



U.S. Department of Energy
Office of River Protection

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

FEB 20 2008

08-TOD-021

Dr. J. G. Hwang, Project Manager
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, JANUARY 2008 (A-08-AMTF-TANKFARM-008)

The ORP Tank Farm Project Facility Representatives and Technical Staff conducted
evaluations of the Tank Farm and 222-S Laboratory operations and activities during
January 2008. The attached report documents the results of the evaluations.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Delmar L. Noyes".

Delmar L. Noyes, Acting Assistant Manager
for Tank Farms Project

TOD:MCB

Attachment

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

ATL Correspondence Control
K. T. Juroff, EM-22
K. G. Picha, EM-60

Attachment
08-TOD-021

Tank Farm Project Monthly Report
for January 2008
A-08-AMTF-TANKFARM-008

Office of River Protection

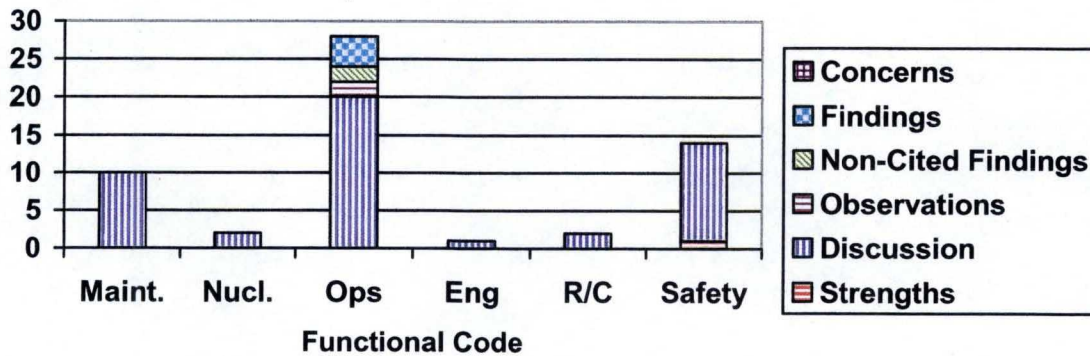
Tank Farm Project Monthly Report For January 2008

A-08-AMTF-TANKFARM-008

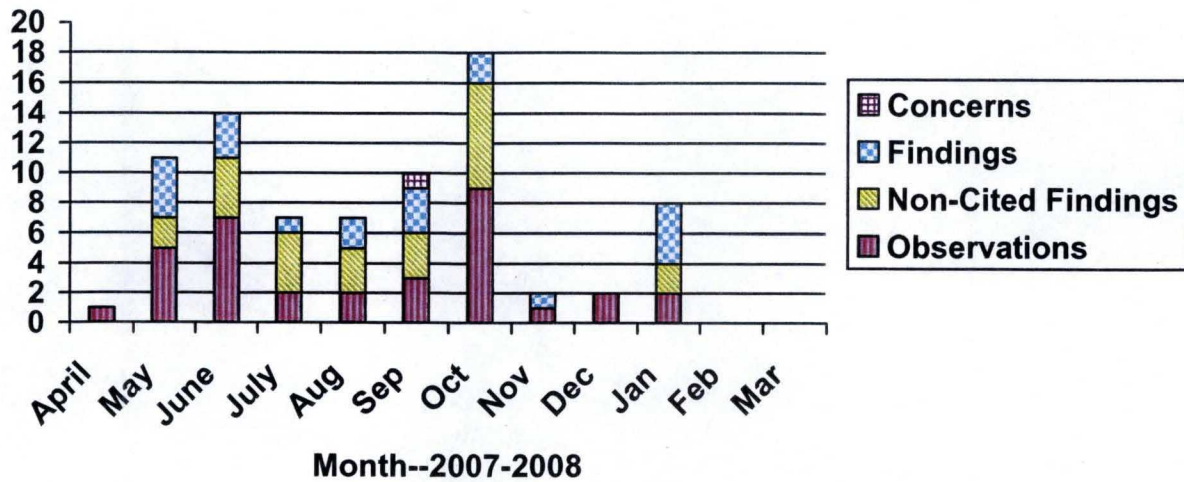
I. Introduction/Summary

During the month of January 2008, 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, 61 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. One Strength, four Findings, two Non-Cited Findings, and two Observations were noted during the month. These Strengths and Issues are detailed in Section IV of this report.

