approved by DOE as required by 10 CFR Part 830.203, therefore, deviation from the approved categorical exclusion requirement is classified as a finding. This categorical exclusion is typically used to correct inconsequential items to existing documents, therefore, it falls under performance objective 2. Given, the nature of the deviations, number found, and total GCX-2 population, the ORP assessment team still finds performance objective 2 to be met.

Table of Contents

1.0 INTRODUCTION

The U.S. Department of Energy (DOE), Office of River Protection (ORP) performed an assessment of the CH2M HILL Hanford Group, Inc. (CH2M HILL) Tank Farm Contractor (TFC) Unreviewed Safety Question (USQ) process through a sample review of completed general categorical exclusions, USQ screens, USQ determinations, and field Observations. The TFC USQ process is documented in TFC-ENG-SB-C-03, REV D-2, *Unreviewed Safety Question Process.* As required by 10 Code of Federal Regulation Part 830.203, *Unreviewed Safety Question Process*, sub-section (b), the TFC USQ process has been approved by ORP.

2.0 PURPOSE AND SCOPE

A sample review of TFC General Categorical Exclusions (GCX), USQ screens, USQ determinations, and field Observations was completed to assess implementation of the USQ process as approved by ORP. The scope of the assessment on the TFC USQ process entailed three performance objectives and associated criteria:

1. Determine if temporary or permanent changes in the facility as described in the existing documented safety analysis have been adequately processed through the USQ process:

    - Have invoked GCX-3, *Categorical Exclusion for Work Instructions, Work Permits, or other Documents used for Execution of Work Packages,* properly excluded authorizing permanent or temporary facility changes from the scope of the GCX-3?

    - Has on-going field work, which entails temporary or permanent changes in the facility, been properly entered through the USQ process?

    - Have USQ screens and determinations for temporary or permanent changes in the facility, as described in the existing documented safety analysis, been properly dispositioned?

2. Determine if temporary or permanent changes in the procedures as described in the existing documented safety analysis have been adequately processed through the USQ process:

    - Have invoked GCX-2, *Categorical Exclusion for Inconsequential Changes to Existing Documents,* been properly executed to only allow inconsequential procedure changes from further review in the USQ process?

    - Have USQ Screens and Determination for temporary or permanent changes in the procedures as described in the existing documented safety analysis been adequately dispositioned?

- Have ongoing CH2M HILL work, which entails a temporary or permanent changes in a procedure, been properly processed through the USQ process?

3. Determine if a test or experiment not described in the existing documented safety analysis has been adequately processed through the USQ process:

   - Have USQ Screens and Determinations, which entail a test or experiment not described in the existing documented safety analysis, been properly dispositioned?

   - Has ongoing field work, entailing a test or experiment not described in the existing documented safety analysis, been processed through the USQ process?

A closeout meeting was conducted and the TFC was provided the opportunity to review the assessment report for factual accuracy.

3.0 APPROACH AND DELIVERABLES

Major elements of the review consisted of:

- Preparation of the Criteria Review and Approach Documents (CRAD);
- Selection of the review team;
- Pre-review activities;
- Entrance Meeting with the TFC;
- Fieldwork activities;
- Development of the assessment results;
- Exit Meeting with the TFC; and
- Development of a final report, including a factual accuracy review by the TFC.

The CRADs are included as part of the assessment forms in Appendix A. The review team consisted of the two ORP Tank Farm Nuclear Safety Specialists (NSS) with input from the Facility Representatives responsible for oversight of the Tank Farm operations. Issues were communicated to the TFC in the close out meetings.

4.0 ASSESSMENT RESULTS

A summary of the results of the assessment, including Findings and Observations, by assessment criterion is provided below. Detailed discussions, references, personnel interviewed and additional considerations for the TFC are provided in Appendix A.

The sample of GCX-3, *Categorical Exclusion for Work Instructions, Work Permits, or other Documents used for Execution of Work Packages,* reviewed met the intent, prerequisites, scope, and boundaries of the categorical exclusion with only one area of improvement (Observation) noted. A prerequisite requirement for use of this categorical exclusion is to verify

that the facility change authorization portion of a work package has been through the USQ process. The GCX-3 completed forms sampled did not consistently identify specific USQ number designation associated with the authorizing facility changes portion of a work package. The identification of the USQ number designation greatly facilitates review by outside organizations and provides traceability that the prerequisite requirement was met.

The sample of GCX-2, *Categorical Exclusion for Inconsequential Changes (GCX-2),* reviewed were of generally good quality met the intent, prerequisites, scope, and boundaries, except for two uses of this categorical exclusion (Finding) out of a sample of 37. One GCX-2 directed operator action and the other made a technical change; both of which are outside the scope of this categorical exclusion.

The sample of USQ screens and determinations whose scope entailed a facility change, a procedure change, or a test or experiment were of generally good quality and met requirements. This review included field evaluation of documented safety analysis changes and USQ documentation. No deficiencies were noted in the conduct or documentation of these changes.

During the assessment process, the ORP team identified less-than-adequate written responses for a number of completed TFC USQ determinations. The less-than-adequate USQ determinations do not lead to a positive USQ, but are significant enough that revision of the response to the USQ determination questions is required. The details of the less-than-adequate written responses are detailed in the assessment forms (Appendix A).

FINDINGS

A-07-AMTF-TANKFARM-002-F01: Per TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2, Fig. 3, *Categorical Exclusion for Inconsequential Changes (GCX-2),* does not allow addition of notes which direct operator action to existing documents. Contrary to this requirement, TF-06-1509-S, *PCA Change to TO-220-106, Rev. A-38,* invoked GCX-2 to incorporate a note which directed operator action.

A-07-AMTF-TANKFARM-002-F02: Per TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2, Fig. 3, *Categorical Exclusion for Inconsequential Changes (GCX-2),* does not allow incorporation of technical changes to existing documents. Contrary to this requirement, TF-06-1583-S, *Review of Change to TF-OPS-005, Rev F-16 Resulting in the Release of Rev. F-17 (Draft),* invoked GCX-2 to incorporate a technical change.

