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

07-TOD-065

JUL 12 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 – THE U.S. DEPARTMENT OF ENERGY, OFFICE OF RIVER PROTECTION (ORP) TANK FARM PROJECT MONTHLY REPORT FOR JUNE 2007

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

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

Sincerely,

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

TOD:MCB

Attachment

cc: See Page 2

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
H. M. Hassell, CH2M HILL
M. D. Hasty, CH2M HILL
R. L. Higgins, CH2M HILL
T. L. Hissong, CH2M HILL
J. W. Long, CH2M HILL
M. R. Kembel, CH2M HILL
J. A. McDonald, Jr., CH2M HILL
R. S. Popielarczyk, CH2M HILL
W. E. Ross, CH2M HILL
CH2M Correspondence Control
K. T. Juroff, EM-22

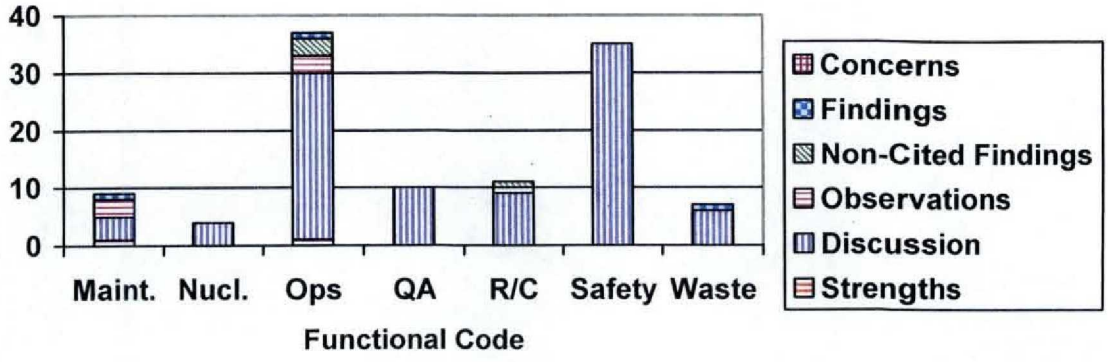
Office of River Protection

Tank Farm Project Monthly Report For June 2007

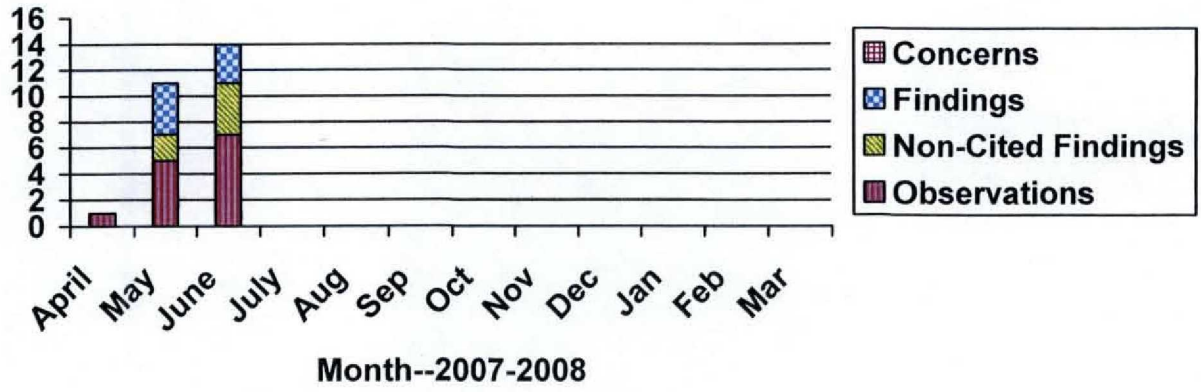
I. Introduction/Summary

During the month of June 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, 84 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. Two Strengths, three Findings, three Non-Cited Findings and seven 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 June 2007 the ORP FRs and technical staff performed surveillances in 29 areas that included operations, maintenance, nuclear safety, industrial safety and radiological protection. An increase was noted in the number of deficiencies identified during the month of June; however, the increase is primarily in the number of Observations. No discernable trends were identified. The FRs did note that a number of the deficiencies identified during the period were attributed to a lack of attention to detail. This will be closely monitored by the FRs in the coming months.