Number of OA Entries by Category



Number of Deficiencies by Type



II. Analysis and Discussion

In January 2008, the ORP FR and technical staff performed 20 surveillances in areas that included Conduct of Operations, Radiological Control Practices, Industrial Safety, Integrated Safety Management, Quality Assurance, Nuclear Safety, and Maintenance.

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 quantity and type of issues identified in January 2008, warrant continue effort in the area of operations. The aforementioned Number of Deficiencies by Type graph showed a positive trend by a significant decrease in the quantity of issues identified in November and December 2007. In January 2008, the number of issues increased. The Number of OA Entries by Category graph shows that all of the issues were in the area of operations. A review of these issues show a weakness in the conduct of operations, an area CH2M HILL Hanford Group, Inc. (CH2M HILL) recognizes as needing improvement. The type and quantity of issues supports a continued need for improving conduct of operations.

The FRs conducted field oversight and program reviews during the month. These included:

- Attended Fact Findings, interviews and field walkdowns related to 242-A Lock and Tag event and associated Standing Orders WFO-08-001 and CO-08-001.
- Observed activities related to the preparation of S-102 excavation, removal and disposal of contaminated soil and Hoffa boots.
- Observed activities related to field deployment of the gamma camera to identify areas of elevated dose rates in the S-102 High Radiation Area.

- Observed pre-job and fieldwork of preventative maintenance for the C-Farm Exhauster.
- Reviewed Safety Basis Amendment for SX Ventilation Condensate system.
- Observed pre-job and fieldwork for removal of the inoperable Variable Frequency Drive from the SY B-train primary ventilation system.
- Observed activities related to the addition of sodium hydroxide into AY-101.
- Walked down the Lockout/Tagout for AW-Farm realignment of leak detectors to the new motor control system.
- Observed T-Farm environmental barrier construction activities.
- Observed pre-job and fieldwork of 241-T-201 Flammable Gas Concentration Check.
- Observed operations at UPR-86 Vadose Zone investigation site near C-Farm.
- Observed planning and fieldwork of AP-101 recirculation activities.
- Participated in PB-1 inadvertent start-up assessment.
- Observed activities related to camera installation and removal for C-109 retrieval.
- Observed analysis of S-102 soil samples and AW-105 and AY-101 grab samples.
- Observed Surface Geophysical Exploration site at TX/TY farms.

III. Injuries and Occurrences

During the month of January 2008, there were no lost work day cases and three recordable injuries:

- After parking government vehicle, employee slipped on ice and fell against truck and received a laceration to the head.
- Employee slipped on ice near loading dock and received bruising to elbow and hip.
- Employee bumped head on electrical box and received laceration to forehead.

There were three occurrence reports issued during the month of January 2008:

Energized Wire Found in MCC-1 at 242A After Installation of Electrical Jumper

As part of 242-A Evaporator heating, ventilation, and air conditioning upgrades, two separate work orders were issued to install variable frequency drives and to temporarily bypass the K1-5-3 building exhaust fan continuous air monitor interlock, which involved installing a temporary electrical jumper. After installation of appropriate lockout/tagout (LO/TO) under each work order and installing the jumper, a safe-to-work electrical check was conducted, during which construction forces electricians discovered an energized electrical wire that had not been identified prior to temporary electrical jumper installation. The preliminary fact finding investigation determined that the original lock and tag did not adequately identify the safe condition boundary and the initial safe-to-work check was less than adequate. (EM-RP--CHG-TANKFARM-2008-0001)

Discovery of Suspect/Counterfeit Bolts on Six 1" x 20' Ratchet Straps With "S" Hooks

Six 1" x 20' Ratchet Straps with "S" hooks were quality control screened for Suspect/Counterfeit Items (S/CI) and were found to have an 8 MM grade bolt that is considered S/CI because there is no manufacturer ID stamped or forged into the bolt head. Hold tags were applied and the straps were transported to the QC hold area. (EM-RP--CHG-TANKFARM-2008-0002)

Repetitive Issues With Hazardous Energy Control Process

Following a hazardous energy control reportable occurrence on January 9, 2008, an evaluation was performed for LO/TO weaknesses from January 2007 to present that were not determined to be individually reportable under the hazardous energy control criteria. These weaknesses included four events involving LO/TO administrative compliance errors and four other weaknesses where hazardous energy was isolated but the boundary was inadequate. As a result of this unacceptable trend and programmatic issue that, if left uncorrected, could lead to a serious event, CH2M HILL management determined this series of events as recurring.
(EM-RP--CHG-TANKFARM-2008-0003)

IV. Strengths and Deficiencies

STRENGTHS

222-S Management Exercises Conservative Judgment During Inclement Weather (Blanchard 1/29/2008)

The Hanford site received significant adverse weather during January 2008. On January 27 and 28, the lower Columbia region received 0.5 inches of sleet followed by 6 to 8 inches of snow creating a hazardous driving condition. This adverse weather resulted in the site being closed except for essential workers on January 28. On January 29, as on previous occasions in January, 222-S Management arrived to work before the staff to make sure the sidewalks, stairs, and roadways were free of snow and ice. The FR observed 222-S Management assisting craft shovel and apply ice melt to sidewalks and stairs. These actions demonstrate 222-S Management's commitment to worker safety and are an example of proper conduct of a Voluntary Protection Program organization.