A-07-AMTF-TANKFARM-002-F03: The ORP assessment team identified four out of twenty USQ determinations sampled that have less-than-adequate responses. The details of the individual inadequacies are provided in the assessment report (Appendix A). The USQ determinations are:

- TF-06-1458-D, *ECN-724191-R0, ECN-724191-R1, and Work Packages CLO-WO-06-0020000 and WFO-WO-06-002173, Bypass Humiscan PLC Shutdown Features.*
- 2S-07-0202-D, *Remove POEMS ICP-MS Unit from Room 1L.*

- TF-06-1038-D, *Installation of AY-102 Transfer Supernate Pump and Jumpers (U5-P1-D Rigid Jumper and F-U12 Flex Jumper) in 02A Central Pump Pit per ECN-722557, Rev. 0, ECN-724177-R0, ECN-724187-R0 and ECN-724187-R1 & Work Packages WFO-WO-05-001099, WFO-WO-05-001161, 241-AY-102 Transfer Pump Electrical Upgrades and WFO-WO-06-002556, AY-102 Transfer Pump Power Removal.*

- TF-07-0240-D, *Review Tank Farm Operating Procedure TO-650-090, Rinse and Jet 242-A Pump Room Sump During Shutdown Mode, Rev. A-0.*

OBSERVATION

A-07-AMTF-TANKFARM-002-O01: Completed GCX-3 USQ Screen forms do not identify the specific USQ number designation associated with the authorizing facility changes portion of a work package.

5.0 CONCLUSIONS

All performance objectives were met for this assessment. The GCX-2 chosen for this assessment was a random sample (every other one) of 37 from a population of 72. The GCX-2 is approved by DOE as required by 10 CFR Part 830.203, therefore, deviation from the approved categorical exclusion requirement is classified as a finding. This categorical exclusion is typically used to correct inconsequential items to existing documents, therefore, it falls under performance objective 2. Given, the nature of the deviations, number found, and total GCX-2 population, the ORP assessment team still finds performance objective 2 to be met.

6.0 REFERENCES

References and contacts for each assessment performance objective are listed in Appendix A.

APPENDIX A

CRITERIA REVIEW AND

APPROACH DOCUMENTS

PERFORMANCE OBJECTIVE 1: Determine if temporary or permanent changes in the facility as described in the existing documented safety analysis have been adequately processed through the Unreviewed Safety Question (USQ) process.

Assessment Elements:

1. Have invoked GCX-3, *Categorical Exclusion for Work Instructions, Work Permits, or other Documents used for Execution of Work Packages,* been properly excluded the authorizing facility changes either permanent or temporary from the scope of the GCX-3?

2. Has on-going field work which entails a temporary or permanent change in the facility been properly entered thru the USQ process?

3. Have USQ Screens and Determinations for temporary or permanent changes in the facility as described in the existing documented safety analysis been properly dispositioned?

Approach:

- Review CH2M HILL Hanford Group, Inc. (CH2M HILL) USQ Determination Database for invoked CGX-3 to assess if usage included an authorization of facility changes either permanent or temporary.

- Review ongoing CH2M HILL field work which entails a temporary or permanent change in the facility for proper entry into the USQ process.

- Review a sample of CH2M HILL USQ Screens and Determinations to assess if temporary or permanent changes in the facility as described in the existing documented safety analysis were properly disposition.

Records Reviewed:

GCX-3

1. 2S-06-1482-S, *Label Air Line/Components 2716-S.*
2. 2S-07-0280-S, *Installation of SEM in Room B1G.*
3. TF-06-0542-S, *Pen and Ink Change #7 to Work Package WS-04-00713.*
4. TF-06-0877-S, *Work Orders CLO-WO-06-000357 & CLO-WO-06-000359, 241-BY-ITS1, Remove Foam at Support Pit and Install DP Gauge at Ion Column.*
5. TF-06-1284-S, *WCN-01 for UX-302A Pumping Work Package CLO-WO-06-001245.*
6. TF-06-1357-S, *241-S Perform Solid Grab Sample of 241-S-112 per Work Package CLO-SM-06-000004.*
7. TF-06-1360-S, *241-SY, Perform Grab Sample of 241-SY-102 per Work package WFO-SM-06-000005.*
8. TF-06-1386-S, *C-108 Equipment Installation on Risers 3 and 6 per Work package CLO-WO-05-000920.*

9. TF-06-1442-S, *Replace and Test C-200 HPP-1 Unit per Work Package CLO-WO-06-001836.*
10. TF-06-1457-S, *Install/Remove Scaffolding on C-204 per Work Package CLO-WO-06-002004.*
11. TF-06-1469-S, *Install Exhauster Ducting and Condensate Drain Line on C-108 per Work Package CLO-WO-05-000991.*
12. TF-06-1488-S, *Review of Work Package 2E-04-02198, Install Stairs and Handrails in 241-AW Farm.*
13. TF-06-1547-S, *Evaluation of Work Orders CLO-WO-06-002469, and CLO-WO-06-002471.*
14. TF-06-1559-S, *Pen and Ink #1 for Install Exhauster Ducting and Condensate Drain line on C-108 per Work Package CLO-WO-05-000991.*
15. TF-06-1592-S, *GCX-3: Review of 2E-04-01516, "241-AW-04C Disable Leak Detection Pit Alarm."*
16. TF-06-1676-S, *Pen and Ink Change to Work Package CLO-WO-06-001296.*
17. TF-06-1715-S, *WCN-01 to Work Package CLO-WO-05-000914.*
18. TF-07-0089-S, *WCN-01 to Work Package CLO-WO-05-002376.*
19. TF-07-0137-S, *GCX-3 Application for the Release of Work Package CLO-WO-07-0118 to Supply Heat Trace to Potable Water Supply.*
20. TF-07-0174-S, *Add Step 4 WCN-1 to Work Package WS-04-00573.*
21. TF-07-0207-S, *Perform In Tank Video of 241-ER-311, WFO-WO-06-002500.*
22. TF-07-0251-S, *Install C-109 Sluicers in Risers 2 and 7 per Work Package CLO-WO-06-001982.*

USQ Screens which entailed a facility change:

1. 2S-06-0339-S, *Change 207-SL Heat Trace Power Source.*
2. 2S-07-0229-S, *219-S Valve and Compressed Air Drawing Label Corrections.*
3. TF-06-1338-S, *ECN 723202 R1, C-108 LDM Installation Modification to Remove Surface Electrodes.*

