



U.S. Department of Energy
~~OFFICE OF RIVER PROTECTION~~

P.O. Box 450, MSIN H6-60
Richland, Washington 99352

JAN 17 2008

08-TOD-006

Dr. J. G. Hwang, President
Advanced Technologies
and Laboratories International, Inc.
P.O. Box 250
Richland, Washington 99352

Dear Dr. Hwang:

CONTRACT NO. DE-AC27-05RV14548-- -- U.S. DEPARTMENT OF ENERGY, OFFICE
OF RIVER PROTECTION (ORP) ASSESSMENT OF TANK FARM PROJECT
OPERATIONS, DECEMBER 2007 (A-08-AMTF-TANKFARM-006)

The ORP Tank Farm Project Facility Representatives and Technical Staff conducted
evaluations of the Tank Farm and 222-S Laboratory operations and activities during December
2007. The attached report documents the results of the evaluations.

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

Sincerely,

Delmar L. Noyes
Acting Assistant Manager Tank Farms

TOD:MCB

Attachment

cc: See Page 2

Dr. J. G. Hwang
08-TOD-006

-2-

JAN 17 2008

cc w/attach:
R. R. Loeffler, ATL
K. J. Kuhl-Klinger, ATL

ATL Correspondence Control
K. T. Juroff, EM-22

Office of River Protection

Tank Farm Project Monthly Report For December 2007

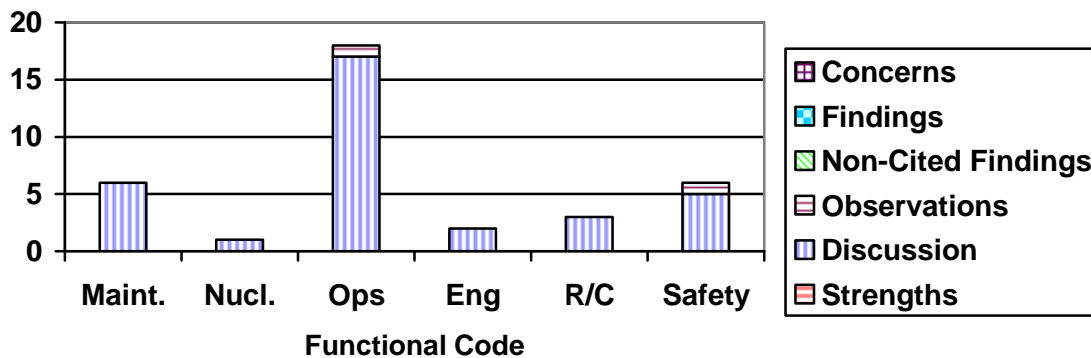
A-08-AMTF-TANKFARM-006

I. Introduction/Summary

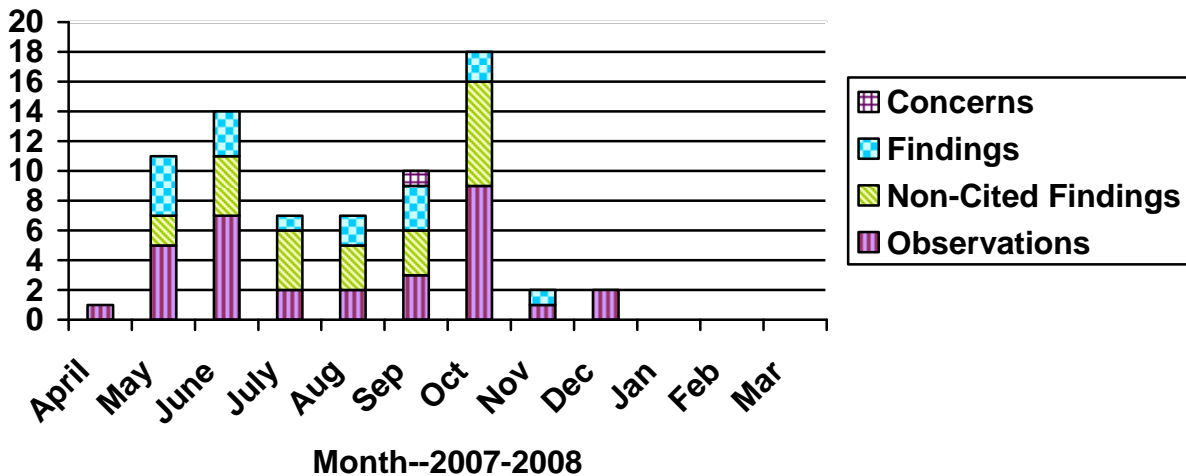
During the month of December 2007, the U.S. Department of Energy (DOE), Office of River Protection (ORP) Facility Representative (FR) and technical staff reviewed maintenance and operations at the Tank Farms and 222-S Laboratory. For this reporting period, 33 entries were made in the Operational Awareness (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. Two Observations (and no Strengths, Concerns, Findings, or Non-Cited Findings) were noted during the month. The Observations are detailed in Section V of this report.

