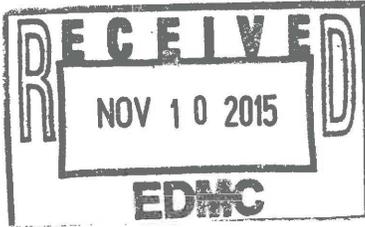


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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950
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November 4, 2015

15-NWP-196

By certified mail

Mr. Kevin W. Smith, Manager
Office of River Protection
United States Department of Energy
PO Box 450, MSIN: H6-60
Richland, Washington 99352

Mr. Mark Lindholm, President and Project Manager
Washington River and Protection Solutions
PO Box 850, MSIN: H3-21
Richland, Washington 99352

Re: Single-Shell Tank Dangerous Waste Compliance Inspection on March 30 and 31, 2015 at the Hanford Site, Resource Conservation and Recovery Act (RCRA) Site ID: WA7890008967, Nuclear Waste Program (NWP) Compliance Index No. 15.518

Dear Mr. Smith and Mr. Lindholm:

Thank you for your time during the Single-Shell Tank Dangerous Waste Management Unit Group inspection to determine compliance with the Washington State Dangerous Waste Regulations (Chapter 173-303 Washington Administrative Code) and the *Hanford Federal Facility Agreement and Consent Order*.

The Department of Ecology's (Ecology) compliance report for inspection of the Single-Shell Tank Permit Closure Unit Group 4 is enclosed. The report cites four areas of non-compliance with the Dangerous Waste Regulations and six concerns. The four areas of non-compliance and their actions required to return to compliance are listed in the Compliance Problems section of the report.

To return to compliance, complete the actions required and respond to Ecology within 60 days of receipt of this letter and compliance report. Include all supporting documentation such as photographs, records, and statements explaining the actions taken and dates completed to return to compliance.

Submit the above paperwork, along with any requested documentation, to Jared Mathey at 3100 Port of Benton Boulevard, Richland, Washington 99354.

Failure to correct the areas of non-compliance may result in an administrative order, a penalty, or both, as provided by the Hazardous Waste Management Act (Revised Code of Washington 70.105.080 and .095). Persons who fail to comply with any provision of this chapter are subject to penalties of up to \$10,000 per day per violation.



001851

Mr. Smith and Mr. Lindholm
November 4, 2015
Page 2

15-NWP-196
Single-Shell Tank Inspection
RCRA Site ID: WA7890008967
NWP Compliance Index No.: 15.518
Inspection Dates: March 30 and 31, 2015

If you have questions or need further information, please contact me at jared.mathey@ecy.wa.gov or (509) 372-7949.

Sincerely,



Jared Mathey
Dangerous Waste Compliance Inspector
Nuclear Waste Program

tkb

Enclosure

cc electronic w/enc:

- Dave Bartus, EPA
- Jack Boller, EPA
- Dennis Faulk, EPA
- Lori Huffman, USDOE-ORP
- Bryan Trimberger, USDOE-ORP
- Cliff Clark, USDOE-RL
- Ruth Allen, WRPS
- Michael Greene, WRPS
- Jessica Joyner, WRPS
- Jeff Voogd, WPRS
- Ken Niles, ODOE
- Debra Alexander, Ecology
- Jim Alzheimer, Ecology
- Kathy Conaway, Ecology
- Suzanne Dahl, Ecology
- Kelly Elsethagen, Ecology
- Edward Holbrook, Ecology
- Jeff Lyon, Ecology
- Jared Mathey, Ecology
- John Price, Ecology
- Nancy Ware, Ecology
- Mign Walmsley, Ecology
- Cheryl Whalen, Ecology
- Environmental Portal
- Hanford Facility Operating Record

cc w/enc:

- Steve Hudson, HAB
- Administrative Record
- WRPS Correspondence Control
- NWP Central File
- NWP Compliance Index File: 15.518

cc w/o enc:

- Rod Skeen, CTUIR
- Gabriel Bohnee, NPT
- Russell, Jim, YN
- NWP Reader File

**Washington Department of Ecology
Nuclear Waste Program
Compliance Report**

Site: Single Shell Tanks System
RCRA Site ID: WA7890008967
Inspection Dates: March 30-31, 2015 and July 1, 2015
Site Contacts: Michael Greene, Washington River Protection Solutions (WRPS)
Brian Trimmerger, U.S. Dept. of Energy - Office of River Protection (DOE-ORP)
Phone: (509) 373-1582 **FAX:** N/A
Site Location: Hanford Site, 200 East and 200 West Areas
Benton County, WA
At This Site Since: 1943 **NAICS#:** 562211, 541712, & 924110
Current Site Status: Treatment, Storage, and Disposal Facility / Closing Unit Group #4

Ecology

Lead Contact: Jared Mathey **Phone:** (509) 372-7949 **FAX:** (509) 372-7971
Other Representatives: Kathy Conaway, Edward Holbrook, and Mign Walmsley
Report Date: November 4, 2015
Compliance Index No.: 15.518
Report By: Jared Mathey


(Signed)

11-4-2015
(Date)

Site Location

The Hanford Site was assigned a single United States Environmental Protection Agency (EPA) identification number, and is considered a single Resource Conservation and Recovery Act of 1976, as amended, (RCRA) facility even though the Hanford Site contains numerous processing areas spread over a large geographic area. The Hanford Site is a tract of land approximately 586 square miles and is located in Benton County, Washington. This site is divided into distinct Dangerous Waste Management Units (DWMUs) which are administratively organized into "unit groups." A unit group may contain only one DWMU or many; currently, there are 37 unit groups at the Hanford Site. Individual DWMUs utilize only a very small portion of the Hanford Site. Additional descriptive information on the individual DWMUs is contained in unit group permit applications and in Parts III, V, and VI of the Hanford Facility RCRA Permit, Dangerous Waste (DW) Portion, WA7890008967, Revision 8C (hereafter referred to as the Permit).

Facility Background

The basis for the below background information was consolidated from the Unit Description sections from the Draft Hanford RCRA Rev. 9 permit. In some cases, updates and/or additions have been made to this language.

Between 1943 and 1964, 149 Single Shell Tanks (SST) System were constructed underground in the 200 East and 200 West Areas of the Hanford Site to store radioactive and dangerous waste (MW). Beginning in 1944, MW from spent fuel processing and other operations in the Hanford Site 200 East and 200 West Areas were routed via buried lines to the SSTs for storage. Wastes were also routed from tanks to processing facilities and between tanks via miscellaneous underground storage tanks and facilities. In addition, the SSTs received liquid radioactive wastes from Hanford facilities outside of the

200 Areas. The maximum quantity of waste in the SST System was approximately 77,500,000 gallons in 1966. As of November 30, 2011, the SSTs still contained 27,510,000 gallons of MW (HNF-EP-0182, Revision 284, *Waste Tank Summary Report*). Some MW has leaked or has been discharged to the ground in an unplanned manner from the SST System. The estimated volume of leaked waste from the SSTs is approximately 3.8 million liters (1 million gallons).

The SST System includes twelve tank farms of 149 underground mixed-waste storage tanks, ancillary equipment, miscellaneous underground storage tanks, miscellaneous facilities, and soil and groundwater that are contaminated from leaks and unplanned releases. Additionally, the SST System contains:

- 133 - 100-series SSTs [2 to 3.8 million liter (530,000 to 1 million gal) capacity].
- 16 - 200-series SSTs [200,000 liter (55,000 gal) capacity].
- Waste transfer vaults and associated miscellaneous underground storage tanks.
- Tank pits, valve pits, and flush pits.
- Pumps and valves.
- Diversion boxes and diverter stations.
- Numerous pipelines.
- Other mechanical equipment.
- Contaminated soils for purposes of closure and corrective action.
- Contaminated groundwater for purposes of closure and corrective action.

The 200 East Area SST Farms include 241-A, 241-AX, 241-B, 241-BX, 241-BY, and 241-C; and the 200 West Area SST Farms include 241-S, 241-SX, 241-T, 241-TX, 241-TY, and 241-U. These twelve tank farms are geographically grouped into seven waste management areas (WMAs) for purposes of closure.

Seven SST WMAs have been identified as follows:

<u>Waste Management Area</u>	<u>Tank Farms</u>	<u>Total Number of SSTs</u>
WMA A-AX:	241-A and AX tank farms	10
WMA B-BX-BY:	241-B, BX, and BY tank farms	40
WMA C:	241-C tank farm	16
WMA S-SX:	241-S and SX tank farms	27
WMA T:	241-T tank farm	16
WMA TX-TY:	241-TX and TY tank farms	24
WMA U:	241-U tank farm	16

Most of the SST System is located within the WMAs; however, some components of the system, such as, ancillary equipment, transfer lines, and support facilities, are located outside WMA boundaries. Ancillary equipment (including transfer lines) that are a part of the SST System, but outside of the WMA boundaries are included in the 200-IS-1 Operable Unit (OU) and will be closed as a part of the 200-IS-1 OU. The SST System WMAs contain underground tank systems and components that are currently undergoing closure as MW storage and treatment units. The system is closing because all 149 SSTs have been determined as "unfit for use" pursuant to 40 CFR § 265.191(incorporated by reference

in WAC 173-303-400[3]). The SST system cannot achieve compliance with the Tank Systems requirements of the Washington State Dangerous Waste Regulations, WAC 173-303-640, due in part to a lack of secondary containment. The system cannot receive additional dangerous waste for storage.

Compliance Background for the SSTs

Ecology Inspection #99.168, December 1, 1999

The inspection cited the following violations:

- 1) Failure to complete an assessment of SST system integrity to determine the SST system is not leaking or was unfit for use by January 12, 1990, per WAC 173-303-400(3) and 40CFR 265.191(a).
- 2) Failure to install secondary containment for the SST system prior to January 12, 1991, per WAC 173-303-400(3) and 40 CFR 265.193(a).
- 3) Failure to inspect all SST monitoring equipment and leak detection equipment at least once each operating day per WAC 173-303-400(3) and 40 CFR 265.195(a).
- 4) Failure to remove all wastes from the SST system per 40 CFR 265.196(b) and close the SST System per 40 CFR 265.196(e).

The inspection findings resulted in the following Tri-Party Agreement (TPA) milestones:

- 1) M-23-23 Hanford Federal Facility Agreement and Consent Order (HFFACO) milestone for submitting the SST System Leak Detection and Monitoring Functions and Requirements Document, which was finalized as the *Single Shell Tank System Leak Detection and Monitoring Functions and Requirements* RPP-9937 document. The milestone stated this document would list each of the components of the existing SST system that will be addressed in the M-23-24 milestone. Components are those pieces of equipment used to store or transfer liquid MW. These components consist of the 149 SSTs and their ancillary equipment. Ancillary equipment within the SST system includes all subordinate tank systems and their vaults, transfer pipelines, pump pits, valve pits, lift stations, catch tanks, and unloading stations.
- 2) M-23-24 HFFACO milestone for submitting a SST functions and requirements document of compliance with the requirements for tank system integrity, containment, and detection of releases, inspections and response to leaks or spills, and disposition of leaking or unfit for use tank systems.
- 3) M-23-25 HFFACO milestones for documenting and assessing the integrity of the SSTs pursuant to the requirements of 40 CFR 265.191. The report in this milestone was used to document the SST structural integrity for a bounding set of SSTs, and to document if the SSTs are adequately designed and have sufficient structural strength and compatibility with the waste stored to ensure that they will not collapse, rupture, or structurally fail while continuing to store wastes.

Note: Newer milestones have been developed to continue the structural integrity program for the SSTs.

Ecology Inspection #02.218, July 23, 2002

The inspection cited the following violations:

- 1) USDOE-ORP and CH2M Hill Hanford Group Incorporated (CHG) failed to provide a leak detection system designed and operated to adequately detect the failure of the temporary transfer line supporting saltwell pumping of SST SX-103 per 40 CFR 265.193(c)(3).
- 2) USDOE-ORP and CHG failed to operate the temporary transfer line installed to support saltwell pumping of SST SX-103 to be capable of removing waste from secondary containment within 24 hours, or in as timely a manner as is possible, per 40 CFR 265.193(c)(4).

The findings of the inspection led to primary TPA document RPP-12711, *Temporary Waste Transfer Line Management Program Plan*.

Ecology Inspection #04.246, April 27, 2004

The inspection cited the following concern:

- 1) There is a significant long-term history of RCRA violations at Hanford tank farms for non-compliance with hazardous waste tank system inspection and leak detection requirements. During the course of this inspection, it was observed that CH2M's system for identifying, tracking, and documenting resolution for equipment in need of repair continues to be a cumbersome process, in addition to not being consistently implemented by personnel. While no violations were noted during the course of this inspection, obtaining documentation that shows equipment had been repaired was an inconsistent process. Continued self-inspection record at tank farms by CH2M in this manner may allow RCRA self-inspection recordkeeping requirements to be not sufficiently met in the future.

Ecology Inspection #07.276, March 28, 2007

The inspection cited the following violation:

- 1) USDOE-ORP and CH2M failed to comply with the requirements of the RPP-12711, *Temporary Waste Transfer Line Management Program Plan*, by failing to remove and/or dispose of Hose in Hose Temporary Waste Transfer Lines (HIHTL) (HIHTLs from Hanford's tank farms at the expiration of the HIHTL's service life. Some HIHTLs may contain residual flush liquids within the primary hose, and the HIHTL may remain connected to the SST or double shell tanks (DST) transfer system. Specifically, the service life of 14 HIHTLs has expired and they remain deployed in the tank farms. An additional 13 HIHTLs will have service life expired in 2007, but have no funding available to remove or dispose of them.