USQ Determinations which entailed a facility change:

1. TF-06-1388-D, *Project 200 East parking Lots (AW Complex parking Area Improvements): Work Package WFO-WO-06-001988 and ECN-724487-Ro, As-Built Drawings for 200 East Parking Lots.*
2. TF-06-1315-D, *Disconnect the Electrical Loads at AY-PDP-1 Breaker #4, #5, #6 & #11 for Load Shedding Purposes Per ECN-724182-R0 (Draft).*
3. TF-07-0163-D, *Install Subsurface Electrodes in C Farm Borehole.*
4. TF-06-1632-D, *Change Disconnect Switch Fuse Size per ECN 724109-Rev 2 (Draft) and Work Package WFO-WO-05-1161.*
5. TF-06-1038-D, *Installation of AY-102 Transfer Supernate Pump and Jumpers (U5-P1-D Rigid Jumper and F-U12 Flex Jumper) in 02A Central Pump Pit per ECN-722557, Rev. 0, ECN-724177-R0, ECN-724187-R0 and ECN-724187-R1 & Work Packages WFO-WO-*

05-001099, WFO-WO-05-001161, 241-AY-102 Transfer Pump Electrical Upgrades and WFO-WO-06-002556, AY-102 Transfer Pump Power Removal.

6. TF-06-1458-D, *ECN-724191-R0, ECN-724191-R1, and Work Packages CLO-WO-06-0020000 and WFO-WO-06-002173, Bypass Humiscan PLC Shutdown Features.*
7. 2S-07-0202-D, *Remove POEMS ICP-MS Unit from Room 1L.*
8. TF-05-1049-D, *ECN 723340 R1 (Draft), 241-UX-302A Catch Tank Isolation.*

Field Observations:
During March and April 2007, the Tank Farm Operation Division (TOD) Facility Representatives (FR) looked at safety basis change management including the USQ process. This review included evaluation of DSA changes and USQ documentation. Surveillance Guide NSS 18-04 was utilized to conduct the USQ portion of the review. No deficiencies were noted.

Discussion of Results:
The GCX-3 chosen for this assessment were identified thru a CH2M HILL USQ database query for the dates of October 1, 2006, through March 12, 2007. Between these dates GCX-3 was used sixty-six times, a random sample (every third one) of twenty-two was chosen for this assessment as identified in the records reviewed section. The GCX-3 met the requirements of TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2, Fig. 4, *Categorical Exclusion for Work Instructions, Work Permits, or other Documents used for Execution of Work Packages.* A prerequisite requirement for the use of GCX-3 is to verify the facility change authorization portion of a work package has been through the USQ process. The completed GCX-3 USQ Screening forms do not consistently identify the specific USQ number designation associated with the authorizing facility changes portion of a work package.

The USQ Screens chosen for this assessment were identified thru a CH2M HILL USQ database query for the dates of October 1, 2006, through March 12, 2007. Between these dates 448 and forty eight USQ Screens were performed and a random sample (every 25) of 18 were chosen. The sample of USQ Screens had three whose scope entailed a facility change as identified in the record review section. The three USQ Screens were of generally good quality and met the requirements of TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2.

The USQD chosen for this assessment were identified thru a CH2M HILL USQ database query for the dates of October 1, 2006, through March 12, 2007. Between these dates 277 USQ Determination were performed and a random sample (every 21) size of 20 were chosen. The sample of USQ determination identified eight whose scope entailed a facility change as identified in the record review section. The USQ determination met the requirements of TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2.

The quality of TFC written responses to USQ determination questions on three of eight sampled was less then adequate, and are as follows:

TF-06-1458-D, *ECN-724191-R0, ECN-724191-R1, and Work Packages CLO-WO-06-0020000 and WFO-WO-06-002173, Bypass Humiscan PLC Shutdown Features*

The responses to USQ determination question 1 & 2 stated the Humiscan shutdown feature of the PLC upon abnormal temperature or humidity is not relied upon by the DSA to reduce the consequences of a waste transfer leak accident. The Humiscan shutdown feature affects the operability of the PLC, which is relied upon by the transfer leak detection system (LCO 3.1.1, *Transfer Leak Detection Systems*, Condition A) to stop waste transfers within completion times. The USQ determination did not acknowledge this connection to LCO 3.1.1 operability requirements. The USQ determination as written, would lead a outside reviewer to conclude operability requirements associated with LCO 3.1.1 were being revised this would be outside the scope of the USQ process.

2S-07-0202-D, *Remove POEMS ICP-MS Unit from Room 1L*

The basis for the "No" answer for the USQD question #5, "*Could the proposed change create the possibility of an accident of a different type than any previously evaluated in the facility's existing safety analyses,*" is less then adequate. The basis states, "There are not safety analysis events that could occur during or as a result of the proposed modification that would be of a different type that would not be bounded by the existing analyses." Bounded by the existing analyses should not be a sole criterion for answering this question. If a proposed change creates the possibility of an accident or malfunction that involves an initiator or failure not considered in the DSA, the accident may be of different type and the answer to this question should be "Yes", regardless if it's bounded by the existing analyses. Accidents of different type than any previously evaluated may require a different set of controls.

TF-06-1038-D, *Installation of AY-102 Transfer Supernate Pump and Jumpers (U5-P1-D Rigid Jumper and F-U12 Flex Jumper) in 02A Central Pump Pit per ECN-722557, Rev. 0, ECN-724177-R0, ECN-724187-R0 and ECN-724187-R1 & Work Packages WFO-WO-05-001099, WFO-WO-05-001161, 241-AY-102 Transfer Pump Electrical Upgrades and WFO-WO-06-002556, AY-102 Transfer Pump Power Removal*

The response to USQ determination question 2, "*Could the proposed change increase the consequences of an accident previously evaluated in the facility's existing safety analyses,*" is less then adequate, it should have discussed if the operating characteristics of the new pump (e.g., peak pressure head, run off flow rate) is bounded by the pumps analyzed in the DSA. Without such a discussion, the "No" answer may not be justified.