FINDINGS

A-08-AMTF-TANKFARM-008-F01--Leak Detector monitoring during the AP-101 recirculation was inadequate (Trenchard, 1/4/2008)

Requirement: TO-230-005 Recirculate and Transfer from 241-AP-101 step 5.2.5 states "PRIOR to starting and during recirculation/transfer, STATION operators at TMACS, and MCS station at 241-AZ-702 or 271-AP Control Room".

Discussion: After the start of the transfer, there was a period of time where TFC thought they were monitoring the transfer leak detector, and in reality they were not. During the AP-101 recirculation, only the AP-01A pit leak detector was to be monitored. This leak detector is monitored using the MCS HMI. During the AP-101 recirculation startup, the Material Balance Discrepancy (MBD) operator was working out of the main room of the AP instrument building where the phone, clock and all the procedures were. The MCS HMI that displays/reports the leak detection alarm is in a separate room. During the first ten minutes of the transfer, contractor engineering/technical personnel were observing the HMI and would have noticed activation of

the leak detector. Once they left, there was a 10 minute period (until identified by the FR) that there were no contractor personnel in the room to monitor the leak detector. The FR asked how operations would know if an alarm came in and was told that they would hear the alarm. The FR and SSW checked the HMI speakers and found that they were turned off.

A-08-AMTF-TANKFARM-008-F02--The On-Call FR was not informed of a notification to the Washington State Department of Health (WDOH) (Frink, 1/9/2008)

Requirement: TFC-OPS-OPER-D-01, "Event Notification", Figure 1 requires a notification by phone call to the on-call FR for notifications made to an outside agency.

Discussion: On January 9, 2008, during the morning meeting, it was reported that the TFC Environmental Compliance Officer had notified the WDOH regarding a missed annual aerosol test of the HEPA filters at the 242-S stack. The aforementioned procedure requires that the on-call FR be notified by phone call of any courtesy call or notification to an outside agency. The on-call FR was not notified by phone call as required.

A-08-AMTF-TANKFARM-008-F03--Operations response to facility alarms was not in compliance with procedures (Williamson, 1/4/2008)

Requirement:

TFC-OPS-OPER-C-13, *Technical Procedure Control and Use* states that, "procedures designated as "continuous use" require that steps be performed sequentially (step-by-step) or as defined in the procedure or other documentation to ensure against irrecoverable or irreversible conditions. The procedure or applicable section(s) and/or appropriate steps must be present at the job site and must be open during performance of the activity".

Logging of alarms is required by TO-020-755 *Record Status of Facility Alarm Panels*.

Discussion: While preparations were being performed to begin the AP-101 recirculation, a series of alarms came into the AP instrument building alarm panel. The alarms were the annulus leak detector probes and the low flow annulus exhaust stack alarms. The FR noted that the Operator acknowledged the alarms, pushed the reset button, and the alarms ultimately locked in. The Operator did not consult the ARP-T-271 Alarm Response Procedures during this process (a "continuous use" procedure) nor did the Operator log the alarms in the alarm status book. Instead, the Operator and Shift Manager assumed that the annulus leak detector alarm was caused by rain intrusion. With the exception of expected alarms generated by approved work activities or procedures, Alarm Response Procedures are "continuous use" procedures from the time an alarm locks in.

A-08-AMTF-TANKFARM-008-F04--Original Lockout/Tagout (LOTO) walk down not performed adequately
(Blanchard, 1/24/2008)

Requirement: ATS 222-S Laboratory Standing Order (SO) ATS-2008-1005, dated January 15, 2008, required that electrical work activities involving a LOTO will include a work record entry documenting a walk down with the Field Work Supervisor, LOTO technical reviewer, facility electrician and facility electrical engineer.