Ecology 2007 Notice of Violation (NOV), May 14, 2007

Ecology issued a NOV citing the violation as described above in the March 28, 2007, inspection. The NOV contained a requirement for the below corrective actions:

- 1) Within 30 calendar days of receipt of this letter, submit a written schedule to Ecology listing all temporary transfer lines either in storage, deployed for use, or in use on the Hanford Site, including the service expiration date and removal date for each line. This schedule must:
 - Identify each temporary transfer line that has, or will have, exceeded its service life by the end of the current federal fiscal year (September 31, 2007).
- 2) On or before September 31, 2007, USDOE-ORP and CH2M must complete removal of all temporary transfer lines that have exceeded their service life as described in the bulleted item above.

- 3) From receipt of this NOV forward, or until directed otherwise by Ecology, USDOE-ORP and CH2M must issue a written report to Ecology on the first day of each federal fiscal year quarter reporting a current inventory of all temporary transfer lines either in storage, deployed for use, or in use on the Hanford Site. If CH2M maintains documentation satisfying all of the information requests listed below, that documentation may be submitted to satisfy this portion of the corrective measure. This quarterly report must then list all temporary transfer lines that will exceed their service life and/or removal dates in the following fiscal year quarter. This information for each temporary transfer line as described above must include, at a minimum the following:
 - Identification number, location, receipt date, status (in use or in storage), expiration date (shelf-life or service life), length, material of construction, configuration (description of how deployed or stored), description of leak detection used.

Ecology Inspection #07.285, August 1, 2007

The inspection cited the following violations:

- 1) The raw water system of the waste retrieval system was not provided with backflow prevention controls adequate to prevent waste from entering the raw water system. The raw water system was not designed to transfer or contain any waste. The S-102 Functions and Requirements document referenced the Level 2 Design Criteria for the Waste Retrieval System and specified that backflow prevention would be provided for the raw water system.
- 2) The S-102 Waste Retrieval System design was not adequately reviewed by an Independent Qualified Registered Professional Engineer (IQRPE) in accordance with the requirements of WAC 173-303-640(3). The only component of the S-102 waste retrieval system that received a written assessment by an IQRPE was the HIHTLs. No documentation could be provided showing other components of the waste retrieval system received a written assessment by an IQRPE. Such components include the progressive cavity pump and the raw water distribution system.

Ecology Notice of Stipulated Penalty (NOP) No. 5218, December 4, 2007

Ecology issued Notice of Stipulated Penalty No. 5218 regarding a release of radioactive and hazardous waste (the S-102 release) that occurred during retrieval operations at Tank S-102 on or about July 27, 2007. Ecology assessed stipulated penalties in the amount of \$500,000. The HFFACO Functions and Requirements for S-102 waste retrieval, a primary document, states that the S-102 waste retrieval system will be designed in accordance with the Technical Safety Requirements (TSRs). USDOE-ORP and CH2M have identified that they violated a TSR by not installing backflow prevention on the S-102 pump dilution line.

On April 14, 2008, USDOE-ORP sent Ecology the finalized signed settlement agreement resolving Notice of Penalty (NOP) No. 5218. The settlement revised the language in Violation #1 of NOP No. 5218 and held \$250,000 of the \$500,000 penalty in abeyance pending completion of required actions.

Ecology Inspection #12.467, November 27, 2012

This inspection closed out Ecology's NOV issued on May 14, 2007, and on May 11, 2015, led to completion of RPP-12711, Revision 7, *Temporary Waste Transfer Line Management Program Plan*, as a HFFACO primary document. This revision used the authority under WAC 173-303-610 to allow a schedule for closure of the HIHTLs (ancillary equipment). More specifically, RPP-12711, Revision 7,

Table B-1 lists the dates that HIHTLs are to be placed into waste containers. This revision also ensured the plan included all tank ancillary equipment interim status standard requirements; finalized reporting requirements; and explained in detail the requirements for use and disposal.

Inspection Summary

This was an announced Focused Compliance Inspection – Compliance Evaluation Partial (FCI-CEP) inspection of the SST System as part of the annual Hanford Site Compliance Evaluation Inspection (CEI). On March 25, 2015 Ecology sent an e-mail notification to the USDOE-ORP and Washington River Protection Solutions (WRPS) that Ecology would be performing an inspection on March 30, 2015, and March 31, 2015, of the SST System. Ms. Conaway, Mr. Holbrook, Ms. Walmsley, and I arrived at the 2704 HV building, Room E-213 at 9:30 a.m. for an inspection in-briefing. Michael Greene gave a safety briefing and explained building evacuation procedures. After the safety briefing, there was a round-table of introductions for everyone present; Ecology, WRPS, and USDOE. Following is a list of individuals and titles of people who attended the in-briefing:

Daniel Baide – Manager, Tank Farms Projects and Integrity Engineering - WRPS
Diane Cato – Manager, Production Operations Engineering – WRPS
Chris Watson – Program Manager - WRPS
Ruth Allen – Manager, Environmental Compliance, Retrieval and Closure/Projects – WRPS
Ken Chapin – Environmental Field Representative – WRPS
Scott Conrad – Environmental Field Representative – WRPS
David Saueressig – Manager, Retrieval Operations – WRPS
Jeff Voogd – Manager Environmental Compliance Production Operations – WRPS
Michael Greene – Regulatory Inspection Coordinator – WRPS
Grant Ryan – Mobile Arm Retrieval System (MARS) Engineering – WRPS
Michael Erhart – HIHTL Design Authority – WRPS
Clifford Hampton – AZ Team Maintenance Manager – WRPS
Tony Miskho – Environmental Field Representative – WRPS
Ron Tucker – AN/B/BX/BY/C Tank Farm Team Manager – WRPS
Annie McLain – Environmental Field Representative – WRPS
Scott Bergman – Electrical Engineer – WRPS
Daniel Herrera – Environmental Field Representative – WRPS
George Meyers – Environmental Field Representative – WRPS
John Guberski – Environmental Field Representative – WRPS

After introductions, I explained our plan was to do a field inspection outside all SST farms fence lines for today's inspection. I said we planned on inspecting all 200 Area West SST farms, observe an active tank retrieval operation, and inspect the 200 East Area SST farms. Mr. Greene and Ms. Ruth Allen said that there were no tank retrievals currently in operation today. I explained I would still like to go inside

of the C-102 trailer to ask questions regarding the alarms and interlocks. Ms. Allen asked if I could stay in touch with her regarding the time when we would be in the 200 East Area so she could coordinate her staff to be available for the inspection. I told Ms. Allen that I would work with Mr. Greene to keep her updated with our inspection schedule. I explained that we would conduct the personnel interviews and go over how the documents were organized on day two of the inspection.

Mr. Greene explained we would need to go to the 200 West Area Shift Office (Building 272-WA) to do a safety in-briefing with the operations shift manager located there before going out in the field. We left the in-briefing and followed Mr. Greene by vehicle to Building 272-WA. When we arrived, we were introduced to Mr. Kelly Smith, SST Operations Field Manager. Mr. Greene, Ms. Allen, Mr. Jeff Voogd, Mr. Scott Bergman, and Mr. Daniel Herrera were all present for the safety in-briefing. Mr. Smith provided safety instructions for access around the outside of tank farms and where we should take cover if the take cover alarm goes off. He explained that there was a planned testing of the take cover alarm today at 1:00 p.m. He told us that we should be aware and stay out of all contaminated areas around tank farms. Finally, Mr. Smith explained that the only work he knew in the area today was in T Farm and the moving of a sampling platform at SY Farm.

T Tank Farm

We departed Building 272-WA and drove to T Tank Farm. We walked around the outside of the T Tank Farm fence line starting from the change trailer at the south tank farm fence line. On the south and north corners of the east fence line, I observed radiological warning signs, some of which were covered over with tumbleweeds. I did not observe any signs with the language "*Danger-unauthorized personnel keep out,*" or an equivalent legend, written in English on the entire east fence line.

We then walked around to the north fence line gate, where I observed that the gate was locked and had a sign stating "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*" I did not observe any other similar signs along the rest of the north fence line. Inside the T Tank Farm fence line, I observed an octagonal shaped interim barrier made out of yellow truck bed liner material. On the north side of the T Tank Farm boundary, I observed where drainage from the interim barrier was routed to an infiltration pond outside of the T Tank Farm fence line and that the entire infiltration pond was surrounded by a berm of soil. I saw that the interim barrier was also surrounded by a berm covered with truck bed liner material to control water run-off within the tank farm.

Next, we walked around to the west fence line, where I observed a berm of soil outside of the fence line to control water run-on into the Tank Farm. I did not observe any signs with the language, "*Danger-unauthorized personnel keep out,*" or an equivalent legend, written in English on the entire west fence line of T Tank Farm.

While walking around the south fence line, I observed a sign stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out*" on the south vehicle gate. I also observed that the gate was locked. I did not observe any other similar signs along the rest of the south fence line. Ms. Conaway observed a sign on the south gate stating, "*Video monitoring equipment in use.*" She asked if cameras were operating. Mr. Bergman said there used to be cameras in operation, but they were no longer in use. I observed a change-out trailer at the south side of T Tank Farm, but we did not go inside.

TY Tank Farm

We left T Tank Farm and drove to TX/TY Tank Farms. We started on the west TY Tank Farm fence line, where I observed an asphalt barrier over the top of the tanks within the tank farm. I also observed that the asphalt barrier contained a berm on the edges. On the west TY Tank Farm fence line gate, I

observed it was locked and had a sign stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*" I did not observe any other similar signs along the rest of the west fence line.

We walked around to the north side of the TY Tank Farm. I did not observe any signs with the language "*Danger-unauthorized personnel keep out,*" or an equivalent legend, written in English on the entire north fence line. On the east TY Tank Farm fence line gate entrance, I observed that the gate was locked and had a sign stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*" I observed the 242-T Evaporator was surrounded by a chain link fence and was in between TY and TX Tank Farms. I observed that the south TY Tank Farm boundary shared a fence line with the north TX Tank Farm boundary for the majority of the boundary.

TX Tank Farm

Continuing down the east fence line of TX Tank Farm, I observed two gates. One gate appeared to be for vehicle entry and the other for personnel entry. I observed that both gates were locked and labeled with a sign stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*" I observed that the east fence line vehicle entry gate was blocked with approximately five feet deep of tumbleweeds in places. On the south fence line of TX Tank Farm, I observed a series of four gates for entry into the tank farm. I observed that all of the gates were locked and had signs stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*"

On the west fence line of TX Tank Farm I observed a vehicle entry gate to the north of the change trailer to access both TX/TY Tank Farms. I observed that the west fence line gate was locked and had a sign stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*" We went inside the change trailer where I observed a telephone, fire extinguisher, and a sign stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out*" on the entrance door to the TX Tank Farm. We left TX/TY Tank Farms and drove to U Tank Farm.

U Tank Farm

Driving south around U Tank Farm, I observed three gates on the east fence line of the tank farm. I observed that all three gates were locked and had signs stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*" Additionally, I observed there were no signs on the south fence line stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*" On the west U Tank Farm fence line, I observed two locked vehicle access gates with signs stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*" We entered the change trailer MO-297 to U Tank Farm on the northern west side of the tank farm. I observed a telephone and fire extinguisher inside, but did not observe a sign stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out*" on the entrance door to the tank farm. We exited the change trailer and walked around to the north fence line of U Tank Farm. I did not observe any signs stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out*" on the entire north fence line of U Tank Farm. When walking back to our vehicles, I observed a sign stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out*" posted on the outside near the door to the U Tank Farm change trailer MO-297. I did not observe any berms of soil around U Tank Farm. We left U Tank Farm and drove to S and SX Tank Farms.

S and SX Tank Farms

Leaving U-Farm, we drove completely around S and SX Tank Farms. On the east fence line of SX Tank Farm, I observed two locked gates labeled with signs stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*" I observed that S and SX Tank Farms were adjoined to each other

and shared the same fence line. Inside of S Tank Farm, I observed numerous large storage containers on the eastern side of the tank farm. We drove back around to the west fence line of S Tank Farm, where I observed four locked gates, all labeled with signs stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*" I observed intermittent berms of soil around S and SX tank farms where topography did not provide protection for water run-on into the tank farms. We entered the northern most change trailer to S and SX Tank Farms, MO-295. I observed a sign stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out*" on the door to MO-295. Inside the change trailer, I observed a telephone and a fire extinguisher. We left MO-295 and proceeded south to a change trailer to SX Farm, MO-298. I observed a sign stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out*" on the door to MO-298. Inside the change trailer, I observed a telephone and a fire extinguisher. We left the change trailer and proceeded south along the west fence line of SX Tank Farm. I observed five locked gates on the west SX Tank Farm fence line, all of which were labeled with signs stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*"

We went back to the vehicles and drove around the south side of SX Tank Farm. I did not observe any signs stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out*" on the entire southern fence line to SX Tank Farm. We left S and SX Tank Farms and broke for lunch.

Central Shift Office

At 2:15 p.m. we reconvened at Building 274 AW, the 200 East Central Shift Office (CSO). We were introduced to Ms. Katie Sterling, the Building Emergency Director (BED) for tank farms that day. Ms. Sterling gave us a safety briefing for 200 East Tank Farms. She explained that we should be aware of crane activity in C and AX Tank Farms. Ms. Sterling explained that Building 274 AW was the Incident Command Post (ICP) and was the center for receiving information in times of emergency. In a separate room, I observed two chairs, one with a blue vest labeled "Assistant BED" and one with a red vest labeled "BED".

A and AX Tank Farms

We began our walk to the change trailer on the eastern side of A and AX Tank Farms. While walking to the change trailer, I did not observe any signs stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out*" on the entire east fence line of A Tank Farm. I observed shotcrete on the entire eastern slope of A Tank Farm.

Note: Shotcrete is concrete (or sometimes mortar) conveyed through a hose and pneumatically projected at high velocity onto a surface, as a construction technique. It is reinforced by conventional steel rods, steel mesh, and/or fibers.