The focus area for the month was Conduct of Operations. On December 5, 2007 ORP received a Program Improvement Plan from the contractor to improve inadequacies in Conduct of Operations identified in the October Tank Farm Project Monthly Report. Accordingly, focus on Conduct of Operations was extended from November and FRs continue to monitor performance in Conduct of Operations.

Number of OA Entries by Category



Number of Deficiencies by Type



II. Analysis and Discussion

In December 2007, the ORP FR and technical staff performed 15 surveillances in areas that included Conduct of Operations, Radiological Control Practices, Operations, Maintenance, Nuclear Safety, Integrated Safety Management, Training, and Industrial Safety.

While this report does include data from the oversight of S-102 recovery actions and uses it in the overall assessment of contractor operations, it does not use that data to provide a detailed analysis of the S-102 recovery; that will be done in a separate document.

The FRs conducted field oversight and program reviews during the month. Some of the key activities included:

- Observed extracting Pu and Tc-99 for analysis in 222-S radiochemistry area
- Observed WFO Pre-shift briefing for the oncoming ops crew
- Observing construction activities for T-Farm interim barrier work
- Observed operations at TX/TY Farms Surface Geophysical Exploration
- Attended the pre-job briefing for the S-102 soil sample collection
- Attended Team Planning Meeting for CLO-WO-07-1350 – 241-C-108, “*Connect HIHTL’s to POR209 (Diversion Box)*”
- Observed Shift Manager Turnover (Closure Operations and Waste Feed Operations)
- Observed MRT (Fold Track) testing at CTF
- Observed check of backflow preventer in building C-73
- Observed the pre-job briefing and observed the work for tightening the AP-105 pit jumper
- Reviewed the work package for AP-105 jumper activities

- Observed lessons learned discussion in support of CLO-WO-07-1341, S-102 Remove Contaminated Soil
- Observed pre-job briefing and field work for S-102 Soil Excavation Preparation (CLO-WO-07-1614)
- Observed pre-job briefing and field work for CLO-WO-07-1340, S-102 remove contaminated equipment inside HRA
- Observed AW-105 pre-job briefing and grab sampling activities
- Attended the pre-job briefing and observed the field work for investigative surveys at the portable valve pit in C-Farm
- Attended JRG for C-109 riser 6 equipment removal
- Observed drilling operations, geophysical logging and forklift operations at the C Farm UPR 86 direct push investigations site
- Attended the pre-job brief and observed field oversight of the set up for CLO-07-1995 - 241-C Perform ISR for Valve Box POR104 (Portable Valve Pit)
- Attended C-109 HAZOPs for MRT Waste Retrieval System (Fold Track)
- Attended pre-job briefing and field oversight of CLO-07-1580 – Remove PVC Liner from Riser 5
- Reviewed draft Technical Evaluation for the AN-101 to AP-105 waste transfer.
- Reviewed AP-101 recirculation procedure
- Attended TFC Tailgate meeting
- Performed surveillance of High Radiation Area Access Controls
- Observed TFC Conduct of Ops training pilot class
- Attended DNFSB and TFC meetings/interviews regarding Work Control.
- Attended the December ATS VPP meeting
- Attended the pre-job briefing and field work for AY-101 Grab Sampling

III. Injuries and Occurrences

During the month of December 2007, there were no lost work day cases and three recordable injuries.