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;
- 222 S Laboratory 1F hot cell drain line analysis and replacement – complex/hazardous;
- High pressure mixer removal from riser 2 at Tank S-102 – complex/hazardous;
- C-109 retrieval operations – complex/hazardous;
- Remote Water Distribution Device removal from S-112 – complex/hazardous;
- Repackaging of contaminated Tank Farm access equipment staged for disposal – hazardous;
- Waste packaging of the C-109 salt well pump and screen – high radiological dose rates; and
- Start-up preparations of the 242-A Evaporator – complex/hazardous.

During the month ORP FRs and technical staff completed a review of the Tank Farm Contractor (TFC) Hose-in-Hose Transfer Line (HIHTL) Program. The review was conducted on documentation/procedure implementation, examination and testing, and in-field condition. One Finding and one Observation were identified during that review. The Finding pertains to visual examination of HIHTLs that are to be reused. The Observation pertains specifically to the in-field condition of used HIHTLs. These are included in Section V of this report.

III. Occurrences and Injuries

During the month of June 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. The contractor conducted an ergonomic evaluation of the work activity and implemented corrective measures.

There were two occurrence reports issued during the month of June 2007.

- On June 5, 2007, during a pit video inspection of valve AWVPA-WT-V-214 at AW-B valve pit, it was determined that the valve actuator was not properly engaged in the valve funnel and the valve was observed to be in the mid-position. This valve was locked out per TFC-OPS-OPER-C-05 "Lockout/Tagout Program" to support 242-A maintenance activities in the Evaporator room. The valve actuator located on top of the pit was locked out in the closed position but with the valve actuator not properly engaged, the valve was not in the correct

position required by the lockout/tagout. During maintenance activities in the evaporator room there were no transfer activities which would have resulted in an uncontrolled release of hazardous energy. This was initially categorized as a 10 (2) SC-3 (Management Concern) event. Additional investigation led the TFC to re-categorize the event as a 4A(1)SC3 (performance degradation of a safety significant component). Immediate actions included evacuation of personnel from the 242-A Evaporator Room and applicable work packages were suspended.

- On June 14, 2007, an occurrence was declared when Waste Feed Operations Shift Office was notified that the new AN-101 transfer pump did not have an Administrative Lock (AL) installed as required per Administrative Control (AC) 5.12 and had been physically and electrically connected to the Double-Shell Tank transfer system. At the time, the pump was thought to be considered an ACTIVE pump and the occurrence was classified as a group 3, subgroup A (2) - Nuclear Safety Basis, Technical Safety Requirement Violation. On June 20, 2007, this occurrence report was re-categorized as 10(2)SC-3 (Management Concern) based upon results of a fact finding which determined that the AN-101 transfer pump does not meet the definition of an ACTIVE waste transfer pump per HNF-SD-WM-TSR-006, "Tank Farms Technical Safety Requirements".

IV. Monthly Focused Review for June: Hazard Identification and Control Selection

During the month of June 2007 ORP FRs conducted an assessment of the TFC hazard identification and control selection process. The FRs used a performance based approach to assess procedural guidance, 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 20-3, *Identification of Hazards*, and ISM Surveillance Guide 20-4, *Development of Hazard Controls criteria*:

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

- The FRs monitored work planning activities including:

  - Walkdowns for the C-104 installation of the portable exhauster and 1E1 primary High Efficiency Particulate Air (HEPA) filter replacement;
  - Formal project reviews for DBVS dryer seal issue resolution, the removal of the high pressure mixer equipment from riser #2 in S-102, C-104 pit foam removal, C-109 in tank video to support C-109 retrieval, and removal of the failed Gorman-Rupp/Riser Extension Box from S-102; and
  - Post-job briefing for the 1E-1 HEPA filter replacement at 222-S, 1F hot cell drain line replacement, 1E-1 HEPA filter replacement at 222-S, and C-109 camera installation and retrieval operations start-up.

- The FRs observed field work activities including:

  - Analysis and replacement of the 1F hot cell drain line;
  - Removal of the high pressure mixer from riser 2 at Tank S-102;
  - S-112 aerosol filter testing;
  - S-112 grab sampling;
  - Testing of the AP-104 transfer pump;
  - Replacing the belt and bearings on the AN Farm A-Train annulus exhauster;
  - Start-up of the 242-A Evaporator;
  - Repackaging of contaminated Tank Farm excessed equipment staged for disposal;
  - Ultrasonic testing at AZ-101; and
  - C-109 retrieval operations.