We walked to the northern end of the change trailer, where I observed three locked gates. Two were for accessing A Tank Farm, and one was for accessing AX Tank Farm. I observed that all three gates were labeled with signs stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*" We walked along the eastern fence line of AX Tank Farm. I observed a stairway up to the east fence of AX Tank Farm that ended to the fence line with no access point. I did not observe any signs stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out*" on the entire eastern fence line of AX Tank Farm.

We walked to the southern portion of A Tank Farm. I observed two locked gates at the southern fence line of A Tank Farm with signs stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*" Walking around to the western fence line of A Farm, I observed a single locked gate with a sign

stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*" I observed that AY Tank Farm was to the west of AX Tank Farm. We walked to the change trailer for AY Tank Farm and then turned around and went back to our vehicles to drive to C Tank Farm.

C Tank Farm

We met at the southeastern portion of C Tank Farm. We went inside of C-102 retrieval control room trailer, where we were introduced to Mr. David Sauersessig, Operations Manager, and Mr. Dave Kalg, Lead C-102 Operator. Tank C-102 retrieval was not in active operation. I asked Mr. Kalg if he could show me the indicator that would alarm if a leak was detected in secondary containment in a C-102 portable diversion box. He then showed me the alarm and the alarm panel. I asked what would happen if the indicator were to alarm. Mr. Kalg said that the retrieval system would automatically shut down both the Single Shell and Double Shell retrieval pumps. I asked how frequently the leak detector alarm functionality is checked and how often maintenance testing on their leak detectors is conducted. Mr. Kalg said the leak detector functionality is checked daily during operations and an annual maintenance check is performed on the leak detector. Mr. Kalg showed us the inside of Tank C-102 with the video monitoring equipment in the control room. I thanked Mr. Kalg for his time and departed the control room trailer.

Before driving over to the other side of C Tank Farm to see the change trailers, I observed that the gates on the southeast and southwest sides of C Tank Farm were locked and were labeled with signs stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*" We drove to northwest side of C Farm, but due to time constraints, we did not walk around the perimeter to observe the northeast fence line of C Farm.

On the northwest side of C Tank Farm, Mr. Sauersessig showed us the entrance and exit change trailers from C Tank Farm and explained the donning and doffing process of PPE for C Tank Farm access. I observed that the door to the C Tank Farm change out trailer was labeled with a sign stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*" I thanked Mr. Sauersessig for his time, and we departed for B, BX, BY Tank Farms.

B, BX, BY Tank Farms

We drove to the northern part of BY Tank Farm. Driving south, I observed that the gates on the east fence line of BX and BY Tank Farms and the west fence line of B Tank Farm were locked and labeled with signs stating, "*Danger Hazardous Materials Unauthorized Personnel Keep Out.*" Due to time constraints, we were unable to walk the perimeter of B, BX, BY Tank Farms. We left and drove to Building 2750 for the day's close-out meeting.

Building 2750

At building 2750, the inspection team discussed the inspection preparation for the next day. I explained I would be asking questions related to the C-102 Tank Waste Retrieval Work Plan (TWRWP), C-102 Process Control Plan, Tri-Party Agreement (TPA) Milestones, Interim Measures, RPP-12711, *Temporary Waste Transfer Line Management Program Plan*, and Security, Training, Preparedness and Prevention, and Contingency Plan requirements. Mr. Voogd and Ms. Allen assigned times and staff to be present for my inspection the next day. I thanked everyone for their time and we departed the facility at 4:51 p.m.

Document Review and Personnel Interviews, Day 2

On March 31, 2015, at 9:35 a.m., Ms. Conaway, Mr. Holbrook, Ms. Walmsley, and I met WRPS and USDOE-ORP personnel at Building 2704, Room E-213. Mr. Green had attendees do a round-table of introductions. Following is a list of individuals and titles of facility staff who participated in the document review and interview inspection:

Jeff Luke - Environmental Technical Specialist – WRPS

Jeff Voogd – Manager Environmental Compliance Production Operations – WRPS

Michael Greene – Regulatory Inspection Coordinator – WRPS

Randal Fox – Environmental Field Representative - WRPS

Blaine Barton – Lead Retrieval Process Engineer – WRPS

Jim Field – Process Engineer – WRPS

Colleen Smalley – Process Engineer – WRPS

Tony Miskho – Environmental Field Representative – WRPS

Holly Bowers – Environmental Scientist – WRPS

Cynthia Tabor – Scientist, Closure and Corrective Measures – WRPS

Michael Erhart – HIHTL Design Authority – WRPS

Rod Holland – Security and Emergency Manager – WRPS

I provided an in-briefing outlining the topics I would be asking questions about and asked what WRPS staff was prepared to answer questions. Mr. Voogd said Engineering was available to answer questions about retrieval.

I asked whether a formal waste compatibility assessment was performed prior to initiating waste retrieval for Tank C-102, in accordance with HNF-SD-WM-OCD-015, *Tank Farm Waste Transfer Compatibility Program*. Ms. Colleen Smalley, WRPS C-102 Process Engineer, answered that a compatibility assessment was performed, but the assessment was executed in accordance with RPP-RPT-58248. I asked her to explain the differences between HNF-SD-WM-OCD-015 and RPP-RPT-58248. Mr. Voogd explained the two were different types of documents. He explained that HNF-SD-WM-OCD-015 was a “Program Description” document and that “RPTs” are execution documents. Mr. Voogd said that engineering implements the actions described in HNF-SD-WM-OCD-015 through their own RPT 58248 document. Mr. Blain Barton, WRPS Lead Retrieval Process Engineer, said that the RPT document was the output document, which listed the terms and conditions for transfer to the Double Shell Tanks.

Tank Waste Retrieval

I asked if the Waste Compatibility Assessment document was updated to allow for waste transfers past April 10, 2015, and Ms. Smalley said that the document was updated for waste transfers. I asked if the pits or caissons for Tank C-102 have leak detector probes and Mr. Barton answered that there are leak detection probes. I asked for the dates Tank C-102 operated its ventilation system. Mr. Barton said he would provide the dates of the ventilation system operation. I asked if the condensate drainage (in both instances) from the exhausters was routed back to an SST being retrieved or an SST undergoing equipment installation in preparation for retrieval. Mr. Randal Fox said that the condensate drains back

to tank C-102. I asked if the Tank C-102 sluice nozzles were installed within the existing pump and sluice pits. Mr. Barton confirmed the sluice nozzles were installed in new sluice boxes. I asked if all of the Tank C-102 valve boxes had secondary containment as well as the collection/detection of any leakage in a sump, and Mr. Barton said yes. I asked if all of the Tank C-102 valve boxes have a sump and a sump pump that can be configured to transfer any leakage to the SST being retrieved, and again Mr. Barton answered yes. I asked how many retrieval tanks were connected to the portable diversion box associated with Tank C-102. Mr. Barton said that C-101, C-102, and C-111 were all connected to the same diversion box, but that he would need to check to completely answer the question. I said that I would put that on my list of questions in my document request.

Note: See documents review section for the answer to the above question.

I asked if the portable diversion box associated with Tank C-102 retrieval has leak detection that is connected to the pump shut down system in the retrieval trailer, secondary containment, and a sump and sump pump connected to the SST. Mr. Barton and Mr. Fox answered that the portable diversion boxes associated with Tank C-102 had all of those requirements. I asked if equipment in C-102 was installed per Table 3-1 in 241-C-102, 241-C-104, 241-C-107, 241-C-108, and 241-C-112 Tanks Waste Retrieval Work Plan RPP-22393, Revision 7 (TWRWP RPP-22393). Mr. Smalley explained that a camera was installed in Riser 3 and 6, a sluicer was installed in Riser 7 and a slurry pump in Riser 13. I asked why equipment was not installed per Table 3-1 in TWRWP RPP-22393. Mr. Fox explained that this table was the original planned locations for retrieval equipment. He said I should look at Page 3.6 in the TWRWP. Then Mr. Fox read from that page, "Table 3-1 provides the planned riser usage for tanks C-102, C-104, C-107, C-108, and C-112 WRSs. This riser usage may change."

I asked if TFC-ESHQ-ENV-PP-C-11, *Independent Qualified Registered Professional Engineer (IQRPE) Assessment Process*, contained the IQRPE Certifications for Tank C-102. Mr. Barton explained that this was the procedure for the process if IQRPE review is needed. Mr. Barton stated that if I wanted to see the IQRPE records, I should ask to see the original design and installation records for Tank C-102. I explained that I would include this in my documents request.

I asked if the requirements for leak detection while waste is in storage mode, were conducted in accordance with OSD-T-151-00031, *Operating Specifications for Tank Farm Leak Detection and Single-Shell Tank Intrusion Detection*. Mr. Field said, "yes," but explained that dry well monitoring was performed per the TWRWP. Mr. Field explained that section 4.0 of the TWRWP refers to the ENRAF® for a change in drywell method. I stated that I would request all drywell records for Tank C-102 in my documents request.

I asked if High Resolution Resistivity (HRR) had been continuously used during and before retrieval of Tank C-102. Mr. Field said that the primary person responsible for leak detection, Mr. Alan Olander, was out on vacation. Mr. Field explained that Mr. Olander would be better able to respond to the questions, but that he would do his best to answer them. Mr. Field explained that HRR was continuously used, except for scheduled down times. Mr. Field said that when the HRR is down, the leak detection procedure specified in the TWRWP is used. I asked if there has been any leaks detected with HRR/drywells/or Mass Balance for any of the SST undergoing retrieval. Mr. Field said that no anomalies have been identified, but explained that if Operations cannot explain a reason for why the HRR was trending, further investigation would be required. I asked if HRR was tank specific, or if it covered all of the tanks going under retrieval. Mr. Field said that HRR is specific for each tank.

I asked what the original retrieval start date was for Tank C-102, and Ms. Smalley answered April 27, 2014. I asked if pre-retrieval gamma scans were obtained for each listed drywell around Tank C-102 prior to initiation of retrieval operations in the tank, and Mr. Field answered yes. I asked if moisture scans were obtained for each drywell prior to initiation of retrieval operations in Tank C-102, and again Mr. Field answered yes. I asked after Tank C-102 retrieval operations have been initiated, was drywell logging performed if needed as a backup leak detection method. Mr. Field said yes, as a backup. I asked if post-retrieval gamma scans were scheduled for Tank C-102. Mr. Field said gamma scans were not scheduled and that Operations would wait until the end of retrieval to schedule these. I asked what leak detection events were happening when C-102 was not in active retrieval. Mr. Field said drywell logging was being performed and they were not using an ENRAF®. I explained that I would ask for all drywell records associated with Tank C-102 retrieval in my documents request.

Note: Statements made in this paragraph were clarified in the July 1, 2015, SST inspection meeting discussing clarification from the documents review portion of my inspection.

I asked what the benchmark level is for Tank C-102 as listed in the Process Control Plan, and if this benchmark had ever been exceeded during retrieval activities. Mr. Field and Mr. Barton said the benchmark has never been exceeded. Ms. Smalley said this level has changed throughout the retrieval process. Ms. Smalley explained that the benchmark was originally set at 162 inches, but that it is currently set at 66 inches.

I asked if Tank C-102 retrieval was scheduled for completion by September of 2015. Mr. Barton and Mr. Mike Erhart answered yes. I asked if there were any plans for IRQPE Recertification's for the HIHTLs associated with C-102. Mr. Barton said at the current time there was no plan to recertify these hoses since the mission will end before expiration of the hoses. Mr. Erhart said that the September 2015 end date still looks good, so two hoses will not need to be recertified. I asked if any of the C-Farm HIHTLs would be used in A/AX Tank retrievals. Mr. Erhart said that the C Farm HIHTLs would not be used. He explained these hoses will be taken out of service and are not planned on being recertified.

TPA Milestones

I explained I had questions on the current status of TPA Milestones related to the SST System. Jeff Luke explained there were no USDOE-ORP staff here today, but that he would do his best to answer my questions. I asked for the current status for M-045-62 TPA Milestone, *Phase 2 Corrective Measures Implementation Work Plan for WMA-C*. Mr. Luke said that USDOE-ORP has submitted a change request on March 3, 2015 to change the due date to coincide with six months after approval of the Corrective Measures Study (CMS) under M-045-61A Milestone. I asked for the current status of M-045-82 TPA Milestone, *Submit Permit Modification Request for Tiers 1, 2, and 3 Closure Plans for WMA C* and if USDOE-ORP and WRPS were currently on track to submit permit modification requests. Mr. Luke said that a meeting with Ecology was held in September 2014 to discuss modifications to this Milestone, but that the milestone date would be missed due to funding issues. Mr. Luke said that USDOE-ORP and WRPS are currently working to submit a Tier 1 Closure Plan, but that Tier 2 and 3 Plans would not be submitted under the current TPA Milestone. I explained that there needs to be an enforceable TPA Milestone schedule in place for submittal of closure plans. I asked if M-045-91E1, M-045-91F, M-045-91F-T02, and M-045-91I (*SST Structural Integrity Milestone series*) were on schedule for completion by their respective due date. Mr. Luke said that all of these milestones were currently on schedule. I asked what the current status was on constructing Barrier 3 and Barrier 4 relating to the M-045-92 TPA Milestone. Mr. Luke said that USDOE-ORP has developed a TPA change request regarding this Milestone that will likely be shared this week with Ecology.

Interim Measures – Inspection Schedule

I asked what document contains the requirements to inspect and maintain SST interim barriers. Ms. Holly Bowers, Environmental Scientist, said that interim measures for berms are listed in the Interim Measures Maintenance Plan (IMMP), which is not a TPA Primary document. Ms. Bowers said that the inspection requirements for interim measures are listed in this plan, which should be on file at the Ecology office. Ms. Bowers stated that the last annual inspection for the berms was done in December 2014. I explained that I would check with the Ecology library to obtain a copy of the IMMP. I said if I could not find a copy in our library, I would add the plan to my document request.