Conclusion:

Performance Criteria one (1)

The reviewed sample met the intent, prerequisites, and scope & boundaries of GCX-3, *Categorical Exclusion for Work Instructions, Work Permits, or other Documents used for*

Execution of Work Packages, as approved in TFC-ENG-SB-C-03, *Unreviewed Safety Question*

Process, Rev D-2, Fig. 4, but quality could be improved.

Performance Criteria two (2)

This review included evaluation of DSA changes and USQ documentation. Surveillance Guide NSS 18-04 was utilized to conduct the USQ portion of the review. No deficiencies were noted in the conduct or documentation.

Performance Criteria three (3)

A sample of USQ Screens (3) and USQ determination (8) whose scope entailed a facility change met the requirements of TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2. The responses to USQ determination questions on three of eight sampled were less then adequate. The TFC concluded this did not lead to a positive USQ, but the completed USQ determinations could be revised to incorporate appropriate responses. The USQ determinations that were less then adequate will be rolled up into a generic quality finding of completed USQ determinations.

Issue(s):

FINDING:

None

OBSERVATION:

A-07-AMTF-TANKFARM-002-O01: Completed GCX-3 USQ Screen forms do not identify the specific USQ number designation associated with the authorizing facility changes portion of a work package.

Criteria and Review Approach Document

PERFORMANCE OBJECTIVE 2: Determine if a temporary or permanent change in the procedures as described in the existing documented safety analysis have been adequately processed through the USQ process.

Performance Criteria or Assessment Elements:

1. Have invoked GCX-2, *Categorical Exclusion for Inconsequential Changes to Existing Documents,* been properly executed to only allow procedure inconsequential changes from further review in the USQ process?

2. Have USQ Screens and Determination for temporary or permanent change in the procedures as described in the existing documented safety analysis adequately dispositioned?

3. Has ongoing CH2M HILL work which entails a temporary or permanent change in a procedure been properly processed thru the USQ process?

Approach:

- Review a sample of CH2M HILL invoked CGX-2 to assess whether usage only entailed inconsequential changes.

- Review a sample of CH2M HILL USQ Screens and Determinations to assess if temporary or permanent changes in a procedure as described in the existing documented safety analysis were adequately disposition.

- Review ongoing CH2M HILL field work which entails a temporary or permanent change in procedure for proper entry into the USQ process.

Records Reviewed:

GCX-2

1. EV-06-1575-S, *Procedure Change to TF-OR-A-01, 242-A Evaporator Control Room Rounds, Rev. K-5 to K-6 (Draft).*
2. 2S-06-1371-S, *Evacuation.*
3. 2S-06-1373-S, *Spill/Release/Continuous Air Monitor Alarm.*
4. 2S-06-1494-S, *Personnel Contamination.*
5. 2S-07-0211-S, *Analytical Technical Services Facility Quality Assurance Program Plan for industrial Hygiene Analyses.*
6. EV-06-1281-S, *Review 242-A Evaporator Operating Procedures TO-600-040, Rev. K-5(Draft), Monitor 242-A Evaporator Operation, TO-600-060, Rev. N-4(Draft), Shut down 242-A Evaporator System and TO-660-150, Rev. B-6(Draft), Weight Factor Dip Tube Flush.*
7. EV-06-1321-S, *Correct P&ID for 242-A Raw Water System per ECN-724183-R0 (Draft).*

8. EV-06-1414-S, *Revision to 242-A Maintenance Procedure 242-30-002, Cold Weather Protection Surveillance for 242-A Evaporator, Revision E-2 (Draft).*
9. EV-06-1429-S, *242-A Procedure TO-600-123, Startup and Shutdown E-C-1,E-C-2, and E-C-3 Condensers, Rev. F-4.*
10. EV-06-1463-S, *242-A Procedure TO-600-035, Start Up 242-A Evaporator System for Cold Run, Rev. C-2 (Draft).*
11. EV-06-1526-S, *ECN-724236, Rev. 0, Drawing Correction on H-2-79605.*
12. EV-07-0003-S, *Revise Maintenance Procedure 3-VB-657B, Appendix B, 242-A Vessel Vent Exhauster Stack 296-A-22 Air Flow Data Sheets C-1(Draft) to Correct a Typographical Error.*
13. TF-06-1282-S, *Update a Document Reference in the Following Procedures: EL18046, EL18056, EL8085, TO-600-520, TO-600-545, and 5-EDS-146.*
14. TF-06-1336-S, *Review Inconsequential Change to Procedure 6-CVT-520, Rev C-1, Foxboro E69 Series Current to Pneumatic Converters and Positioners Calibration (Draft).*
15. TF-06-1362-S, *Engineering Program Management Plan.*
16. TF-06-1384-S, *Change Order of Pages in TF-OR-ER1-D, East Routines 1 (ER1) Daily Rounds.*
17. TF-06-1411-S, *Tank Farm Plant Operating Procedure TO-060-105, G-5 (Draft) Operate the 241-AW Annulus Ventilation System (VTA).*
18. TF-06-1465-S, *Bloodborne Pathogen Exposure Control Standard.*
19. TF-06-1497-S, *Review of Editorial Changes to 6-VT-162G, Rev B-0 (Draft).*
20. TF-06-1502-S, *Review Draft Procedure Changes Associated with Implementation of ORP Approved Safety Basis Changes via Letter 06-TED-052, Contract No. DE-AC27-99RL14047 – Approval of the Tank Farm Safety Basis (SB) Amendment-031 for Flammable Gas.*
21. TF-06-1506-S, *Review Inconsequential Changes to Procedures 5-MISC-166 (Rev C2 to C3).*
22. TF-06-1509-S, *PCA Change to TO-220-106, Rev. A-38.*
23. TF-06-1514-S, *Review TFC-PLN-33, Waste Management Basis, Rev. C-1 (Draft).*
24. TF-06-1528, *Inconsequential Change to TO-040-730, Rev. G-4.*
25. TF-06-1553-S, *Remove all 242-A Evaporator SJHA's and JHA References and Replace with TFC-PLN-86.*
26. TF-06-1561-S, *Remove Project Control Bubble from P&ID per ECN 724287, Rev. 0 (Draft).*
27. TF-06-1556-S, *Release of TFC-ENG-ADMIN-C-02, Authorization Agreement maintenance and Annual Update, Rev. A-3.*
28. TF-06-1583-S, *Review of Change to TF-OPS-005, Rev F-16 Resulting in the Release of Rev. F-17 (Draft).*
29. TF-06-1607-S, *Tank Farm Plant Operating Procedure TF-OR-ER2-01-D, East Routines 2 (ER2) Daily Rounds, Rev. A-44 (Draft).*
30. TF-06-1644-S, *First Time Use Change to TO-320-029.*
31. TF-06-1706-S, *Evaluation of TFC-PLN-32, Tank Farm Contractor Safety Management Programs, Rev. B-10 (Draft).*