In June the FRs were also involved in the following fact finding meetings:

- Liquid was observed dripping from packaged contaminated Tank Farm equipment while being lifted;
- Valve actuator disconnect issues identified at AW-A and AW-B valve pits;
- DBVS dryer seal leak issue; and
- Lack of an AL at the AN-101 transfer pump.

Additionally, the FRs monitored a Closure Operation system health meeting, assessed heat stress hazards and controls for work activities, independently reviewed the hazards and controls for the repackaging of contaminated equipment and HIHTL, and reviewed the Safety Basis Amendment change to support pumping of CR-Vault sump and annual 222-S Laboratory update. The FRs reviewed the Fire Department's response to diesel spill at the 701-A Area.

Results:

The TFC's work control procedure TFC-OPS-MAINT-C-01, Revision 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 ISMs core functions, and identifies roles and responsibilities, and interfaces through which this process is implemented. The work control process used a team approach to identify and develop controls for the hazards associated with the work. Significant effort by management to have the same craft that performed the work planning actually do the work has improved hazard identification and implementation of hazard controls.

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 summarized below. During this focused review of the hazard identification and control selection process, the FRs identified one Strength, three Findings, three Non-Cited Findings, and four Observations. Details of the Strengths and deficiencies can be found in Section V of this report.

Strengths:

- Conservative work practice observed during the replacement of the 1E1 hot cell primary HEPA filter. (Blanchard, June 6, 2007)

Findings:

- Lockout/Tagout Number 242A-07-02 did not define an adequate boundary to protect workers entering the 242-A pump and Evaporator rooms in SHUTDOWN MODE. (Williamson, June 7, 2007)

- Contaminated Equipment Staged for Disposal Requires Repackaging. (Courtney Blanchard, June 21, 2007)

- C-109 HIHTLs were not visually examined for abrasion and other damage prior to reuse. (Frink, June 26, 2007)

Non-Cited Findings:

- Truck Drove Over Unprotected Bundle of Wire and Raw Water Hose in Tank Farm. (Blanchard, June 11, 2007)

- Contractor failed to Enter Annual Operating Permit (AOP)-11 in Response to a Diesel Spill. (Williamson, June 12, 2007)

- Operator observed exiting a Radiological Buffer Area (RBA) without performing an exit survey, as required by posting. (Yasek, June 22, 2007)

Observations:

- Operator stationed at AN Farm for monitoring tank pressures was only periodically monitoring, and not continuously monitoring, while personnel were in the Farm. (Sorensen, June 6, 2007)

- Degraded Vehicle Ramp in SX Farm. (Wright, June 13, 2007)

- Air Line Foreign Material Exclusion Issue at 242-A Evaporator. (Blanchard, June 25, 2007)

- Out-of-Service (OOS) HIHTLs adjacent to C-103, C-106 and U-110 inadequately maintained. (Frink, June 26, 2007)

Conclusion:

The FR focus area review of June 2007 found that the TFC's Hazard Identification and Control Selection process has been effectively integrated into the work planning and control process through the performance of work. The work planning and control process ensures that personnel with the appropriate functional area expertise were used to plan the work. A team approach was used to systematically identify the hazards and the hazards were either eliminated or reduced. Remaining hazards were addressed through engineering controls when possible, followed by ACs and then Personal Protective Equipment (PPE). When possible, the craft that were going to perform the work were engaged in the work planning and control process as noted above. Hazards were effectively communicated during the pre-job briefings. Craft and Field Management stopped work when new hazards were identified. Post-job briefings focused on the successes and areas for improvement to facilitate a continual improvement in the work planning and control process.

The process described is implemented well with the exceptions noted above. The FRs will continue to monitor the issues as described in the above Observations and Findings.

V. Strengths and Deficiencies

Strengths:

Technical Safety Requirement surveillance was conducted with a high degree of professionalism. (Sorensen, June 4, 2007)

The FR observed the pre-job briefing and the field work for the manual shutdown test of the AP-104 Transfer Pump per work order WFO-WO-07-1223. This test was a prerequisite for the waste transfer from AP-104 to AW-102 and fulfilled SR 3.1.1.4. The pre-job briefing was well-conducted by the Field Work Supervisor (FWS). He appropriately used his pre-job briefing checklist and covered the work steps, expected alarms and response to off-normal events, the Work Hazards Analysis and hazards associated with the job, PPE, Lockout/Tagout, and required instrumentation and jumpers. The work crew conducted a pre-job walkdown, followed their procedure verbatim, and displayed good knowledge of what they were doing. It was evident that they had safety first and foremost in mind. They treated the required signatures for voltage readings in their work instruction as hold points. They were careful to inform the Shift Manager when bypass jumpers were installed and the pump motor circuit breaker was closed. The work crew displayed a great deal of professionalism and pride in their work and overall it was a job well done.