Tank Waste Retrieval

Mr. Barton and Ms. Smalley returned with specific information on Tank C-102 retrieval. I asked what the maximum temperature for C-102 waste retrieval. Ms. Smalley said that she would need to look at the specific records, but that the temperature ranges for Tank C-102 retrieval were typically in the 60 to 80 degrees Fahrenheit range. She stated that the temperature never came close to the maximum; 130 degree Fahrenheit. I asked if requirements in RPP-Plan-57059, *Waste Compatibility Assessment for Tank C-102*, had been revised. Ms. Smalley said that requirements in the plan had been changed several times. Mr. Barton explained that Engineering works to one revision until a major change occurs; then a new revision number is given to the document. Mr. Barton said that the original conditions could be found in RPP-PLAN-57059, Rev. 0. I asked what the specific volume of water used during C-102 retrieval was. Mr. Barton said that he would need to get an official amount and provide that information in the documents request. I then proceeded with questions related to Preparedness and Prevention.

Preparedness and Prevention

I asked if there is only one employee in a tank farm, and does that individual employee have access to a telephone or radio that is capable of contacting external emergency assistance. Mr. Rod Holland explained that radios and/or phones are provided in accordance with an internal operations communication procedure. Mr. Holland said that at least one person will always have a communication device. I asked what type of internal communications or alarm system is available and if it is capable of providing immediate emergency instruction to facility personnel. Mr. Holland said the Hanford site itself has alarms and announcements on AM radio. Mr. Holland explained that each tank farm has the Shift Office Event Notification (SOEN) System that is activated by the CSO. I asked what communication devices are available while staff are in tank farms that are capable of contacting emergency assistance from local police departments, fire departments, or state or local emergency response teams. Mr. Holland said staff have radios and phones and that someone in the group will be assigned communication responsibility. I asked if portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment are located at every tank farm. Mr. Holland said that personal fire extinguishers are located in the change trailers, and that spill control equipment is located at less than 90-day accumulation areas (90-day areas) and other areas where waste is being handled per work package requests. Mr. Holland said Tank Farms relies on the Hanford fire department for fire control equipment.

I asked if there was water at adequate volume and pressure to supply water hose streams, foam producing equipment, automatic sprinklers, or water spray systems in every tank farm. Mr. Holland said that water at adequate volume was the responsibility of contractor Mission Support Alliance, however, that there are fire hydrants and work pumps with supplemental water storage available. I asked if personnel have immediate access to an internal alarm or emergency communication device, either

directly or through visual or voice contact with another employee during WMA-C retrieval activities, and Mr. Holland answered yes.

Contingency Plan

I asked who the BED was for SSTs this week and Mr. Holland said Katie Sterling. I asked if this BED served multiple dangerous waste management Unit Groups, such as DSTs and SSTs. Mr. Holland said that this BED covers SSTs, DSTs, 242-A Evaporator, and the 90-day areas to include the 616 building. I asked what would happen if the BED has to respond to an incident in the 200 West Area, and then there is an incident in the 200 East Area. Mr. Holland said the response would be to set up an ICP. Mr. Holland told us 274-AW, the CSO is designated as the primary location for the ICP. Mr. Holland explained that additional Facility Operation Specialists (FOS) and more resources are brought in. Mr. Holland said that they maintain ten qualified BEDs. I asked about what the assistant BED was used for. Mr. Holland said that a new process of utilizing an assistant BED to help with facilitation is being tested. Mr. Holland said that this position was not officially formalized. Mr. Holland explained that the BEDs are trained in situations where an assistant is available and in situations where an assistant is not available.

Personnel Training

I said I would request a copy of the facility's most recent Dangerous Waste Training Plan (DWTP) in my documents request. I asked for the names of 13 staff persons who fall under job duties and criteria listed below:

- Three Waste Workers.
- Six Advanced Waste Workers.
 - 1 at least with waste designation duties.
 - 1 at least with on-site shipping duties.
 - 1 at least with off-site shipping duties.
 - 1 who is an NCO.
- Two Waste Work Supervisors.
- Two Building Emergency Directors.

RPP-9937, Single Shell Tank System Leak Detection and Monitoring Functions and Requirements

I asked if there are any SSTs not being monitored routinely for intrusion or leaks. Tony Miskho replied that all SSTs are being monitored. I asked for the current status of the facility responses to known intrusions under the interim measures work under the M-045-56 TPA Milestone and whether this work is moving forward. Mr. Miskho replied that T-111 ventilation system would be exhausting under M-045-56, and that USDOE-ORP and WRPS have identified 14 SSTs with intrusion issues. I asked why the frequencies of leak detection vary between RPP-9937 and Operating Specifications for Tank Farm Leak Detection and Single-Shell Tank Intrusion Detection OSD-T-151-00031, Revision 5, *Operating Specifications for Tank Farm Leak Detection and Single-Shell Tank Intrusion Detection*. Mr. Voogd said that their engineering department asked for a set of data beyond what RPP-9937 required. Mr. Voogd explained that RPP-9937 was a TPA Primary document that was negotiated for leak detection requirements for SSTs to meet equivalency to WAC 173-303 requirements. Mr. Voogd said that the OSD document was an operating specifications document that is for SST operations occurring in the field and that it was not an enforceable document compared to the enforceable RPP-9937 document.

Catch and Miscellaneous Tank Inspections

I asked for clarification on what inspections are performed on catch and miscellaneous tanks that are not being monitored under RPP-9937 *Single Shell Tank System Leak Detection and Monitoring Functions and Requirements*. Mr. Miskho said tank leak or intrusion inspections are not being performed for those tanks. Mr. Miskho said those tanks were past practice tanks included in the Part A application only for informational purposes. He said that TPA Milestone M-045-00 was developed to address past practice waste sites and said that I should look at the TPA Treatment, Storage, and Disposal (TSD) and past practice agreements. Mr. Miskho said that there was an active SSTs isolation and stabilization program originating in the 1980s. Mr. Voogd said that periodic visual inspections of aboveground surfaces to look for subsidence around these tanks are performed. Mr. Miskho said that Mr. Jeff Lyon and Mr. Jim Alzheimer from Ecology are currently working with WRPS on a revision of RPP-9937.

Spill Logs

I requested the SST spill log. Mr. Holbrook reviewed the spill log and did not observe any spills relating to dangerous waste. Mr. Holbrook noted that there was a spill of 100 gallons of diesel in November 2014.

Close Out Summary- 12:33 p.m.

I explained my first inspection day consisted of performing a field inspection of all of the tank farms and reviewing security requirements around the farms. For today, it was reviewing TPA Milestones, C-102 retrieval, RPP-12711, *Temporary Waste Transfer Line Management Program Plan* and RPP-9937 *Single Shell Tank System Leak Detection and Monitoring Functions and Requirements* and interim status standards. I then explained that the last part of my inspection would be review of the requested documents/records. Mr. Greene asked if there was anything that stood out as problems during our inspection. I said I need to complete the documents review and inspection report to determine findings. I said I observed there may be some issues with tank farm security signage not posted from all approaches to the active portions of the tank farms. Mr. Voogd said that while we ate lunch, he would gather the list of WRPS staff I requested on Personnel Training.

Before leaving the Hanford site, Mr. Greene showed me a list of all WRPS staff that was requested for personnel training review. Mr. Holbrook randomly picked individuals in the various worker categories. I told Mr. Greene that I would include this information in my official request in my documents request. We departed the facility.

Follow up Inspection Meeting

On July 1, 2015, Edward Holbrook, Nancy Ware, and I met at 2425 Stevens Center in Conference Room 110 at 9:00 a.m. We went through a list of follow-up questions based on the document review and that was provided to WRPS prior to the meeting. Following is a list of WRPS and ORP staff who attended the meeting:

Becky Wiegman - WRPS

Ruth Allen – WRPS

Alan Olander - WRPS

Doug Swenson– WRPS

Wayne Johnson – WRPS

Charles Mulkey – WRPS

Jeff Voogd – WRPS

Daniel Herrera –WRPS

Annie McLain – WRPS

Bryan Trimberger – DOE-ORP

Mary Beth Burandt – DOE-ORP

Dangerous Waste Training Plan (DWTP)

I asked how BEDs are identified in the DWTP/records. I explained that Katherine Sterling, WRPS, is identified as a manager, but not a BED. Ms. Allen provided me a record showing Ms. Sterling's title as a manager, and that Ms. Sterling was qualified as a Tank Operations Contractor (TOC) BED. I stated that re-train courses are not identified in the DWTP as required training, and I asked how these courses are tracked as completed and up to date. Ms. Allen said that re-train courses do have different course numbers, and that these courses are listed under the original course number in the training records for each individual staff. Mr. Voogd stated that managers are notified when courses are expired for staff.

I asked if Dean Baker's and Keith Smith's job duties as of the inspection date, March 31, 2015, were On-Site and/or Off-Site Shippers. Mr. Doug Swenson, Manager Waste Technical Services for WRPS, said that Dean Baker is both an on- and off-site shipper and that Keith Smith was the transportation safety officer. Mr. Swenson explained that Keith Smith did not routinely make shipments, but that he had the ability to do both, the on- and off-site shipping if staff are not available.

I asked which field and administrative personnel prepare and maintain operating records, required by 173-303 (e.g. manifests, logs, etc.). Mr. Swenson said anybody who generates waste, handles waste, or fills out paperwork. Mr. Swenson explained that these were typically waste services personnel or waste workers as identified in the DWTP.

I asked if training course number 020380, Transportation Security Plan for Shippers/Warehouse, had been assigned another course number, specifically number 351568. Ms. Allen said that the course changed to number 351568 around five years ago when operation changed to a new contractor. I explained that the DWTP would need to be updated to reflect the new course number. I asked if I could be notified when the DWTP would be updated, and Ms. Allen said that she would notify me.

Contingency

I asked what the On Call Single Point of Contact (CSPOC) responsibilities were for WRPS. Mr. Voogd said that the CSPOC is responsible for going to the ICP. Mr. Holbrook asked what the responsibilities of the CSPOC are. Mr. Voogd said that the CSOPC is responsible for regulatory assistance, getting a status of the situation, to support the BED on the Contingency Plan, and to look at the situation and determine if any notifications are required. I asked if the CSPOC makes the determination to implement the contingency plan. Mr. Voogd said that the BED makes the decision to implement the contingency plan and that the CSPOC plays an advisory role.

High Resolution Resistivity (HRR)

I explained that I did not receive the HRR Records from January 1, 2015, to March 31, 2015. Mr. Olander, WRPS, explained that the files requested got mixed up in the records request, but that the HRR records would be delivered as a part of the new records request. I said that I could not find an HRR record for May 28, 2014. Mr. Olander said that there was no active retrieval going on at the time, and that Tank Farms was going to go to 30 days of HRR monitoring per quarter per the TWRWP. However, water needed to be added to a tank so HRR was restarted on May 29, 2014. I asked why there were no HRR records for June 10, 2014, through July 7, 2014. Mr. Olander said that there was no active retrieval being performed, and that this is when Tank Farms actually went to 30 days of HRR monitoring per quarter per the TWRWP. I asked why there were no HRR records for July 22, 2014, through July 24, 2014. Mr. Olander said that an electrical outage to do electrical inspections had been scheduled. I asked why there was no early morning HRR reading for October 4, 2014, and November 19, 2014. Mr. Olander explained that the early morning records were lost, but that he performed the HRR readings for both days. I asked for clarification if two HRR records are needed between 6 hours to determine the standard deviation between readings. Mr. Olander said that two readings are not necessary, just one per day, but that he is responsible, so he always does his own check every morning. I asked if Tank C-102 was in storage status during any of the times where I could not find HRR records. Mr. Olander said that C-102 was not in storage status during those periods.

Interim Measures Maintenance Inspections

I explained I received records for the last two years' of Interim Measures Maintenance Inspections and records of repairs made from such inspections; however, I did not receive records of the repairs completed as specified in WRPS-MOP-2014-2897. Ms. Allen said WRPS completed the work for the 2014 corrective actions and that records of the actual work being done were not available, but the work was summarized in a Problem Evaluation Request (PER) to clear the debris. Ms. Allen said that the PER was closed. Mr. Voogd said that WRPS uses a graded approach with work control process to completing maintenance tasks. Ms. Allen said there were no corrective actions in 2013 from the Interim Measures Maintenance Inspections.

Note: MOPs stand for Management Observation Program and are management observations, which summarize observations of required work.

I explained I did not observe any interim measures maintenance activities for the interim barriers over T and TY Tank Farms. Ms. Allen said that there was separate preventative maintenance done for T and TY Tank Farm interim barriers. Ms. Allen showed me the two work packages and explained that maintenance and repair activities have been conducted and completed. Ms. Allen said RPP-37248 maintenance plan covers T Tank Farm, but there is no maintenance plan for TY Tank Farm. I said that I would like to get document copies of the repairs and the inspection schedule for the interim barriers. I said I would include it with my documents request.

Inspection Records

For the records I reviewed, I asked if there were any other operator round sheets for all of the ENRAF® surface level readings. Mr. Voogd said no. I asked what actions are taken when a level detection device reading is out of range. Mr. Voogd said the red circle process is used, which puts the reading on an action tracker log data anomaly process. I asked if the weekly aboveground inspections include inspections for all miscellaneous and catch tanks. Ms. Annie McLain, WRPS, said that Operations

checks barriers, signs, and visible signs of erosion and ground subsidence during their daily inspections. I explained that I did not see any daily inspections described under *Environmental Specification Requirements* RPP-16922, Rev. 29, therefore, I did not ask for them in my original documents request. I stated that I would ask for a small set of these records to review in my documents request. I explained that I would request daily inspection records for the week of March 22, 2015, through March 28, 2015, for ST, AN, and AZ groups. I verified the names of the document numbers as TF-OR-DR-ST, TF-OR-DR-AN, and TF-OR-DR-AZ.