32. TF-07-0002-S, *Update Routing Board per ECN-724372, Rev. 0.*
33. TF-07-0021-S, *Categorical Exclusion for ECN-724394 R0 (Draft), Change Typographical Error on Drawing.*
34. TF-07-0064-S, *Categorical Exclusion for ECN-724394-R1 (Draft), Change Typographical Error on H-14-030003, Sheet 1.*
35. TF-07-0122-S, *Change to TFC-PLN-016, Operational Readiness Program Plan.*
36. TF-07-0205-S, *Revise ECN-724053 Rev. 0 to Rev.1.*
37. TF-07-0257-S, *Emergency Response Procedure 002 Traffic Control Plan.*

USQ Screens which entailed a procedure change

1. 2S-06-1674-S, *ATL Contract Requirements Management System.*
2. EV-06-1686-S, *Tank Farm Plant Maintenance Procedure: Supply and Exhaust Fans Inspection (EL230030).*
3. TF-06-1296-S, *TF-OPS-005, Daily CAM and Record Sampler Inspections Rev. F-11 (Draft).*
4. TF-06-1395-S, *Review Procedures TO-040-560, 200 East/West Tank Farms Sludge Level Readings, Rev. F-7(Draft) and TO-040-660, Obtain/record Double-Shell Tank Temperature Data, Rev. F-5 (Draft).*
5. TF-06-1454-S, *Review of TFC-ENG-DESIGN-P-07, System Design Descriptions, Rev. B-1 (Draft).*
6. TF-06-1519-S, *Revise Maintenance Procedure 3-VB-492, HEPA Filter In-Place Leak Test, Rev. D-0 (Draft).*
7. TF-06-1584-S, *Change to Procedure 7-ABS-438, Removal of Gaskets and Valve Packing Containing Asbestos.*
8. TF-06-1637-S, *Review of Changes to 3-LDD-624, perform AY/AZ AWF Annulus CAM (AMS-4) Rev. B-2, resulting in The Release of Rev. B-3 (Draft) and 5-LDC-300, Rev. G-2, ENRAF Series 854 Displacer Weight Check and Calibration Check and Obtain Sediment Levels, Resulting in the Release of Rev. G3 (Draft).*
9. TF-06-1673-S, *Review Global Changes to 155-Series, Exhauster Air Flow Testing, Vent & Balance Appendices (Drafts).*
10. TF-06-1728-S, *PCA to Operating Procedure TO-430-080, Rev. A-7 (Draft), Transfer from 219-S-Tank 102 to 241-SY-101.*
11. TF-07-0038-S, *Review HNF-IP-1266, Tank Farms Operations Administrative Controls, Section 5.9, Source Term Controls, Rev. 4e (Draft).*
12. TF-07-0101-S, *Revise Procedure TF-OR-ER2-01-D, Operator Rounds, Rev. A-42, Resulting in the Release of A-43 (Draft).*
13. TF-07-0156-S, *Revise Leak Detector Functional Test TF-FT-359-027, Rev. A-1.*
14. TF-07-0266-S, *Review TFC-ENG-DESIGN-C-06, Engineering Change Control, Rev. F-2 (Draft).*
15. TF-07-0348-S, *Release of Procurement Specification for AN-102 Corrosion Probe Assembly, RPP-SPEC-32496, Rev.0 (Draft).*

USQ determinations which entailed a procedure change

1. TF-06-1557-D, *Review ECN 724137 R0, Revise OSD-T-151-00013, (Draft); OSD-T-151-00013, Operating Specifications for Single-Shell Waste Storage Tanks, Rev. 1 (Draft); ECN 724138 R0, RPP-11051, Rev. 2, Update to Technical Basis Document for Single-Shell Tank Operating Specifications, (Draft); and RPP-11051, Technical Basis Document for Single-Shell Tank Operating Specifications, Rev. 2 (Draft).*
2. TF-07-0069D, *Issuance of TF-ERP-005, Radiological Release, Rev. F-1 (Draft).*

Field Observation:

During March and April 2007, the Tank Farm Operation Division (TOD) Facility Representatives (FR) looked at safety basis change management including the USQ process. This review included evaluation of DSA changes and USQ documentation. Surveillance Guide NSS 18-04 was utilized to conduct the USQ portion of the review. No deficiencies were noted in the conduct.

Discussion of Results:

The GCX-2 chosen for this assessment were identified thru a CH2M HILL USQ database query for the dates of October 1, 2006, through March 12, 2007. Between these dates GCX-2 was used 72 GCX-2 times, a random sample (every other one) size of 37 chosen for this assessment as identified in the record reviewed section. The GCX-2 were of generally good quality and met the requirements of TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2, Fig. 3, *Categorical Exclusion for Inconsequential Changes (GCX-2)* except for the following:

TF-06-1509-S, *PCA Change to TO-220-106, Rev. A-38*

GCX-2 was invoked to incorporate a note which directed operator action this is outside the scope and boundary of GCX-2.

TF-06-1583-S, *Review of Change to TF-OPS-005, Rev F-16 Resulting in the Release of Rev. F-17 (Draft)*

GCX-2 was invoked to flag operability information on a daily CAM and record sampler inspection data sheet, GCX-2 only allows inconsequential changes to existing documents. The incorporation of a technical change to inspection criteria for acceptance of system operability is outside of the scope and boundary of GCX-2.