Conservative work practice observed during the replacement of the 1E1 hot cell primary HEPA filter. (Blanchard, June 6, 2007)

On June 6, 2007, Analytical Technical Services Craft were preparing to remove 1E1 Hot Cell Primary HEPA filter when work conditions exceeded the Radiological Work Permit (RWP) void limits. Craft promptly exited the work area and radiological exposures were within the planned RWP limits. The FR observed that the craft demonstrated exceptional awareness of the job scope, communication during the pre-job and performance of work, and conduct of operations.

For example, when the cover of the HEPA filter was removed the craft determined that the plastic bag, staged within the filter housing for containment of the filters during removal, had deteriorated and would not ensure containment during filter removal. The craft and FWS had discussed in detail during the pre-job what actions to take if there was no containment plastic bag staged in the HEPA filter or if this bag had deteriorated. The Radiological Technician performed a contamination survey on the inside of the staged plastic bag within the HEPA filter housing recognizing that a failed bag would expose craft to the contamination within the HEPA filter enclosure. During these work activities, craft kept the FWS informed of specific work being performed. The craft's experience and knowledge of the work hazards, use of effective and open communication, and execution of good conduct of operations ensured that work was done safely and within the RWP limits.

Findings:

Lockout/Tagout Number 242A-07-02 did not define an adequate boundary to protect workers entering the 242-A pump and Evaporator rooms in SHUTDOWN MODE. (Williamson, June 7, 2007)

Requirement: TFC-OPS-OPER-C-05, REV A-22 *Lockout/Tagout Program*

Discussion: In May, work was being performed in the 242-A Evaporator room while the Facility was in the SHUTDOWN MODE. The transfer lines from AW-A and AW-B pits were locked and tagged out as required by key element b. of AC 5.6.1.1. This lockout/tagout was implemented by Lockout/Tagout Number 242A-07-02.

One other transfer line leads into the Evaporator room from sources other than the AW-A and AW-B valve pits. The 241-AW-02E pit is the pit containing the transfer line SN-269, and associated pump, that serves as the feed line for the Evaporator. The AC did not specify a requirement for a Lockout/Tagout for this transfer line nor did Lockout/Tagout Number 242A-07-02 originally specify lockout/tagout of this line. Lockout/Tagout Number 242A-07-02 has since been modified to lockout the AW02E feed pump after the Flow Recorder brought the issue to the TFC management's attention.

The motive source for the pump in the AW02E pit is normally under AL as are the valves that lead from the AW-A and AW-B pits to the Evaporator. TFC-OPS-OPER-C-05, REV A-22 *Lockout/Tagout Program*, clarifies in the purpose and scope section that "ALs do not require a safe condition check, and locks from the AL Program shall not be used to meet any lockout/tagout program requirements". Per the Purpose and Scope Section of this procedure, "This procedure is a lifesaving measure for the control of the unexpected release of hazardous energy or materials." Hazardous energy is defined as, "Any source of hazardous energy or materials. Sources include electrical, mechanical, hydraulic, pneumatic, chemical (toxic, hazardous, dangerous, radiological, carcinogenic), x-ray....."

Related issue: Related to this event, but still under evaluation is the following issue: *AC 5.6.1.1 does not appear to consistently control the hazard identified in the accident scenario number SP-1 under section 3.4.2.1.5 of HNF-14755 Rev 1-, "Documented Safety Analysis for the 242-A Evaporator".*

AC number 5.6.1.1 restricts access to the 242-A Pump room and Evaporator room to ensure that potential penetrating radiation hazards associated with those rooms are controlled. The key elements include a lockout/tagout system with key control on the transfer lines from 241-AW-A and 241-AW-B to be installed when personnel are present in the pump or evaporator rooms in OPERATION or SHUTDOWN MODE. The intent of this control is to prevent an unplanned transfer from Tank Farms to the 242-A Evaporator while workers are in the Pump or Evaporator Rooms. In addition to transfers from 241-AW-A and 241-AW-B, there is also a path for the Evaporator and Pump Rooms to receive waste from the AW-02E pit; **this is not controlled in a similar manner.** The TFC has issued a Problem Evaluation Request (#2007-0944) requesting an evaluation of whether this constitutes a Potential Inadequacy in the Safety Analysis.