I asked if the ignitable and reactive fire inspections were performed in the presence of a professional person who is familiar with the International Fire Code, or in the presence of the local, state, or federal fire marshal. Mr. Voogd said that no D001 or D003 EPA Hazardous Waste Code wastes are stored in the aboveground portions of the tank farms or in the less than 90-day areas in tank farms, but that those codes applied to the waste inside the tanks. Mr. Voogd said that the ignitable and reactive fire inspections are performed by the internal Hanford Fire Department, but he could not remember the full name of the fire marshal. I said that I would request that information in my records request.

I said that I observed that the wording, "balance of plant," was used in RPP-16922 *Environmental Specification Requirements*, to describe how calibrations were handled for ENRAFs®. I asked what "balance of plant" meant in this document. Mr. Voogd said that this means the piece of equipment that is not required for safety or environmental requirements.

I explained I had observed that the Interim Measures Maintenance Plan (IMMP) did not include the specific timeframes for when corrective measures for each type or category of problems would be repaired. I said that I observed that the IMMP plan did not include any language explaining that remedial actions be taken immediately when a hazard is imminent or has already occurred. Instead, it appeared the plan provided general responses with no specific timeframes for repair.

I told the WRPS group that I observed that some remedial actions in the IMMP inspections appeared to not be completed. I explained that documents showed their inspectors observed open electrical conduit lines and pits that needed to be refoamed, which may allow water intrusion into pits and other areas. I stated that I observed the inspector noted that these same issues had been documented on the previous inspections, and the repairs were not completed. I explained that active intrusion pathways discovered during inspections into an unfit for use tank system needs to be a priority for repair. I explained that I also observed this on the drywell cap inspections. I said that I observed the drywell caps in the T Tank Farm were unable to be inspected due to the caissons being covered by sand. I explained that the inspector noted that this has been reported for the last three years in some cases.

I explained from my initial review, I found the times of inspections were not being reported on the inspection logs. I said I also observed that the printed name and hand written signatures of the inspectors were not included on many of the records. I explained I observed there were no notations of the date and nature of any repairs or remedial actions on the inspection records.

I stated in reviewing the maintenance records for ENRAF® gauges, I found that 10 ENRAF® gauges were not maintained within the last two calendar years. I explained that 9 of the 10 ENRAFs® were not the primary leak detection device, and it appeared the Liquid Observation Wells (LOWs) were fulfilling the need for leak detection. However I said that I did observe one ENRAF® that was the primary leak detection device, and it was not maintained within required timeframe. I explained that this was the ENRAF® on tank BX110.

I told the group that the liquid level for 244-TX Receiver Tank was not taken on October 7, 2014, because the window was too dirty to read. I explained that I did not observe the date and nature of any

repairs or remedial actions taken in response to the dirty window. I also explained that the date on the inspection record did not match the date of the inspection.

I told WRPS that it appeared that Keith Smith did not have up to date training required to do onsite shipping activities. I completed my training question and went on to a question related to Tank C-102 retrieval.

I explained that I had a concern regarding the response to my document request for the maximum number of SSTs that were connected to the portable diversion box associated with tank C-102 retrieval. The response stated that 5 SSTs were reported connected to a single diversion box, and the TWRWP states that transfer lines to and from up to three tanks will be routed through a valving arrangement in each box to allow switching retrieval operations between the tanks. I explained I did not understand the basis for this requirement in the TWRWP, so I could not make a determination if this requirement exceeded a safety basis for the diversion box. I explained that the TWRWP should be updated to reflect the actual configurations that are being used during retrieval operations.

I thanked everyone for their time and we departed the building.

Documents Review

Interim Measures Maintenance Plan (IMMP)

I reviewed the WRPS-0900388, Rev. 2, *Interim Measure Maintenance Plan*. The plan had annual inspections for the 778 SST dry well covers and all berming/run off collection areas and culverts for all of the SST farms. I observed that the Interim Measures Maintenance Plan identified the types of problems to be looked for during inspections and included the frequency of the inspections.

IMMP Management Inspection Summaries

I reviewed the WRPS-MOP-2013-3017, *2013 and 2014 IMMP Management Observation* and WRPS-MOP-2014-2897, *Management Observation*, which summarized the annual interim measures, inspections, and corrective actions. I observed neither of these records contained the time of the inspection, the handwritten signature of the inspector, or the date of any repairs or remedial actions taken. I did observe that the nature of the remedial actions was included in the 2014 record that had findings.

WRPS-MOP-2013-3017 and WRPS-MOP-2014-2897 described the performance of the annual visual inspection of berms, run off collection areas, and culverts to:

1. Confirm their ability to divert water runoff without failure.
2. Verify there are no obvious voids, animal burrows or low spots.
3. Confirm adequate rock/gravel surface rather than dirt.
4. Verify culverts are free of large cracks, washouts, missing sections, and to ensure pipe lap joints are not obviously inadequate.
5. Confirm that discharge areas are not filled in with sand, nor has substantial erosion.

WRPS-MOP-2013-3017 indicated from the inspections on December 23, 2013, that there were no new areas requiring repairs. There was a description that some of the berms around C Farm and T Farm had obvious signs of traffic, which may require some build-up of the berms in the future and that these areas will be reassessed during the supplemental inspections during significant rain or snow melts, as identified in the IMMP.

WRPS-MOP-2014-2897 stated the following verbatim from the inspection records for December 17, 2014:

General

- There were general issues with the availability of drawings and errors in some of the drawings needed to conduct these inspections.

T Tank Farm

- Debris and wind-blown sand need to be removed from both the south and north rip rap pads and culverts.
- The berm along the eastern side of the fence has significantly deteriorated due to driving and weather and needs to be restored and protected/barricaded from future vehicular traffic.
- At least two of the water berm signs along the western berm of the farm were knocked partially over and need to be restored to a straight and upright condition.

TX/TY Tank Farms

- Near MO-817, two of the water berm signs were knocked partially over and needed to be restored to a straight and upright condition.

Cited action performed/will be performed to resolve concerns/issues:

1. As identified in the IMMP, when deemed necessary, Environmental will continue to perform additional supplemental inspections of the water control systems in the IMMP in addition to the annual inspection.
2. A Problem Evaluation Request (PER) will be issued to correct the identified finding/issues with the drawing record deficiencies and lack of availability in Smart Plant.
3. A PER will be issued for Production Ops to assess and correct as needed the deteriorated conditions and driving issues for select control systems/areas as identified in the observations/assessment results above.
4. A PER will be issued to the Closure and Corrective Measures group to have them assess possible ways to correct and update the IMMP itself to reflect changes to the drawings and correct for the typos identified in the record observations above.

The PER provided in the documents request did not contain enough detail to make a determination that IMMP corrective action work was performed. To verify that the actions listed in WRPS-MOP-2014-2897 were completed, Mr. Greene stopped by the Ecology office on August 4, 2015, and showed me WRPS-MOP-2015-0768 and follow up WRPS-MOP-2015-0910. I observed that WRPS-MOP-2015-0768 was conducted on March 25, 2015, and finalized on April 16, 2015. WRPS-MOP-2015-0768 stated that nearly all issues observed during the annual inspection at 241-T-TX-TY had been completed, and all IMMP controls were working, serving their intended function for directing storm water to the desired infiltration end points. WRPS-MOP-2015-0910 conducted on April 21, 2015, stated that the remaining sand was not impacting storm water run-off. I observed that the Management Observation Programs (MOPs) were a narrative verification that work was completed. It was difficult to review the MOPS and clearly see what work actually got performed.

Interim Measures Maintenance Records

I reviewed all inactive waste site surveillance checklist inspection records and have the below notations. I did not observe the time of the inspection or the date and nature of any repairs or remedial actions taken on any of the inspection records I reviewed.

A Tank Farm

- 241-A-103 – Dry well caps 299-E25-78 (10-03-01) and 299-E25-84 (10-03-11) are broken 12/1/2014.
- 241-A-105 – Dry well cap on 299-E25-71 (10-05-07) is broken 12/1/14.

AX Tank Farm

- 241-AX-101 – Outer drywell caps have been ran over and need to be replaced. - 10/20/2014
- 241-AX-102 – Outer drywell caps have been ran over and need to be replaced. - 10/20/2014
- 241-AX-103 – Outer drywell caps have been ran over and need to be replaced. - 10/20/2014
- 241-AX-104 – Outer drywell caps have been ran over and need to be replaced. - 10/20/2014

B Tank Farm

- No drywell cap issues observed - 2/19/2015.
- 241-B-111 – Vehicle has damaged foam on small pit – Needs to be grey coated again. 2/23/2015

BX Tank Farm

- 241-BX-106 – Open electrical conduit lines may allow water into pits or other areas – Conduits that are no longer in use need to be capped. This has been noted on several past checklists. 1/20/2014
- 241-BX-107 – Foam on several pits on this tank need to be re-grey coated. 1/22/2014

BY Tank Farm

- 241-BY-101 – Six open electrical conduits on the south side of the tank. - 3/7/2014
- 241-BY-109 – Pump pit is not foamed – Value handle penetration are allowing liquid intrusion. (This was reported last year) 3/7/2014

C Tank Farm

- **Note:** Due to construction and retrieval activities at the site, no findings will be added to the Facilities Action list at this time. Not all drywells can be inspected at this time. - 8/18/2014 C-101 to C-107, 8/21/2014 C-108 to C-109, and 9/3/2014 C-110 to C-112

S Tank Farm

- 241-S-105 – Drywell cap cracked. 299-W23-156 (40-05-10) 1/6/2015

SX Tank Farm

- No drywell cap issues observed – 241-SX-101 through 241-SX 106 - 1/12/2015 - 241-SX-107 through 241-SX-115 - 1/20/2015

T Tank Farm

- 241-T-102 – Unable to check drywell cap in 299-W10-124 (50-02-10), caisson full of sand, rad ropes, rad signs, and assorted pieces of trash. – 6/19/2014
- 241-T-103 – Sand is piling up against concrete containment block and partially covering pump pit. As noted for last few years. – 6/19/2014
- 241-T-104 – Unable to check drywell cap in 299-W10-147 (50-04-07), due to sand inside caisson, covering Dry well cap. – 6/19/2014
- 241-T-106 – Unable to check drywells 299-W10-110 (50-06-04), 299-W10-106 (50-06-06), 299-W10-109 (50-06-08), and 299-W10-162 (50-06-17) due to sand inside caisson, covering drywell cap. – 6/18/2014
- 241-T-108 – Unable to verify status of drywell caps on 299-W10-143 (50-08-05), 299-W10-133 (50-08-07), 299-W10-176 (50-08-08), 299-W10-112 (50-08-09), 299-W10-51 (50-08-11), and 299-W10-178 (50-08-19) due to sand covering caps inside caissons. This has been reported for the last two years. 6/12/2014
- 241-T-109 - Unable to verify status of drywell caps on 299-W10-166 (50-09-02), 299-W10-134 (50-09-05), 299-W10-144 (50-09-07), 299-W10-120 (50-09-09), and 299-W10-114 (50-09-10) due to sand covering caps inside caissons. This has been reported for last two years. 6/12/2014
- 241-T-111 – Caissons around two dry wells 299-W10-153 (50-11-10) and 299-W10-177 (50-11-11) are full of sand-unable to check caps. This problem reported last three years. 6/12/2014
- 241-T-112 – Sand is covering various tank equipment-Sand needs to be removed. 6/12/2014

TX Tank Farm

- No drywell cap issues observed – 241-TX-101 through 241-TX 104 - 4/22/2015 - 241-TX-105 through 241-TX-109 - 4/29/2014 - 241-TX-110 through 241-TX-112 – 5/5/2014 - 241-TX-113 through 241-TX-118 – 5/7/2014
- 241-TX-102 – Gray coat is wearing off, re-coat as noted on previous inspection. 4/22/2014
- 241-TX-103 – Gray coat is wearing off, re-coat as noted on previous inspection. 4/22/2014
- 241-TX-105 – All pits need to be re-coated as noted on previous inspection. 4/29/2014
- 241-TX-106 – All pits need to be re-coated as noted on previous inspection. 4/29/2014
- 241-TX-107 – All pits need to be re-coated as noted on previous inspection. 4/29/2014
- 241-TX-108 – All pits need to be re-coated as noted on previous inspection. 4/29/2014
- 241-TX-109 – All pits need to be re-coated as noted on previous inspection. 5/5/2014
- 241-TX-111 – All pits need to be re-coated as noted on previous inspections. 5/5/2014
- 241-TX-112 – All pits need to be re-coated as noted on previous inspections. 5/5/2014
- 241-TX-113 – All pits need to be re-coated as noted on previous inspections. 5/7/2014
- 241-TX-115 – All pits need to re-apply gray coat as noted on previous inspections. 5/7/2014
- 241-TX-116 – All pits need to re-apply gray coat as noted on previous inspections. 5/7/2014
- 241-TX-117 – All pits need to re-apply gray coat as noted on previous inspections. 5/7/2014
- 241-TX-118 – All pits need to re-apply gray coat as noted on previous inspections. 5/7/2014

TY Tank Farm

- 241-TY-101 – Lid on drywell containment cannot be removed by hand. Unable to inspect cap on 299-W10-90. - 6/18/2014
- 241-TY-102 – Lid on drywell containment cannot be removed by hand. Unable to inspect cap on 299-W10-161. - Foam damaged on the north end of the Condenser Pit - 6/18/2014
- 241-TY-106 – Pits need to be re-coated. Lid on drywell containment cannot be removed by hand. Unable to inspect cap on 299-W10-184, 299-W15-185, 299-W15-13. - 6/18/2014

U Tank Farm

- 241-U-105 – Well cap on 299-W18-128 (60-05-07) is cracked. 7/16/2014

The SST System is an unfit for use tank system and water intrusion into SSTs is a driving force for moving waste out of the leaky tanks. The pits above the SSTs drain directly back into the SSTs. Not closing up intrusion pathways found during facility inspections of an unfit for use tank system is a serious environmental risk. These pathways, when discovered, need to be remedied before they result in a potential for water intrusion into SSTs. I observed that these pathways were discovered during 2014 inspections on tanks 241-BX-106, 241-BY-109, and BY-101. I observed on the 2014 inactive waste site surveillance inspection records, that notations were made for tanks 241-BX-106 and 241-BY-109, indicating that the problem was reported in previous inspections and were not remedied on a schedule which prevents hazards to the environment.