Discussion: On January 23, 2008, a 222-S Field Work Supervisor, LOTO technical reviewer, facility electrician and facility electrical engineer met to perform the review and walk down for LOTO Authorization Form 222S-07074, Replace POEMS Room 1L. This meeting included a thorough discussion of the electrical panels to be isolated, placement of the locks, equipment being isolated, lighting requirements, etc. At the conclusion of the meeting, the LOTO technical reviewer asked four times if anyone wanted to walk down the LOTO. All of the attendees stated they had walked down the LOTO before and did not need to do it again. The 222-S Field Work Supervisor, LOTO technical reviewer, facility electrician and facility electrical engineer then met with the 222-S Operations Director to brief him on the results of the walk down. At the conclusion of this briefing, the FR questioned the purpose of the previous meeting. He explained that there had been a LOTO table top discussion but no LOTO walk down took place. The Operations Director clearly articulated that the SO required a walk down and requested one to be performed and did not release the package for work. The LOTO walk down was successfully performed as requested by the Operations Director.

NON-CITED FINDINGS

A-08-AMTF-TANKFARM-008-N05--The Material Balance Discrepancy (MBD) Operator was not aware of the required MBD frequency (Trenchard, 1/4/2008)

TO-230-005 Recirculate and Transfer from 241-AP-101 step 5.4.6 states to obtain and record intermediate recirculation data on Data Sheet 2, at the following intervals:

- 30 minutes after start of recirculation;
- 60 minutes after start of recirculation; and
- Every 3 hours thereafter during recirculation.

When a new operator asked the MBD operator about the frequency of the MBD, the MBD operator incorrectly replied that the second one was to be performed 60 minutes after the first. At 58 minutes after the start of the transfer, the new operator reviewed the procedure and brought it to the attention of the MBD operator, who then recognized that the second MBD was to be taken 60 minutes after the start of the transfer (and 30 minutes after the first MBD). Although the MBD operator was not familiar with the specific procedure for this transfer, due to the questioning attitude of the new operator, the MBD was taken on time.

A-08-AMTF-TANKFARM-008-N06--Senior Manager/Shift Manager Turnover Sheet Lists Out-of-Service Status for Equipment Permanently Removed from Service (Ciola, 1/18/2008)

The ORP Manager had noted during a facility walkthrough that the Senior Manager/Shift Manager Turnover Sheet (the turnover sheet) lists a status of "Out-of-Service" for equipment that has been permanently removed from service, including that of certain annulus CAMs. The Out-of-Service information for the CAMs is consistently listed on the turnover sheet, which desensitizes personnel to the significance of "Out-of-Service" status, and clutters the sheet with unnecessary information. The FR contacted the Shift Manager who researched the problem and delisted the removed equipment from the turnover sheet.

OBSERVATIONS

A-08-AMTF-TANKFARM-008-O07--Facility Operational Manager Made Notification to the Wrong FR (Blanchard, 1/15/2008)

On January 14, 2008, the 222-S Facility Operation Manager (FOM) made two required on-call FR notifications to the 222-S FR because the FOM thought the 222-S FR was the on-call FR. The ATS Event Notification Matrix is used by the ATS FOMs to identify who to notify for different types of events. The ORP FR block reads: "ORP FR Courtney Blanchard... and see Hanford Site On-Call List."

The 222-S FR receives all 222-S related notifications, but the on-call FR changes weekly per the Hanford Site On-Call list. Closure Operations and Waste Feed Operations develop a weekly notification matrix table using the Hanford Site On-Call List. This weekly notification matrix table looks very similar to the ATS Event Notification Matrix and most CH2M HILL required contacts are the same on both matrices. The similarity of these matrices creates an error-likely situation where the wrong list could be used. The FOM identified that he was using the wrong matrix after the on-call FR questioned why he had not received the first two notifications on Monday, January 14, 2008.

A-08-AMTF-TANKFARM-008-O08--Delayed Notification of a Stop Work (Blanchard, 1/16/2008)

On January 16, 2008, the 222-S FR was notified of a stop work after the issue was resolved. At approximately 10:30 a.m., the 222-S Operational Manager (OM) was told that an employee wanted to implement his stop work authority. Contractor representatives met with the employee to discuss the concern. The employee's issue was not resolved until 12:30 p.m. At that time, the FOM began making calls per Procedure TFC-OPS-OPER-D-01, *Event Notification*, Figure 2. The FOM believed it was not required to make notifications until a clear understanding of the stop work was known. Procedure TFC-OPS-OPER-D-01 does not address when to commence the notification process. Prompt notification to the on-call FR allows them to understand the issue first hand and become engaged in the resolution process.

V. Closed Findings: There were no findings closed in January 2008.