The SP-1 accident scenario in HNF-14755 postulates that an aging waste solution is misrouted in Tank Farms and sent to the 242-A Evaporator. The waste solution is discharged through an open nozzle to the Pump Room while personnel are present, potentially exposing the facility worker to high doses rates and contamination levels. Conceivably, the same situation could result due to an inadvertent start of the pump in the AW-02E pit. This pump would transfer tank waste to the 242-A Pump Room (or Evaporator Room) where an open nozzle may result in exposing the worker to high dose rates and contamination levels. This hazardous energy source was not originally under Lockout/Tagout until FR intervention. A worker safety lockout was ultimately applied to the AW-02E feed pump after this intervention.

Contaminated Equipment Staged for Disposal Requires Repackaging. (Blanchard, June 21, 2007)

On June 7, 2007, Waste Services attempted to load contaminated equipment that had been field wrapped in plastic then placed in strong tight packages onto a flat bed trailer when liquid was observed dripping from the packaging. The craft stopped the work because of the potential hazard associated with the liquid, concerns that the appropriate controls had not been implemented, and Department of Transportation regulatory concerns. The work was re-planned.

Various pieces of equipment have been staged for shipment to a waste packaging contractor located offsite including a truck bed, camera, water lances, exhauster, wood box filled with equipment, rock slinger, and water tank. After liquid was observed dripping from some of the packaged equipment during movement, the Waste and Transportation/Packaging Manager performed a thorough inspection of the remaining pieces of equipment. They identified that this equipment had been packaged and staged the same way as the equipment that had leaked liquid. The packaged contaminated equipment was staged out in the weather and elevated only a few inches above the concrete storage pads. Additionally, the secondary container (strong tight package) on several of the long length pieces of equipment used Velcro seams for closure. These seams were not designed to be water tight and were observed lying on the concrete pad, which would allow rain water to enter the strong tight package. The issue with liquid within the strong tight wrapped and packaged contaminated equipment has occurred in the past and either no corrective actions were implemented, or they were ineffective. Requiring the waste handling craft to repackage contaminated equipment is a poor As Low As Reasonably Achievable practice, demonstrates ineffective ISM system and increases project cost.

The Washington Administrative Code (WAC) 173-303-630, *Use and management of containers*, paragraph 2, *Condition of containers*, requires that if a container holding dangerous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the owner or operator must transfer the dangerous waste from the container to a container that is in good condition or manage the waste in some other way that complies with the requirements of chapter 173-303 of the WAC and paragraph 5, *Management of containers*, requires, in part that:

> (b) A container holding dangerous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

Low level and mix waste at the Tank Farms has not been consistently packaged, stored, or managed to ensure there is not intrusion of water into the container during storage.

C-109 HIHTLs were not visually examined for abrasion and other damage prior to reuse. (Frink, June 26, 2007)

TFC-ENG-STD-21, Revision. B, HIHTLs, Section 3.4, line item 4 requires: "The exterior surfaces of HIHTL assemblies that are reused shall be visually examined for abrasion or other damage prior to reuse." Work package CLO-WO-06-001989, *241-C-109 Disconnect at C108, Move, Reconnect HIHTL's* was reviewed for this criterion. The work package showed no evidence of satisfying this criterion for those portions of the HIHTLs that were relocated from C-108 to C-109. These are specifically, hoses 1, 2, and 3 as depicted on H-14-107258, Revision. 0, (sheets 2 and 4). A discussion with the planner also confirmed that the examination was not included in the work package. The Construction Manager (CM) was then queried to determine if this inspection was completed. The CM stated that although the inspection was not completed per a work package or documented elsewhere, photos had been taken when the HIHTLs were moved from C-108 to C-109 and the construction crew did not see any deficiencies.