- Inspection record dated 1/20/2014 of 241-BX-106, stated “Open electrical conduit lines may allow water into pits or other areas – Conduits that are no longer in use need to be capped. This has been noted on several past checklists.”
- Inspection record dated 3/7/2014 of 241-BY-109, stated “Pump pit is not foamed – Valve handle penetration are allowing liquid intrusion. (This was reported last year)”
- Inspection record dated 3/7/2014 of 241-BY-101, stated “Six open electrical conduits on the south side of the tank.”

Tank Farm Interim Barriers Maintenance Schedule and Inspection Records

I reviewed RPP-37248, Rev. 0, *Inspection and Maintenance Guidance Manual* for the T Farm Interim Surface Barrier Demonstration Project. I observed that this document identified the types of problems which are looked for during inspections and the frequency of inspection for specific items. Specifically, soil embankment and stabilization rock on exterior slopes, precast concrete block retaining walls, polyuria liner, tank element and drywell liner penetrations, and lined drainage ditch and infiltration areas are listed to be inspected quarterly. The document cited that quarterly inspections be conducted once every calendar quarter and that the quarters can be defined as January–March, April–June, July–September, and October–December. Vadose zone monitoring was established on a frequency set in PNNL-16538, *T Tank Farm Interim Surface Barrier Demonstration – Vadose Zone Monitoring Plan*. I did not review this document as a part of my inspection.

I reviewed quarterly inspections of the T Tank Farm Interim Surface Barrier that occurred on March 20, 2013, September 19, 2013, April 28, 2014, and from an inspection on an unknown date. I observed that the inspection logs were denoted and conducted on a frequency of six months which was different from

the quarterly inspections recommended in RPP-37248, Rev. 0, *Inspection and Maintenance Guidance Manual* for the T Farm Interim Surface Barrier Demonstration Project. I observed that the inspection record stated, “*This activity provides inspection criteria for the T Farm interim surface barrier. Although this PM is not a regulatory commitment, the condition of the barrier is an item of interest to state regulators.*”

WAC 173-303-320(2) states:

The owner or operator must develop and follow a written schedule for inspecting all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment that help prevent, detect, or respond to hazards to the public health or the environment.

Emphasis added.

I observed that three of the four inspection records included the date of the inspection, with one record missing the date of the inspection and what appeared to be a missing page from the record. I observed that all inspection records contained notations of the observations made. However, none of the records included the time of the inspection, the printed name and the handwritten signature of the inspector, or the date and nature of any repairs or remedial actions taken.

I reviewed a record of repair (TFC-WO-13-1712) that was made to the 241-T interim surface barrier on October 31, 2013. No records were provided that showed repairs that were made from the observations written on the April 28, 2014, inspection. The TFC-WO-13-1712 record had a notation that the “preferred months for repair would be June, July, August, and September for spray method.”

I reviewed the preventative maintenance datasheet WT-107279 for the TY Tank Farm Interim Surface Barrier that occurred on February 20, 2013, May 21, 2013, September 9, 2013, December 10, 2013, April 16, 2014, August 5, 2014, and one from an inspection with an unspecified date. Below are observation I made on these records.

- I observed the February 20, 2013, inspection record was missing the time of the inspection, the full printed name of the inspector, and the handwritten signature of the inspector.
- I observed the May 21, 2013, inspection record was missing the time of the inspection, the full printed name of the inspector, and the handwritten signature of the inspector.
- I observed the September 9, 2013, inspection record was missing the time of the inspection and the handwritten signature of the inspector.
- I observed the December 10, 2013, inspection record was missing the time of the inspection and the printed name of the inspector.
- On the record missing an inspection date, I observed it was missing the date of the inspection, the time of the inspection, the printed name and handwritten signature of the inspector, and the date and nature of any repairs or remedial actions taken.
- I observed the April 16, 2014, inspection record was missing the time of the inspection and in part, the nature of any repairs or remedial actions taken.
- I observed the August 5, 2014, inspection record, was missing the time of the inspection, the printed name and handwritten signature of the inspector, and the date and nature of any repairs or remedial actions taken.

The 241-TY interim surface barrier inspection records have writing under the work orders that indicate that inspection criteria for the TY Farm interim surface barrier are located under RPP-PLAN-49651, Table 4-1. However, during the July 1, 2015, inspection, I was told by Ms. Allen that there was no

inspection schedule for the TY Interim surface barrier. No inspection schedule was provided to Ecology for the TY Interim surface barrier.

Leak Detection Inspection Records

I reviewed all tank level inspection records provided against the inspection requirements of WAC 173-303-320 and WAC 173-303-640.

Note: Due to the level of complexity of RPP-9937 Rev. 3E *Single Shell Tank System Leak Detection and Monitoring Functions and Requirements*, my review did not determine if all of the required level inspections were completed. This review should be part a future focused inspection of level detection requirements. Due to the number of duplicative findings, I only included a subset of common findings from reviewing these records. I observed similar findings on the other records I reviewed.

On the 4th Quarter 2014 AZ Quarterly Round inspection records for Misc. Catch Tank/DCRT Tank Level (page 6), I observed the following:

- The time of inspection was missing from the inspection record.
- The initials on the inspection log sheets matched the printed name and hand written signature of one of the inspectors at the bottom signature page; however there was no printed name and handwritten signature of the inspector for 241-A-350 Catch Tank, 244-A DCRT, 244-A Sump, and 241-A-417 Catch Tank.
- The field reading was circled for 241-A-302-B, 241-A-350 Catch Tank, 244-A DCRT, and 241-A-417 Catch Tank and noted as out of range; however there was no notation of the date and nature of any repairs or remedial actions.

On the July 1, 2014, T Tank Farm Quarterly rounds (page 17) I observed the following:

- The time of inspection was missing from the inspection record.
- The inspection log did not contain the printed name and hand written signature of the inspector.
 - **Note:** I did observe the initials of the inspector on the inspection log sheets and at the end of all of the log sheets I observed, the printed name, signature, date and time of approval. However the dates and times were not the same dates and times of the inspection and the people who printed their names were not the same people who actually performed the inspection.
- The inspection log observation made for T-109 was vague and did not contain the nature of any repairs or remedial actions taken.
 - On the line for T-109 it is noted with the letters "O/S" with a reference to a RATL# ST-13-003. The RATL sheet explains that on July 15, 2013, that there was a bearing failure of the ENRAF® that the Liquid Observation Well is the primary leak detection device and that maintenance will not be performed.

On the July 17, 2014, TY Tank Farm Rounds (page 29) I observed the following:

- The time of inspection was missing from the inspection record.
- The inspection log did not contain the printed name and hand written signature of the inspector.
 - **Note:** I did observe the initials of the inspector on the inspection log sheets and at the end of all of the log sheets I observed, the printed name, signature, date and time of approval.

However the dates and times were not the same dates and times of the inspection and the persons who printed their names were not the same person who performed the inspections.

- The inspection log observation made for TY-101 was incomplete and did not contain the nature of any repairs or remedial actions taken.
 - **Note:** On the line for TY-101 it is noted with the letters "O/S" with a reference one circled; however, there was no reference at the bottom of the inspection log.

On the ST-4 Quarterly Surface Level Rounds for July 1, 2014 to September 30, 2014, I observed the following:

- The time of inspection was missing from the inspection record.
- It is not clear if the date signed by the inspector was the date of the inspection or if it was the date signed.
- The inspection log did not contain the printed name of the inspector.
- The inspection log was vague on the observation made for T109 and did not contain the nature of any repairs or remedial actions taken.
 - **Note:** On the line for T-109 it is noted with the letters "O/S" with a reference one circled and noted as ST-13-003. The RATL sheet explains that on July 15, 2013, that there was a bearing failure of the ENRAF® that the Liquid Observation Well is the primary leak detection device and that maintenance will not be performed.

On the October 27, 2014, T Tank Farm Rounds (page 16) I observed the following:

- The time of inspection was missing from the inspection record.
- The inspection log did not contain the printed name and hand written signature of the inspector.
 - **Note:** I did observe the initials of the inspector on the inspection log sheets and at the end of all of the log sheets I observed, the printed name, signature, date and time of approval. However the dates and times were not the same dates and times of the inspection and the persons who printed their names were not the same person who performed the inspections.
- The inspection log entry on the observation made for T101 made a note below range, but it did not contain the nature of any remedial actions taken or a reference to the actions that would be taken.

On the October 21, 2014 TY Farm Rounds (page 29) I observed the following:

- The time of inspection was missing from the inspection record.
- The inspection log did not contain the printed name and hand written signature of the inspector.
 - **Note:** I did observe the initials of the inspector on the inspection log sheets and at the end of all of the log sheets I observed, the printed name, signature, date and time of approval. However the dates and times were not the same dates and times of the inspection and it could not be determined if the persons who printed their names were not the same person who initialed and performed the inspections.
- On December 17, 2014, nearly two months later, an inspection log remark entry was made for TY-102 stating "Engineering Notified with initials and a date, but it did not contain the nature of any remedial actions taken or a reference to the actions that would be taken by engineering. The surface level reading for this tank was recorded as over 12 feet over what the normal expected surface level reading for this tank.

On the October 14, 2014 S/SX Farm Weekly Rounds I observed the following:

- The time of inspection was missing from the inspection record.

On the Liquid Observation Well (LOW) Quarterly Scan Summary Quarter 4 for 2014 I observed the following:

- The time of each LOW inspection was missing from the inspection record.

On the February 18, 2015 244-AR Tank/Sump Levels inspection, I observed the following:

- The time of the inspections was missing from the record.
- Under WFIT-004-2 Sump-3, I observed a notation that the reading was above normal range. I did not observe the date and nature of any remedial actions taken in response to the observation in the inspection record.

Leak Detector Station Checks

I have the following observations for the Over-Ground Transfer from 241-C-102 to 241-AN-101, and Sluicing of Tank 241-C-102 inspection records from March 21, 2015 to March 23, 2015, April 3, 2015 to April 7, 2015, and April 12, 2015 to April 13, 2015.

- I observed that the date and time of the inspections was noted on all of the inspection records.
- The inspection logs are missing the printed name and hand written signature of the inspector.
 - **Note:** I did observe the initials of the inspector on the inspection log sheets and at the bottom of all of the log sheets I observed, the printed name, signature, and date of approval by the Operating Engineer (OE), but not the actual person who conducted the inspection. For the April 3, 2015, April 4, 2015, and April 5, 2015 records, I observed that the OE initials did not match the OE who signed the form.

Maintenance of Level Detection Devices

I reviewed a summary table of the most recent records of maintenance tests on all of the ENRAF® gauges and LOWs. Table 6-4 from RPP-16922 Rev. 29 *Environmental Specification Requirements*, states that ENRAF® instrumentation calibration and functional tests for primary monitoring for leaks and intrusions are to be performed annually. In RPP-16922, annually is defined as at least once in the period from 00:00 hours on January 1 to 23:59 hours on December 31 of the same calendar year. I observed that *ENRAF Series 854 Initial Installation and Operational Check* maintenance procedure did not include the schedule for frequency of preventative maintenance. Of the 101 ENRAF® gauges for all SSTs including catch and miscellaneous tanks, 10 ENRAF® gauges were not maintained within the last two calendar years. These ten devices with dates of the last occurrence of maintenance inspections for the monitoring device are listed below. Of the ten below ENRAF® gauges, only one of them had the ENRAF® gauge as the primary leak detection device. Table B-1 in RPP-9937, Rev. 3E *Single Shell Tank System Leak Detection and Monitoring Functions and Requirements*, states for tank BX-110 that the surface level gauge for this tank is an ENRAF® that is used for intrusion only. This table also indicates that a LOW is installed in this tank. Table 2-3 from OST-T-151-00031, Rev. 5, *Operating Specification for Tank Farm Leak Detection and Single Shell Tank Intrusion Detection*, lists an ENRAF® gauge as the primary monitoring device used for leak detection monitoring. These two documents differ if the ENRAF® gauge is used for intrusion monitoring or leak detection monitoring.

Note: The information provided in the inspection documents request did not include the previous maintenance inspection. For example, I was unable to determine if ENRAF® maintenance was done in 2014 if it had maintenance completed in 2015.