The USQ Screens chosen for this assessment were identified thru a CH2M HILL USQ database query for the dates of October 1, 2006, through March 12, 2007. Between these dates 448 USQ Screens were performed and a random sample (every 25) size of 18 were chosen. The sample of USQ Screens identified 15 whose scope entailed a procedure change they are identified in the records reviewed section. The USQ Screens were of generally good quality and met the requirements of TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev. D-2.

The TFC written response to a USQ screen (one of fifteen sampled) was less then adequate:

TF-07-0038-S, *Review HNF-IP-1266, Tank Farms Operations Administrative Controls, Section 5.9, Source Term Controls, Rev. 4e (Draft)*

The revision to implementing procedure (HNF-IP-1266) can be interpreted to expand Specific Administrative Control (SAC) 5.9, *Source Term,* SAC bases from:

> For condensate from the 241-AZ-702 primary ventilation system contained in tank AZ301-COND-TK-001, the WASTE to be transferred shall be VERIFIED to meet WASTE (L) criteria.

to

> Sample(s) taken from Tank AZ301-COND-TK-001 or from condensate seal pot AZ-RC-SP-1 that are representative of contamination in the condensate from

TFC response was there was no intent to link verification of meeting WASTE (L) with an actual sample taken from the tank (AZ301-COND-TK-001). The SAC bases WASTE (L) verification can be accomplished in many forms and an actual sample from the referenced tank being one. Given these two reasonable regulatory interpretation of the SAC 5.9 basis i.e., the sample needs to be from the actual tank or it could be from another location as long it represented the contents of the tank adequately it is concluded the SAC 5.9 bases was not expanded by this USQ Screen. It should be noted expansion of a SAC basis through an implementing procedures is outside the scope of the USQ process (i.e., it requires formal DOE approval).

The USQ determination chosen for this assessment were identified through a CH2M HILL USQ database query for the dates of October 1, 2006, through March 12, 2007. Between these dates 277 USQ determinations were performed and a random sample (every 21) of 20 were chosen. The sample of USQ determination identified two (2) whose scope entailed a procedure change as identified in the records reviewed section. The USQ determinations were of generally good quality and met the requirements of TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2.

Conclusion:

Performance Criteria one (1):

The reviewed sample were of generally good quality met the intent, prerequisites, and scope & boundaries of GCX-2, *Categorical Exclusion for Inconsequential Changes (GCX-2),* as approved in TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2, Fig. 3 except for the following:

- TF-06-1509-S, *PCA Change to TO-220-106, Rev. A-38* invoked GCX-2 to incorporate a note which directed operator action this is outside the scope and boundary of GCX-2.

- TF-06-1583-S, *Review of Change to TF-OPS-005, Rev F-16 Resulting in the Release of Rev. F-17 (Draft)* invoked GCX-2 to include to flag operability information on a daily CAM and record sampler inspection data sheet. GCX-2 only allows inconsequential changes to existing documents technical change to inspection criteria for acceptance of system operability is outside of the scope and boundary of GCX-2.

Performance Criteria two (2)

A sample of USQ Screens (18) and USQ determinations (2) whose scope entailed a procedure change were of generally good quality and met the requirements of TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2.

Performance Criteria three (3)

This review included evaluation of DSA changes and USQ documentation. Surveillance Guide NSS 18-04 was utilized to conduct the USQ portion of the review. No deficiencies were noted in the conduct or documentation of USQs.

Issue(s):

FINDING:

A-07-AMTF-TANKFARM-002-F01: Per TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2, Fig. 3, *Categorical Exclusion for Inconsequential Changes (GCX-2),* does not allow addition of notes which direct operator action to existing documents. Contrary to this requirement, TF-06-1509-S, *PCA Change to TO-220-106, Rev. A-38,* invoked GCX-2 to incorporate a note which directed operator action.

A-07-AMTF-TANKFARM-002-F02: Per TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2, Fig. 3, *Categorical Exclusion for Inconsequential Changes (GCX-2),* does not allow incorporation of technical changes to existing documents. Contrary to this requirement, TF-06-1583-S, *Review of Change to TF-OPS-005, Rev F-16 Resulting in the Release of Rev. F-17 (Draft),* invoked GCX-2 to incorporate a technical change.

OBSERVATIONS:

None

Criteria and Review Approach Document

PERFORMANCE OBJECTIVE 3: Determine if a test or experiment not described in the existing documented safety analysis has been adequately processed through the USQ process.

Performance Criteria or Assessment Elements:

1. Have CH2M HILL USQ Screens and Determinations which entail a test or experiment not described in the existing documented safety analysis been properly dispositioned?

2. Has ongoing CH2M HILL field work entailing a test or experiment not described in the existing documented safety analysis been processed thru the USQ process?

Approach:

- Review a sample of CH2M HILL USQ Screens and Determinations to assess if a test or experiment not described in the existing documented safety analysis been properly dispositioned.

- Review ongoing CH2M HILL work to assess if a test or experiment not described in the existing documented safety analysis has been through the USQ process.

Records Reviewed:

USQ Determinations which entailed a test or experiment

1. EV-07-0164-D, *242-A Operating Procedure TO-600-900, Set Up and Remove MCS Temporary Faceplate Display groups at the 242-A Evaporator, Revision A-0 (Draft).*

2. TF-06-1733-D, *Review of RPP-PLAN-32245, Rev. 0 and CLO-WO-06-002278: Project W-314 Monitoring & Control System 241-SY Tank Farm Equipment, W314-SY-SS-RFI-ATP, 241-SY Leak Detector Stations & MCS PLC Radio Interference Test.*

3. TF-07-0240-D, *Review Tank Farm Operating Procedure TO-650-090, Rinse and Jet 242-A Pump Room Sump During Shutdown Mode, Rev. A-0.*

Interviews Conducted:

TFC NS&L Team Lead

Field Observation:

During March and April 2007, the Tank Farm Operation Division (TOD) Facility Representatives (FR) looked at safety basis change management including the USQ process.

This review included evaluation of DSA changes and USQ documentation. Surveillance Guide NSS 18-04 was utilized to conduct the USQ portion of the review. No deficiencies were noted in the conduct of USQs.

Discussion of Results:

The USQ determination chosen for this assessment were identified thru a CH2M HILL USQ database query for the dates of October 1, 2006, through March 12, 2007. Between these dates 277 USQ determination were performed and a random sample (every 21) size of 20 were chosen. The sample of USQ determination identified three (3) whose scope entailed a test or experiment as identified in the records reviewed section.