Non-Cited Finding: Truck Drove Over Unprotected Bundle of Wire and Raw Water Hose in Tank Farm. (Blanchard, June 11, 2007)

On June 7, 2007, the FR observed a large flat bed truck that had driven over an unprotected bundle of wires, (approximately 9) and water hose leading to Tank S-112. This was discussed with the FWS, Senior Supervisory Watch, Sampling Management, and Safety, Health, and Quality Assurance (SH&QA) Management; all agreed that wires should not be driven over unless protected with Linebacker ® Heavy Duty Cable Protectors (approved protection). The specific requirement not to drive over unprotected wires was not found in a CH2M HILL procedure. The SH&QA Vice President explained that CH2M HILL had upgraded to a more robust wire protection enclosure (Linebacker ® Heavy Duty Cable Protectors). The purpose of these enclosures was discussed during tailgate meetings and is considered skill of the craft not to drive over unprotected wires. On June 11, 2007, a company-wide lessons learned was issued that clearly articulated not to drive over unprotected wires and included corrective actions. Occupational Safety and Health Administration 1910.305(a)(2)(iii)(G) states that "Flexible cords and cables shall be protected from accidental damage." Driving over the unprotected wire bundle on June 7, 2007, is a non-cited Finding.

Non-Cited Finding: Contractor failed to Enter AOP-11 in Response to a Diesel Spill. (Williamson, June 12, 2007)

The Shift Office failed to enter TF-AOP-11, *Response to Radiological/Hazardous Material Leaks, Spills and/or Personnel Contamination,* following a spill of diesel fuel from a compressor day tank near 701-A. The AOP was applicable because the diesel became a Resource Conservation and Recovery Act regulated hazardous waste as a result of the spill. Following FR questioning, a late entry into AOP-11 was made and the actions that it called for were verified to have already been completed.

Non-Cited Finding: Operator observed exiting a RBA without performing an exit survey, as required by posting. (Yasek June 22, 2007)

On June 22, 2007, a Closure Operations Operator was in the AN Farm change trailer, walked from the Radioactive Material Area (RMA) where anti-contamination clothes are stored, across the boundary into the RBA to look out the door into the AN Farm. The operator then returned several steps into the RMA without performing an exit survey. The FR informed the Operator of their actions and pointed out the RBA. The Operator stated that they didn't see the RBA and returned directly to the Geiger-Mueller at the exit point and performed an exit survey. The RBA was posted correctly and the change trailer layout was typical of most Tank Farm change trailers. This was debriefed later to the FWS. While this instance did not present a serious risk to the worker or other personnel and the operator performed appropriate remedial actions, the lack of situational awareness demonstrated complacency with procedures set in place to ensure contamination control.

Observations:

Operator stationed at AN Farm for monitoring tank pressures was only periodically monitoring, and not continuously monitoring, while personnel were in the Farm. (Sorensen, June 6, 2007)

Since all electrical power into AN Farm has been de-energized, the AN Farm high pressure alarm is inoperable. This alarm is derived from tank pressure inputs from each individual tank in AN Farm and serves to alert personnel in the Farm when a high pressure condition has developed, which is potentially hazardous. To solve this problem during the electrical outage, an operator has been stationed outside AN Farm who is responsible to monitor tank pressures in the instrument building and warn personnel in the Farm of a high pressure condition. Discussions with the Operator prior to entering the Farm with a work crew revealed that she would only be monitoring tank pressures intermittently while the work crew was in the Farm and not continuously. This seemed to be inadequate to meet the purpose of why the Operator was stationed there.

Inadequate house keeping around S-112. (Wright, June 5, 2007)

While observing the S-112 Breather Filter work in S-Farm, less than adequate housekeeping around the S-112 Tank was noted. Some of the items noticed included:

- several pairs of canvas gloves on the ground;
- several pairs of rubber gloves on the ground;
- approximately 3 unopened containers of silver shield gloves;
- a discarded hood;
- miscellaneous rags;
- numerous rolls of tape on the ground; and
- tools, etc.

This issue was brought up with the Shift Manager and he initiated PER CH2M-PER-2007-0987 to track this issue. On June 7, 2007, the FR observing the S-112 Grab Sampling work, noted that the housekeeping had been addressed around S-112 Tank.

Broken Drywell Cover Observed in U Farm. (Yasek, June 13, 2007)

While observing Vadose Zone direct-push sampling in U-Farm, the FR performed a walk-through of the Farm and found the drywell cover for drywell 04-10 (the drywell at the 10 o'clock position of tank U-104) was broken and could allow water to intrude into the drywell. This information was provided to the FWS. The FWS was going to follow up on this item and thought that the Vadose Zone group had some spare drywell covers which he would then replace the broken cover with. This information was also provided to the Shift Manager upon the FRs return from the field. The Shift Manager said that he would follow up on replacing this broken cover.