1. B109-WST-LIT-101 – 6/27/2013 – Primary Monitoring Device LOW/ENRAF®
2. BX110-WST-LIT-101 – 6/24/2013 – Primary Device ENRAF®
3. BY101-WST-LIT-101 – 8/21/2013 – Primary Monitoring Device LOW/ENRAF®
4. BY103-WST-LIT-101 – 10/30/2012 – Primary Monitoring Device LOW/ENRAF®
5. BY111-WST-LIT-101 – 5/9/2013 – Primary Monitoring Device LOW/ENRAF®
6. C-102-WST-LIT-101 – 12/28/2010 – Primary Monitoring Device ENRAF®
7. S106-WST-LIT-101 – 3/7/2013 – Primary Monitoring Device LOW/ENRAF®
8. S109-WST-LIT-101 – 5/3/2013 – Primary Monitoring Device LOW/ENRAF®
9. T111-WST-LIT-101 – 11/13/2013– Primary Monitoring Device LOW/ENRAF®
10. U111-WST-LIT-101 – 9/17/2013– Primary Monitoring Device LOW/ENRAF®

Follow up Meetings with WRPS Employees on August 18, 2015, and August 20, 2015

On August 18, 2015, I met with Mr. Greene and Ms. McLain at the Ecology office regarding why the BX-110 ENRAF® (BX110-WST-LIT-101) was not calibrated. During the meeting, they showed me the preventative maintenance record from their Enterprise Asset Management (EAM) database that showed ENRAF® BX110-WST-LIT-101 was on a schedule to be calibrated on an annual basis. I asked if this device was calibrated recently, and Ms. McLain told me the device was calibrated on June 24, 2015. I asked how long the ENRAF® was the primary monitoring device for this tank. Ms. McLain answered about six months. I asked what caused the change. Ms. McLain told me that a video inspection of BX-110 was performed and confirmed that BX-110 had intrusion. Ms. McLain said that once the intrusion was confirmed, the device was switched from a LOW to an ENRAF®. Ms. McLain explained that the device was not calibrated because it was previously on an every two year maintenance schedule as a secondary monitoring device. Mr. Greene explained that the engineering and maintenance databases were updated, but that the RPP-9937, *Single Shell Tank System Leak Detection and Monitoring Functions and Requirements* document had not been updated for the change. I stated that it appears that the engineering department is quickly adjusting maintenance and leak detection monitoring requirements when changes are observed in tank conditions. I stated that I wanted the physical records previously requested in my August 11, 2015, records request for confirmation. I also requested page 10 of Rev. 4 from OSD-T-151-00031, *Operating Specifications for Tank Farm Leak Detection and Single-Shell Tank Intrusion Detection*.

On August 20, 2015, I met with Mr. Greene, Ms. McLain, and Mr. Dan Herdelberg. Ms. McLain showed me a copy of page 10 of OSD-T-151-00031 Rev. 4, where I observed that the primary leak detection device was a LOW with an ENRAF® as secondary. Ms. McLain showed me a notification dated April 28, 2014, indicating that tank BX-110 had confirmed intrusion. Mr. Green provided me with a typed write up stating:

241-BX-110 had confirmed intrusion on 2/27/2013 (video inspection). During this evaluation, it was determined that the primary level device was an LOW and the ENRAF® would be a secondary level device (calibration frequency every 2 years).

Back in December of 2014 it was discovered that an ENRAF® would be made a primary level device due to a pool of water being discovered under the plummet. As such, the calibration frequency of the ENRAF® was changed from every 2 years to annual. The ENRAF® was last calibrated on 6/24/2015.

The Department of Ecology was notified on 4/28/2014 (TOC-ENV-NOT-2014-0050) regarding this intrusion tank, among many other. The notification indicated that Ecology had been previously informed of this intrusion tank by other means of communication.

Daily Inspections

I reviewed TF-OR-DR-AN, TF-OR-DR-AZ, and TF-OR-DR-ST daily inspection records for March 23, 2015, through March 29, 2015.

On the TF-OR-DR-AZ Daily Rounds from March 23, 2015 through March 29, 2015, I observed the following:

- Outside of 244-A there were no daily inspections being performed in this inspection log for 241-A Farm, or 241-AX-Farm SSTs.

On the TF-OR-DR-ST Daily Rounds from March 23, 2015, through March 29, 2015, I observed the following:

- On 244-S Daily Rounds, I observed red circles in every column with a footnote to RATL#'s ST-15-012 and ST-15-009. I did not observe the date and nature of any repairs or remedial actions taken in response to noted deficiency.
- On 244-TX Daily Rounds, from March 27, 2015 through March 29, 2015, I observed a notation that Tumble weeds piled up against the east fence. However I did not observed the date and nature of any repairs or remedial actions taken in response to noted deficiency.

Weekly Aboveground Tank System and Security and Accessibility Inspections

I reviewed all aboveground tank system and security and accessibility inspections for the weeks of October 13th and 20th 2014 for all SST Farms except for C Farm. I observed that the inspections covered weekly visual inspections of tank farm gates, perimeter fences, security signs, visible signs of damage and leaks from aboveground portions of process and support pits, and visible signs of erosion, sinkholes. Due to the variability of aboveground equipment in tank farms, I observed that some tank farm inspection checklists had additional aboveground weekly tank system inspections. I observed that there was no inspection requirement to inspect "Danger – Hazardous Materials, Unauthorized Personnel Keep Out" or equivalent signs at other areas besides at posted entrances to tank farms. I observed the time of inspection was missing from the all aboveground tank system and security and accessibility inspection records. I observed the time of inspection approval was included in the inspection record.

I observed on the October 16, 2014, inspection record for 244-TX Receiver Tank Liquid Level that the reading was not taken on October 7, 2014, because the log indicated the window was too dirty to read. I did not observe the date and nature of any repairs or remedial actions taken in response to the dirty window. Additionally, the date completed on the inspection record (October 16, 2014) does not match the date the inspection was actually conducted (October 7, 2014).

On the October 13, 2014, WRPS weekly 241-A/AX Tank Farm Inspections, I observed that under the remarks column, it indicated that some objects on a farm perimeter fencing, but it did not clarify what the objects were. I did not observe the date and nature of any remedial actions taken in response to remove the objects next to the perimeter fencing. On the October 20, 2014, weekly 241-A/AX Tank Farm Inspections, I observed that under the remarks column, it indicated the same finding as the week before, that some objects on a farm perimeter fencing. I did not observe the date and nature of any remedial actions taken in response to remove the objects next to the perimeter fencing.

Quarterly Inspections

On the December 2014, quarterly inspection of cover blocks for 244-AR, 241-A, and 241-AX, I observed the following:

- The time of the inspections was missing from the record.
- For 244-AR and 241-A, I observed a notation that some pits/structures need re-foam and for 241-AX, I observed a notation that most foam sealant removed. I did not observe the date and nature of any repairs of remedial actions taken in response to the observation in the inspection record; however, I observed a notation that the status of the cover blocks was due to construction/retrieval activities.
- I did not see where this inspection was described in RPP-16922, Rev. 29 *Environmental Specification Requirements*.

On the March 19, 2015, quarterly inspection of cover blocks for 244-AR, 241-A, and 241-AX, I observed the following:

- The time of the inspections was missing from the record.
- For 244-AR and 241-A, I observed a repeat of a similar notation on an inspection record from the last inspection that some pits need re-taped or re-coated and for 241-AX. I observed a similar notation that foam sealant removed on many pits – some covered by rubber pit covers. I did not observe the date and nature of any repairs of remedial actions taken in response to the observation in the inspection record.
- I did not see where this inspection was described in RPP-16922, Rev. 29 *Environmental Specification Requirements*.

All Fire Protection System Inspections and Visual Inspections of Fire Extinguishers

On the October 2014 visual inspection of fire extinguishers, I observed the following:

- The time of the inspections was missing from the record.
- The inspection log did not contain the printed name and hand written signature of the inspector.
 - **Note:** I observed the initials of the inspector on the inspection log sheets and at the end of all of the log sheets, the printed name, signature, and date of approval from the manager, but not the printed name and written signature of the inspector.

Preparedness and Prevention Inspections

I reviewed the monthly preparedness and prevention inspection records for October, 2014. The records included monthly inspections for first aid kits, spill kits, Automated External Defibrillator (AED), burn kits, and emergency kits. I observed the following with these records:

- The time of the inspections was missing from all inspection records.

- The inspection log did not contain the printed name and hand written signature of the inspector.
 - **Note:** I observed the initials of the inspector on the inspection log sheets and at the end of all of the log sheets, the printed name, signature, date and time of approval from the manager; however the dates and times were not the same dates and times when the inspection was conducted.

Annual Ignitable and Reactive Inspections

In my original documents request, I asked for the annual ignitable and reactive inspection for the SSTs. I was provided monthly NFPA 801 inspections of the aboveground portions of the SST farms.

Note: On March 31, 2015, during the inspection, I was told by Mr. Voogd that no wastes with the hazardous waste codes D001 and D003 are stored in the aboveground portions of the tank farms or in the less than 90-day areas in tank farms.

Mr. Voogd wrote the below in response to my request for a description of their annual ignitable and reactive inspections and the fire inspector's name, title and organization of the professional person who is responsible for conducting these annual inspections:

Annual inspections are performed by Mr. James R Keene, WRPS Fire Protection Engineer, Industrial Safety Program. Mr. Keene's qualifications include:

- Bachelor of Science in Fire Protection from Oklahoma State University
- Twenty-five (25) Years with the Department of Energy (DOE), including over four (4+) years at the Y-12 Facility (Oak Ridge, Tennessee Nuclear Facility) and more than twenty (20+) years at the Hanford Nuclear Site.
- Twelve (12) years in the fire service field.
- Deputized Fire Marshal through the Hanford Fire Marshal's Office
- Certifications from ICBO and ICC on UBC, IBC, UFC, IFC, and for plans examiner.
- Fire Prevention Officer, National Fire Academy.
- Fire and Explosion Investigator, National Association of Fire Investigators

Summary:

Fire Protection inspections are performed based upon risk, access to the facilities storing radioactive hazardous waste and appropriate regulatory guidance. Liquid and sludge radioactive mixed waste is stored below ground in storage tanks that are not visible for fire inspection. Consequently alternative means for evaluation of fire protection are addressed as described below. Ignitable or reactive wastes are not stored above grade within the tank farms. This is confirmed by routine operational inspections. An Inspection report, performed by a fire professional familiar with the International Fire Code for a TSD facility that does store ignitable or reactive waste above ground is performed for appropriate facilities (not SSTs).

Explanation:

WRPS follows ORP guidance from ENS-ENG-IP-0, DOE-ORP Fire Protection Program and 10 CFR 851, Worker Health and Safety Program, for the fire protection of the Hanford Tank Farms, including ORP acknowledgement of requirements from WAC-173-303. Mitigating controls appropriate for the Hanford radioactive tank waste and the tank configurations are not addressed within the International Fire Code as called out by WAC 173-303-395. The (HNF-SD-WM-FHA-

020) identifies the fire hazards and mitigating controls for ignitable or reactive tank waste. The fire hazards analysis is reviewed and updated periodically.

The *WRPS Fire Protection Program* (TFC-PLN-13) addresses routine Tank Farm Inspections in accordance with NFPA 801 "Standard for Fire Protection for Facilities Handling Radioactive Materials" to:

- 1) Locate unnecessary transient combustibles.
- 2) Identify uncontrolled ignition sources.
- 3) Detect obstructions to means of egress.
- 4) Provide for remedial actions to correct hazardous conditions.

These inspections are performed by facility staff. Information from the tank farm inspections is shared with the Professional Fire Protection staff.

For storage of reactive and ignitable waste stored above ground, where visible examination is possible, a Fire Professional performs the annual inspection. The 2014 inspection sheet for the 616 facility is included as an example.

Attached are copies of:

- 1) HNF-SD-WM-FHA-020, *Tank Farm Fire Hazards Analysis*
- 2) TFC-PLN-13, *Fire Protection Program*
- 3) TO-020-650, *Monthly Tank Farm Team NFPA 801 Inspection*
- 4) Hanford Fire Department Ignitable/Reactive Waste Fire Inspection (616 Bldg, 9/22/14)

Reusable Contaminated Equipment Monthly Inspections

I reviewed the reusable contaminated equipment inspections for the month of October 2014. I observed the following with these records.

- The time of the inspections was missing.
- There was an inspection observation that a few of the cover blocks in S and SX need to be rewrapped. I did not observe the date and nature of any remedial actions taken on the inspection record.

Training

Mr. Holbrook and I reviewed the TFC-PLN-07, Revision B, *Dangerous Waste Training Plan* (DWTP), dated July 28, 2010. The DWTP identifies Tank Operations Contractor managers, Environmental Protection managers, and other contracted personnel responsible for the training program. The DWTP also incorporates these personnel and others into four (4) Dangerous Waste Worker Categories. Each category lists specific personnel, which would fall into an applicable category.

- Waste Worker (Category)
 - Maintenance and craft personnel
 - Nuclear Chemical Operators
 - Health physics technicians
 - Transporters
 - Contractor crafts

- Technical support staff
- Advanced Waste Worker (Category)
 - Waste Operations Group Nuclear Chemical Operators
 - Waste Designation
 - On-Site Shippers
 - Off-Site Shippers
- Waste Worker Supervisor/Manager (Category)
 - *“Immediate managers of waste workers and advanced waste workers (e.g., field work supervisors, Radiological Control first-line managers and operations engineers/managers).”*
- Building Emergency Director (Category)
 - *“The BED manages facility operations and personnel, and ensures that appropriate emergency procedures are implemented. Activities include direct configuration control over facility systems and components, allocations of plant personnel to conduct facility specific emergency response actions (within the affected facility boundary), classification or categorization and notification of the incident to the site contractor environmental single point-of-contact and/or the Occurrence Notification Center (ONC), and implementation of initial planned area/site protective actions. The BED is also responsible for developing and transmitting event reports.”*

Records requested for Katherine Sterling (Manager/BED), Mandrake Pascual (Waste Designator), Douglas Swenson (Manager), Brad Auckland (Nuclear Chemical Operator), James Lochridge (Nuclear Chemical Operator), Dean Baker (Authorized Shipper), and Keith Smith (Authorized Shipper) were reviewed for completion of applicable training requirements, as identified in the table under Section 3.4, *Matrix of Training Requirements for Each Waste Worker Category*. Mr. Holbrook observed the following.