The USQ determination met the requirements of TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2. The TFC written response to a USQ determination (one of three reviewed) was less then adequate.

TF-07-0240-D, *Review Tank Farm Operating Procedure TO-650-090, Rinse and Jet 242-A Pump Room Sump During Shutdown Mode, Rev. A-0*

TFC procedure (TO-650-090) provides instructions to perform a waste transfer from the 242-A pump room sump to tank farms. The TFC response to USQ determination question # 1, *Could the proposed change increase the probability of an accident previously evaluated in the facility's existing safety analyses,* did not identify accident scenarios or hazardous conditions previously evaluated that could be affected by the new test or experiment. The absence of this information in the existing safety basis could lead to a conclusion the test or experiment was not previously considered and an evaluation of safety would need to be completed before a USQ determination could be adequately completed.

Conclusion:

Performance Criteria one (1)

The USQ determination met the requirements of TFC-ENG-SB-C-03, *Unreviewed Safety Question Process,* Rev D-2. The TFC written response to USQ determination questions (TF-07-0240-D) on one of three sampled was less then adequate. The TFC concluded there is no positive USQ, but the USQ determination can be revised to incorporate appropriate responses. The USQ determination will be rolled up into a generic finding on quality of completed USQ determinations.

Performance Criteria two (2)

This review included evaluation of DSA changes and USQ documentation. Surveillance Guide NSS 18-04 was utilized to conduct the USQ portion of the review. No deficiencies were noted in the conduct or documentation.

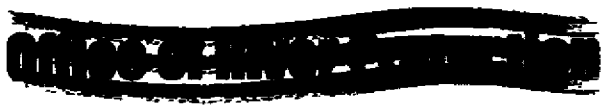
Issue(s):

FINDING:

None

OBSERVATION:

None



Surveillance Report for Omni LIMS

Tank Farms Operations Division

SURVEILLANCE:	Programmatic review of Omni Laboratory Information Management System (LIMS) used in 222-S analytical work.
FACILITY:	Advanced Technologies and International Laboratory, Inc. (ATL) and CH2M HILL Hanford Group, Inc. (CH2M HILL)
LOCATION:	222-S Laboratory
DATES:	March 19, 2007 – May 7, 2007
ASSESSORS:	Andrew J. Stevens
APPROVED BY:	Mark C. Brown

[redacted]

Surveillance Report for Omni LIMS

Executive Summary

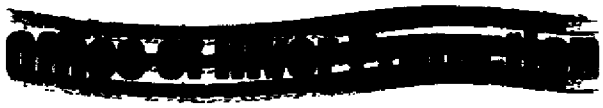
A review was made of the LIMS used in the 222-S Laboratory. This is a computer system used to collect data from analytical operations.

There were no Observations or Findings.

Those contacted during this review were:

Heather Anastos, ATL
Ruth Bushaw, ATL
Rob Schroeder, ATL
Harold Baker, CH2M HILL
Kathleen Hall, CH2M HILL
Bob Kerns, CH2M HILL
Herlene Rich, WSCF

The OmniLIMS system is complex and capable and supports the extensive data needs of the analytical laboratory. It is relatively new, flexible, well-maintained and operates satisfactorily. However, it still exhibits symptoms of a relatively new system in that there is a long list of enhancements that can be made.



Surveillance Report for Omni LIMS

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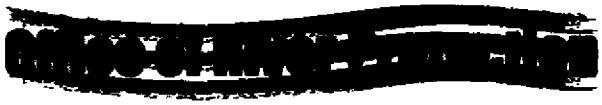
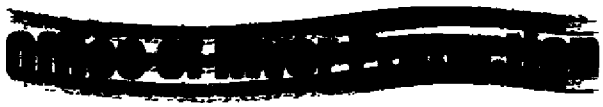


Surveillance Report for Omni LIMS

List of Acronyms

ATL	Advanced Technologies and Laboratories International, Inc.
ATS	Analytical Technical Services
CH2M HILL	CH2M HILL Hanford Group, Inc.
DOE	U.S. Department of Energy
IDMS	Integrated Data Management System
LIMS	Laboratory Information Management System
MARS	Management Analysis and Reporting System
NQA-1	Nuclear Quality Assurance (Standard for ANSI/ASME Nuclear Power Plants)
OmniLIMS	Version of LIMS in use at 222-S Laboratory
ORP	Office of River Protection
QC	Quality Control
TWINS	Tank Waste Information Network System
WSCF	Waste Sampling and Characterization Facility



Surveillance Report for Omni LIMS

Programmatic Review of 222-S Laboratory OmniLIMS

Background and Scope

The 222-S laboratory performs between 15,000 and 20,000 analyses per year. The results of those are recorded in a Laboratory Information Management System, specifically the OmniLIMS, in 222-S. It is used to capture, hold and process 222-S laboratory data and provide it in a form suitable for the formal report as required by the laboratory's customers and acceptable to regulators. This review evaluates the capabilities, flexibility and use of the equipment and, for comparison, also touched on another commercial LIMS being purchased for WSCF. CH2M HILL is the Contractor responsible for maintenance and upgrades of the system. Both ATL and CH2M HILL use the LIMS. Several on-site customers have access to report information.

Results

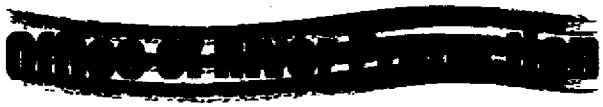
The OmniLIMS is a system designed specifically for the unique requirements of the 222-S laboratory to collect data directly from several of the complex analytical instruments and also accept manual data from the chemists or chemical technicians. The data is correlated to the sample breakdown diagram, is used within the core OmniLIMS program for data calculations and then for reporting results as required by each customer. The sample breakdown diagram is essential to tracking results but not part of OmniLIMS. OmniLIMS is a product of NUVOTEC, a small business, but with much of the modifications provided by experienced ATS staff working with programmers.