Degraded Vehicle Ramp in SX-Farm. (Wright, June 13, 2007)

While conducting a walk through of SX-Farm the FR identified a degraded vehicle ramp. The wood ramp located between the SX change trailer and the SX sludge cooler had degraded to the point that the raw water piping that it was designed to protect was being impacted by vehicular traffic (the piping insulation was being crushed). The piping is Out Of Service (OOS) piping for the salt well dilution system. Although the piping is OOS it was possible that some raw water may still be in the system and could leak out if the pipe was compromised. The FR brought this to the attention of the Shift Manager. The Shift Manager informed the FR that the system had been blown down for winterization last year so no water was in the system. The Shift Manager also said that he will look into getting that pipe and ramps removed; immediate actions were to barricade off that ramp.

Review of C-109 retrieval startup checklists and data sheets reveal inattention-to-detail. (Frink, June 22, 2007)

A review of the C-109 retrieval checklists and data sheets was completed on June 22, 2007. These checklists and data sheets, completed from June 18, 2007 to June 21, 2007 were associated with TO-220-112 (Over-Ground Transfer from 241-C-109 to 241-AN-106 and Sluicing of Tank 241-C-109). The following comments are provided:

- Checklist 4, dated June 18, 2007, recorded a next due date for PM ET-02435 as September 21, 2007. The actual due date found in Computerized History and Maintenance Planning Software is September 21, 2008.

- Material Balance Discrepancy (MBD) calculations have been subjected to questionable round-off error. All calculations that were reviewed resulted in all values being rounded-up. This deviates from standard round-off methodology. In all cases, the calculated MBD was within the allowed uncertainty.
- Data Sheet 1, page 1 of 2, dated June 21, 2007, at 10:20 p.m., V_{C-109} indicates a value of 50850. The value that is likely to have been used, and would be appropriate, is 5085.
- Data Sheet 1, page 1 of 2, dated June 19, 2007, indicate a Slurry transfer mode and Supernate transfer mode as "On" for times 4:00 p.m., and 7:00 p.m. The permissible data sheet modes are only "Transfer', "Off", or "Flush".
- Data Sheet 5, for June 20, 2007, at 11:09 p.m., is missing the date as required by the data sheet.
- Data Sheet 9, dated June 20, 2007, at 1:00 p.m., 10:00 p.m., and 10:50 p.m., lists readings that are out of the normal range. No comments are provided to explain the out-of-normal range values.

Air Line Foreign Material Exclusion Issue at 242-A Evaporator. (Blanchard, June 25, 2007)

In June 25, 2007, two FRs were inspecting the 242-A Evaporator when they observed an air line staged for connection to the process air valve. The connection was in a vertical position and unprotected from foreign material intrusion. The issue was discussed with the 242-A Shift Manager and was immediately addressed by placing tape over the hose end.

Out-of-Service HIHTLs adjacent to C-103, C-106 and U-110 inadequately maintained. (Frink, June 26, 2007)

During a walkdown of C-Farm, S-Farm, and U-Farm in support of a HIHTL surveillance, 4 deficiencies were noted. These are:

- The uncovered out-of-service HIHTL adjacent to U-110 was inadequately radiologically contained. The radiological packaging intended to contain the end of the primary hose and the encasement has deteriorated;

- The uncovered OOS HIHTL adjacent to U-110 is in close proximity to a steel plate. The steel plate has the potential of penetrating the HIHTL if the plate shifts under vehicle loading;

- The OOS HIHTL adjacent to C-91 and C-106 has inadequate ground cover and the HIHTL is slightly compressed at the dog house; and

- The uncovered OOS HIHTL adjacent to C-103 was inadequately radiologically contained. The radiological packaging intended to contain the end of the primary hose and the encasement has deteriorated.

VI. Closed Findings:

No Senior Supervisory Watch (SSW) was present during the pre-job briefing for a high risk work activity.

This Finding is closed based on training administered in Closure Operations to all SSWs by Senior Management of the procedural requirement for SSWs to be in attendance at pre-job briefings. This issue was only identified in Closure Operations.