- While moving a large binder, employee experienced back pain.
- While looking into the back of a truck, the canopy gate fell on the employee causing a laceration to the head.
- While moving bottle carts, employee felt pain in back.

There were two occurrence reports issued during the month of December 2007:

- An "Authorized Worker Single Point Lockout/Tagout" was installed on 10/29/07 to correct electrical discrepancies at the AN-101 transfer pump motor. The work was completed, and the "Authorized Worker Single Point Lockout/Tagout" was removed. During the installation of an "Authorized Worker Single Point Lockout/Tagout" on 12/13/07 on the same circuit breaker, employees discovered that the method used to lock the circuit breaker on 10/29/07 did not physically prevent the circuit breaker from being energized. Safe-to-Work checks performed at work locations on 10/29/07 did not identify

any energized electrical components. In addition, employees are trained not to operate equipment with an installed Authorized Worker Lock & Danger Tag. This occurrence was categorized as a Group 10(2), SC-3 Management Concern (Occurrence Report # EM-RP--CHG-TANKFARM-2007-0015.)

- Declared on 12/21/07--During the hazard analysis workshop for planned 241-C-109 retrieval and supporting activities, a hazardous condition (accident scenario) was identified involving the uncontrolled release of waste aerosol to the atmosphere due to air blowdown of a hose in hose transfer line (HIHTL) to clear waste and flush water that might be present in the HIHTL. Assuming no controls, consequences of this scenario were unknown and an action to determine if the DSA had adequately analyzed such scenarios was taken. Upon review of the DSA, no hazardous condition specific to this scenario was found. This information was evaluated and deemed a Potential Inadequacy of the Tank Farms Safety Basis and categorized a 3B (2) SC-3 occurrence. Due to the Potential Inadequacy of the Tank Farms Safety Basis, a Red Arrow was placed in the Waste Feed and Closure Operations logbooks restricting the use of air pressure to blow down contaminated waste transfer lines and pneumatic testing of contaminated waste transfer lines (Occurrence Report #EM-RP--CHG-TANKFARM-2007-0016.)

IV. Monthly Focus Review for December: Conduct of Operations

In July 2007, ORP FRs observed a negative performance trend in Radiological Control work practices and in Conduct of Operations. Since that time an increased emphasis was placed on oversight in these areas. As was previously reported, improvement was noted in the area of radiological control work practices. Field performance problems noted in the area of Conduct of Operations required further FR observation.

Scope:

The FRs performed numerous activities, as outlined below, to evaluate the performance of Conduct of Operations.

Results:

Conduct of Operations

Conduct of Operations was evaluated during work activities during the month of December. Field operations and activities included, but were not limited to the following:

- Observed the pre-job briefing and observed the work for tightening the AP-105 pit jumper
- Attended the pre-job briefing for the S-102 soil sample collection
- Observed lessons learned discussion in support of CLO-WO-07-1341, S-102 Remove Contaminated Soil
- Observed AW-105 pre-job briefing and grab sampling activities

- Observed pre-job briefing and field work for S-102 Soil Excavation Preparation (CLO-WO-07-1614)
- Performed surveillance of High Radiation Area Access Controls
- Observed TFC Conduct of Ops training pilot class
- Observed check of backflow preventer in building C-73
- Reviewed procedure TFC-OPS-OPER-C-07, "Turnover of Shift Responsibility"
- Observed WFO pre-shift briefing for the oncoming ops crew
- Observed Shift Manager Turnover (Closure Operations and Waste Feed Operations)
- Observed pre-job briefing and field work for CLO-WO-07-1340, S-102 remove contaminated equipment inside HRA
- Attended DNFSB and TFC meetings/interviews regarding Work Control.