The different users of OmniLIMS have different access and capability to enter or change data. The Project Coordinators set up the needs for each sample, the chemist and chem-techs enter the data and review results and QC personnel review the data. The data for the reports is generated and becomes the record copy. Now, copies are directly fed into the IDMS data base and appropriate data fed directly into the TWINS data base.

The OmniLIMS is subject to the DOE Order on software. It was reviewed in a Management Review by CH2M HILL against those requirements and NQA-1 with results reported in their interoffice memo, dated December 22, 2006, entitled "Management Assessment, FY2007-ATS-M-0106, Software Quality Assurance."

The control and use of OmniLIMS is through several procedures, e.g.:

- ATS-GD-1032, OmniLIMS Manual Sample Log-in
- ATS-GD-1033: OmniLIMS Project Management
- ATS-GD-1034, OmniLIMS Manual Data Entry
- ATS-GD-1035, OmniLIMS Prep Data Entry
- ATS-GD-1036, OmniLIMS QC Batching



Surveillance Report for Omni LIMS

- ATS-GD-1037, OmniLIMS Instrument Data Entry
- ATS-GD-1038: OmniLIMS Verification Training
- ATS-GD-1039, Configuration Management of OmniLIMS, MARS, and LTS2

The server hardware is maintained by Lockheed Martin Information Technology, Inc. and physically housed in their facilities. The overall reliability of the hardware is demonstrated by the recent near-simultaneous failure of three servers on the same day. The system slowed down but no data was lost. It was a temporary inconvenience for users but was resolved quickly.

Recently, some input became very slow and this became the source of dissatisfaction with OmniLIMS for the radchem laboratory production personnel. Patches were then put into place to allow the program to be much more responsive. However, it took more than a month to diagnose the problem and create the patch. That patch has resolved the most urgent issue and data input that took hours can now be done in minutes. The update staff now works directly with users to identify needed upgrades, establish priorities and provide training on software patches. Mutually setting priorities is important since there are about 400 separate improvements listed and grouped in a spreadsheet maintained on the laboratory's shared drive.

There is some difference in maturity of OmniLIMS with respect to different analytical groups at the labs. The radiochemistry did not participate as much initially as other groups such as the organic chemistry group. The implementing team for OmniLIMS also was not as large as the team for its predecessor, MultiLIMS. Some patches also did not incorporate the work of previous patches, causing additional extra work for the chemists and chem-techs. But, as indicated in the previous paragraph, users are "pretty happy" with the system.

WSCF has recently purchased a commercial version of a LIMS system for about $700K. The expectation is that it will perform most the functions needed without customizing the program. There is a plan to make limited use of OmniLIMS even after the new system is brought on-line due to some specialized needs. The transition period was planned to take one year to complete but they expect that checkout will be complete by December 2007.

Conclusion

The OmniLIMS is a complex system but is accurate and complete. Users are generally satisfied with the system even though there is an extensive list of enhancements that can be made to improve it. There were no Findings or Observations.

Task# ORP-TOD-2007-0052

E-STARS™ Report
Task Detail Report
06/14/2007 0822

TASK INFORMATION			
Task#	ORP-TOD-2007-0052		
Subject	Concurrence: 07-TOD-052 U.S. DEPARTMENT OF ENERGY, OFFICE OF RIVER PROTECTION (ORP) TANK FARM PROJECT MONTHLY REPORT FOR MAY 2007		
Parent Task#		**Status**	CLOSED
Reference	07-TOD-052	**Due**	
Originator	Perez, Annez	**Priority**	High
Originator Phone	(509) 372-1382	**Category**	None
Origination Date	06/13/2007 0940	**Generic1**	
Remote Task#		**Generic2**	
Deliverable	None	**Generic3**	
Class	Long Term	**View Permissions**	Normal
Instructions	bcc: TOD OFF File TOD RDG File MGR RDG File M. K. Barrett, AMD C. B. Reid, AMD T. Z. Smith, DEP-ORP W. J. Taylor, ESQ D. L. Noyes, TF D. C. Bryson, TED W. B. Scott, TED J. D. Long, TOD M. J. Royack, TOD B. J. Harp, TPD J. R. Eschenberg, WTP TOD Facility Representatives		

ROUTING LISTS		
1	Route List	Inactive
	• Brown, Mark C - Review - Concur - 06/14/2007 0822 *Instructions:*	
	• Noyes, Delmar L - Review - Concur - 06/14/2007 0818 *Instructions:*	

ATTACHMENTS

No Attachments

COLLABORATION

COMMENTS

No Comments

TASK DUE DATE HISTORY

No Due Date History

SUB TASK HISTORY

No Subtasks

-- end of report --

Task# ORP-TOD-2007-0052

E-STARS™ Report
Task Detail Report
06/13/2007 0942

TASK INFORMATION			
Task#	ORP-TOD-2007-0052		
Subject	Concurrence: 07-TOD-052 U.S. DEPARTMENT OF ENERGY, OFFICE OF RIVER PROTECTION (ORP) TANK FARM PROJECT MONTHLY REPORT FOR MAY 2007		
Parent Task#		**Status**	Open
Reference	07-TOD-052	**Due**	
Originator	Perez, Annez	**Priority**	High
Originator Phone	(509) 372-1382	**Category**	None
Origination Date	06/13/2007 0940	**Generic1**	
Remote Task#		**Generic2**	
Deliverable	None	**Generic3**	
Class	Long Term	**View Permissions**	Normal
Instructions	bcc: TOD OFF File TOD RDG File MGR RDG File M. K. Barrett, AMD C. B. Reid, AMD T. Z. Smith, DEP-ORP W. J. Taylor, ESQ D. L. Noyes, TF D. C. Bryson, TED W. B. Scott, TED J. D. Long, TOD M. J. Royack, TOD B. J. Harp, TPD J. R. Eschenberg, WTP TOD Facility Representatives		

ROUTING LISTS		
1	Route List	Active
	• Brown, Mark C - Review - Awaiting Response *Instructions:* MCB 6/13/07	
	• Noyes, Delmar L - Review - Awaiting Response *Instructions:* DLN 6/17/08	

ATTACHMENTS
No Attachments

COLLABORATION

COMMENTS
No Comments

TASK DUE DATE HISTORY
No Due Date History

SUB TASK HISTORY
No Subtasks

-- end of report --