In the area of Conduct of Operations, the FRs noted the following (detailed in Section V):

Observation: A-08-AMTF-TANKFARM-006-O01--Access Control Keys for High Radiation Areas Under The Responsibility Of Closure Operations Were Not In The Possession Of The Closure Operations Shift Office (Frink, 12/17/2007)

Conclusion:

During the month of December, the FRs conducted numerous surveillances of the Tank Farm Contractor (TFC) Conduct of Operations. The FRs used a performance-based approach to assess procedural compliance, work planning, adequacy of field work, feedback, and training. Observations by FRs indicate a positive trend in Conduct of Operations. Effective implementation of the Conduct of Operations Program Improvement Plan will ensure this positive trend will continue. Additional emphasis on Conduct of Operations, through all personnel attending the new CONOPS course scheduled throughout the next quarter is noted. Continued evaluation of the program, such as the Management Assessment that the TFC has planned for January will provide regular feedback on its effectiveness.

V. Strengths and Deficiencies

Strengths/Findings: None

Observations:

A-08-AMTF-TANKFARM-006-O01--Access Control Keys for High Radiation Areas Under The Responsibility Of Closure Operations Were Not In The Possession Of The Closure Operations Shift Office. (Frink, 12/17/2007)

On 12/17/2007, while performing a surveillance on the control of High Radiation Areas, it was noted that the access control keys for four High Radiation Areas were not located in the key enclosure; these keys were also not checked out. After review by the Shift Manager, one key was found within the enclosure but was not adequately labeled. Three of the keys were found to be

under control of the Waste Feed Operations Shift Office. Responsibility for the High Radiation Areas associated with these keys had been previously held by Waste Feed Operations; responsibility was subsequently transferred to Closure Operations without transferring the requisite keys.

A-08-AMTF-TANKFARM-006-O02--Grab Sample Transportation Issues Persist due to Inadequate Contractor Actions. (Blanchard, 12/20/2007)

The ATS/ATL Facility Representative (FR) has noted several delays in transporting grab samples from the tank farms to the 222-S Laboratory over the last two years. These delays have primarily been a result of craft-identified safety issues with the pig sample truck. The safety representatives have inspected the truck and reviewed the sample shipping container loading process several times and found the truck and loading process to be safe. However, closure of the safety concerns with the craft has not been effective, resulting in delays in transporting the samples to the 222-S Laboratory.

The sampling management earlier this year and recently has described process changes in the transportation of samples from the tank farms to the 222-S Laboratory. The process changes include:

- The use of lighter weight DOT shipping containers that can be safely hand loaded into a standard pickup truck, and/or
- Packaging the tank samples that meet type A packaging criteria (approximately 95 % of the grab samples) in approved drums rather than heavy N 55 overpacks. The drums would then be moved to the lift gate on a truck. Truck drivers would use the lift gate to elevate the drum to the bed height and then slide or roll the drum into the truck.

Both of these processes appear to eliminate the safety issues associated with the existing pig sample truck, but have not been implemented.

Delays in transporting the samples to the 222-S Laboratory can affect the ability to meet EPA required hold times and unnecessarily challenge chemical technologists. Hold times ensure accurate sample results that can be adversely affected due to time lap (e.g. volatilize). The pH hold time of 24 hours from the time the sample was taken was the shortest. Since January 1, 2007, there have been several projects where holding times were missed due to late delivery of samples to the 222-S Laboratory. The sampling events include the AW102 EVAP1 in January 2007, AP105 EVAP2 in June 2007, and AW105 and AY101 grab samples both in December 2007. Over the past two years there were other examples where the 222-S chemical technologists have had to work overtime to expedite analysis to meet hold times. This is of concern because this introduces the error precursors of undue stress, fatigue, and time pressure on the chemical technologist.

VI. Closed Findings: There were no findings closed in December.