- Katherine Sterling (Manager/BED): Training required under the Waste Worker Supervisor/Manager and Building Emergency Director Category were completed and up to date. Training required identification number 35E001 was recorded as “Crs Taken: 35E002.” 35E002 doesn’t appear as a required training course in the DWTP.
- Mandrake Pascual (Waste Designator): Training required under the Advanced Waste Worker Category were completed and up to date. Training course number 350560 was recorded as “Crs Taken: 350561.” 350561 doesn’t appear as a required training course in the DWTP.
- Douglas Swenson (Manager): Training required under the Waste Worker Supervisor/Manager Category were completed and up to date. Training course number 350560 was recorded as “Crs Taken: 350561.” Training course number 350561 doesn’t appear as a required training course in the DWTP.
- Brad Auckland (Nuclear Chemical Operator): Training required under the Waste Worker Category were completed and up to date. Training course number 350560 and 350340 was recorded as “Retrain Crs: 350561 and 350342.” Training course numbers 350561 and 350342 do not appear as required training courses in the DWTP.
- James Lochridge (Nuclear Chemical Operator): Training required under the Waste Worker Category were completed and up to date. Training course number 350560 and 350340 was recorded as “Crs Taken: 350561 and 350342.” Training course numbers 350561 and 350342 do not appear as a required training courses in the DWTP.

- Dean Baker (Authorized Shipper): Training required under the Advanced Waste Worker Category were not completed and up to date. Training course number 350560 was recorded as "Crs Taken: 350561." Training course number 350561 does not appear as a required training course in the DWTP. Training courses that apply to "Off-Site Shippers," include 020081, 020380, 050410, and 351033. Mr. Baker completed 020081 and 351033. Training courses 020380 and 050410 are not recorded on the training record as completed. Training course 050411 appears to have replaced 050410, but 050411 does not appear as required training in the DWTP.
- Keith Smith (Authorized Shipper) Training required under the Advanced Waste Worker Category were not completed and up to date. Training course number 350560 was recorded as "Crs Taken: 350561." Training course number 350561 doesn't appear as a required training course in the DWTP. Courses that apply to "Off-Site Shippers," include 020081, 020380, 050410, and 351033. Mr. Smith completed 020081 and 351033. Training courses 020380 and 050410 are not recorded on the training record as completed. Training course 050411 appears to have replace 050410, but 050411 does not appear as required training in the DWTP. Also course number 351024, which applies to personnel who perform on-site shipping is not recorded as completed for Mr. Smith.

Note: In a follow-up inspection meeting on July 1, 2015, I asked if training course number 020380, *Transportation Security Plan for Shippers/Warehouse*, had been assigned another course number, specifically number 351568. Ms. Allen said that the course changed to number 351568 around five years ago when the contract switched over. Course 351568, *WRPS Transportation Security Plan for Shippers*, does not appear as a required training course in the DWTP, but it is required training for off-site shipping.

WAC 173-303-040 defines "Personnel or facility personnel" as:

All persons who work at, or oversee the operations of, a dangerous waste facility, and whose actions or failure to act may result in noncompliance with the requirements of WAC 173-303-400 or 173-303-280 through 173-303-395 and 173-303-600 through 173-303-695.

WAC 173-303-330(1) states:

The facility owner or operator must provide a program of classroom instruction or on-the-job training for facility personnel. This program must teach personnel to perform their duties in a way that ensures the facility's compliance with this chapter 173-303 WAC, must teach facility personnel dangerous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed, must ensure that facility personnel are able to respond effectively to emergencies, and must include those elements set forth in the training plan required in subsection (2) of this section.

In reviewing DWTP, Mr. Holbrook and I did not observe job titles of personnel who prepare and/or maintain all records as required in WAC 173-303-380. I observed that waste workers may be assigned duties and responsibilities for placing any waste generated into pre-approved containers and filling out log sheets; however, I did not see anywhere in the DWTP for facility personnel who were responsible for compliance with record keeping requirements WAC 173-303.

I observed that the DWTP discussed the position responsible for coordinating emergency response efforts and for emergency notifications. Specifically, the DWTP stated:

The BED manages facility operations and personnel, and ensures that appropriate emergency procedures are implemented. Activities include direct configuration control over facility systems and components, allocations of plant personnel to conduct facility specific emergency response actions (within the affected facility boundary), classification or categorization and notification of the incident to the site contractor environmental single point-of-contact and/or the Occurrence Notification Center (ONC), and implementation of initial planned area/site protective actions. The BED is also responsible for developing and transmitting event reports.

I observed that the DWTP included language of the positions responsible for coordinating the training program for the contractor. Specifically, the DWTP stated:

Each TOC line manager has overall responsibility for training at the TOC unit under his/her control that includes, but is not limited to: Determine training requirements and training compliance for Hanford facility personnel, subcontractors, and visitors who obtain access or work within the TOC unit. Identify training requirements to contractors working in or around TOC units.

The WRPS Manager, Environmental Protection, has the following responsibilities: Consult with the training organization and WRPS management in the development and evaluation of current training programs. Assist WRPS management in determining minimum personnel training requirements to meet RCRA compliance. Maintain current knowledge of RCRA training requirements pertaining to Hanford facility personnel.

I observed that the DWTP included non-descript language of the personnel responsible for providing training and for keeping training records. Specifically, the DWTP stated:

Contracted personnel who are classified as Hanford facility personnel have the following responsibilities: Ensure that employees are trained to meet TOC training requirements. Maintain employee training records and provide them if requested by TOC.

WAC 173-303-330(2) Written training plan, states:

The owner or operator must develop a written training plan which must be kept at the facility and which must include the following documents and records:

(a) For each position related to dangerous waste management at the facility, the job title, the job description, and the name of the employee filling each job. The job description must include the requisite skills, education, other qualifications, and duties for each position;

(b) A written description of the type and amount of both introductory and continuing training required for each position; and

(c) Records documenting that facility personnel have received and completed the training required by this section. The department may require, on a case-by-case basis, that training records include employee initials or signature to verify that training was received.

I observed that for each position related to dangerous waste management at the facility that the name of the employee filling each job was not included in the DWTP. Instead the DWTP stated:

Only names of Hanford facility personnel who carry out job duties relating to TSD unit waste management operations at the tank farm facilities are maintained. Names are maintained in the electronic training database. A list of Hanford facility personnel assigned to the tank farms is available upon request.

I observed that the DWTP job descriptions did not include the requisite skills, education, other qualifications, and duties needed for each position. Instead the DWTP stated:

Job or position descriptions include requisite skills, work experience, education and other qualifications, and a list of duties and/or responsibilities for each job title or position. The work experience, education, and other qualifications required for each position are maintained by WRPS Workforce Resources. As a minimum, "all employees" require a high school diploma or equivalent. Personnel filling exempt, management, or engineering positions normally require a college degree and/or appropriate industry experience.

Note: I observed that the table under Section 3.2 of the DWTP lists the incorrect regulation citation. This table should list WAC 173-303-330(1)(e) and not WAC 173-303-330(1)(d).

Training Course Follow-up Meeting

On July 29, 2015, Mr. Greene and I met at the Ecology office. Mr. Greene showed me a training activity sheet that showed the creation of a new training course that replaced training course number 020380. I observed the following on the record:

- It was dated December 1, 2010.
- It was marked as a new training.
- It was assigned course number 351568.
- The course was titled, *WRPS Transportation Security Plan for Shippers*.
- It was computer-based training.

Waste Compatibility Assessment of Tank 241-C-102 Waste with Tank 241-AN-101 Waste and Tank 241-AN-101 Waste with Tank 241-C-102 Waste – RPP-RPT-57059, Rev. 0

RPP-22393, Rev. 7, Tank Waste Retrieval Work Plan (TWRWP) in part for Tank 241-C-102 retrieval requires before initiating waste retrieval for Tank C-102 that a formal waste compatibility assessment be performed in accordance with HNF-SD-WM-OCD-015, *Tank Farm Waste Transfer Compatibility Program*. I verified that a Waste Compatibility Assessment was performed prior to start of waste retrieval in document RPP-RPT-57059, Rev. 0, *Waste Compatibility Assessment of Tank 241-C-102 Waste with Tank 241-AN-101 Waste and Tank 241-AN-101 Waste with Tank 241-C-102*.

RPP-RPT-57059, Rev. 0, was approved on April 17, 2014, and waste retrieval operations for Tank 241-C-102 started on April 27, 2014.

Records of all dates of operation of C-102 and the ventilation system for C-102

I reviewed the records submitted for all calendar days that Tank C-102 retrieval operated and compared it to the dates of operation of the ventilation system for that tank. I observed, from the records I reviewed, that Tank C-102 was actively ventilated during all waste retrieval operations of that tank.

IQRPE Certifications

I reviewed IQRPE reports for all Tank C-102 transfer related equipment and associated transfer lines to determine if assessments were conducted and to verify if the equipment was suitable for use during waste retrieval operations meeting WAC 173-303-640 requirements. I observed that IQRPE assessments were conducted for all of the retrieval equipment that handled mixed-wastes. The IQRPE reports followed published Ecology guidelines for IQRPE assessments and WAC 173-303-640 requirements. I observed no compliance issues from my review.

High Resolution Resistivity (HRR)

I reviewed Tank C-102 HRR records between the dates of April 27, 2014, to April 9, 2015. I observed the following:

- I did not observe any HRR records for May 28, 2014.
- There were no HRR records from June 10, 2014 through the early morning of July 7, 2014.
- There were no HRR records from July 22, 2014 to July 24, 2014.
- I did not observe an early morning HRR reading for October 4, 2014; however I observed that HRR records were completed for this day with a second reading taken later during the day.

Note: An explanation of the missing HRR records is found in the narrative section of the follow up inspection meeting on July 1, 2015. Per TWRWP RPP-22393, Rev. 7, Figure 4-3, HRR can be down for 7 days before another leak detection monitoring method is required.

I reviewed a May 28, 2014, e-mail from WRPS Mr. Alan Olander confirming their verbal statements on the July 1, 2015, follow up inspection. The e-mail stated that the project decided to do additional water flushing in Tank C-102 and needed to restart the HRR system on May 28, 2014. I reviewed his July 7, 2014, July 16, 2014, and July 18, 2014, e-mails which confirm the verbal statement made on July 1, 2015, of an electrical outage that impacted HRR operability from July 22, 2014 through July 24, 2014.

Drywell Records Associated with C-102 Retrieval

In response to my request for all drywell records associated with Tank C-102 retrieval, I received the following e-mail response from Alan Olander.

“Since retrieval operations started in C-102, (different than moving from storage status to retrieval status) we have only used HRR for leak detection, there are no drywell moisture scans to provide to Ecology. Before retrieval operations started there are moisture scans of the drywells. The moisture scans are from 3.27.12 to 5/14/2013.”

Total Amount of Water Used in C-102 Retrieval

I observed that as of April 9, 2015, the total amount of water used in C-102 was reported as 54,775 gallons and cumulative amount of water used for Tank C-102 to AN-101 was reported as 70,044 gallons.

Note: Table 3-2 from RPP-22393 Rev. 7 - 241-C-102, 241-C-104, 241-C-107, 241-C-108, and 241-C-112 Tank Waste Retrieval Work Plan allows a retrieval flush volume limit of 105,000 gallons of raw water.

Maximum Number of SSTs Connected to Portable Division Box for C-102

The response to my request asking for the maximum number of SSTs that were connected to the portable diversion box associated with tank C-102 retrieval at the same period of time included the following in an April 8, 2015 e-mail from Jeffrey Boettger to Ruth Allen;

“Portable Diversion Box POR134 is associated with C-102 Retrieval. The full list of SSTs that are connected to POR134 are:

C-101

C-102

C-104

C-111

C-112

All of the above SSTs were connected to POR134 at the time C-102 was turned over to operations, and all of the above remain connected at this time.”

Compliance Problems

The Dangerous Waste inspection on March 30-31, 2015 found the following compliance problems.

Each problem is covered in three parts:

- (1) **Citation from the regulations**
- (2) **Specific observations** from the inspection that highlight the problem
- (3) **Required actions** needed to fix the problem and achieve compliance.

The problems listed below must be corrected to comply with Washington Dangerous Waste Regulations (Chapter 173-303 WAC), or other environmental laws or regulations. Complete the required actions listed below and respond to Ecology within 60 days of receipt of this inspection report. Include all supporting documentation such as photographs, records, and statements explaining the actions taken and dates completed to return to compliance.

Attention: Jared Mathey
Washington Department of Ecology
Nuclear Waste Program
3100 Port of Benton Blvd
Richland, WA 99354

You may request an extension of the deadlines to achieve compliance. Make the request in writing, including the reasons an extension is necessary and proposed date(s) for completion, and send it to Jared Mathey before the date specified above. Ecology will provide a written approval or denial of your request.

**If you have any questions about information in this Compliance Report, please call:
Jared Mathey at (509) 372-7949**

This does not relieve you of your continuing responsibility to comply with the regulations at all times.

- 1) WAC 173-303-400(3), as referenced by the Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion Revision 8C - Condition I.A Effect of Permit.
WAC 173-303-310, Security (2). A facility must have: (a) Signs posted at each entrance to the active portion, and at other locations, in sufficient numbers to be seen from any approach to the active portion. Signs must bear the legend, "Danger-unauthorized personnel keep out," or an equivalent legend, written in English, and must be legible from a distance of twenty-five feet or more;
WAC 173-303-040, Definitions, "Active portion" means that portion of a facility which is not a closed portion, and where dangerous waste recycling, reuse, reclamation, transfer, treatment, storage or disposal operations are being or have been conducted after: The effective date of the waste's designation by 40 C.F.R. Part 261; and March 10, 1982, for wastes designated only by this chapter and not designated by 40 C.F.R. Part 261.

Observations: During the field inspection, I observed there were no signs with the legend, "*Danger- unauthorized personnel keep out,*" or equivalent legend written in English at the following tank farm locations.

- East fence line of T Tank Farm
- West fence line of T Tank Farm
- North fence line of TY Tank Farm
- North fence line of U Tank Farm
- South fence line of U Tank Farm
- South fence line of SX Tank Farm
- East fence line of A Tank Farm
- East fence line of AX Tank Farm

Action Required: Within 60 days of receipt of this report, post in sufficient numbers to be seen from any approach to the active portions of all SST tank farms, signs bearing the legend, "*Danger- unauthorized personnel keep out,*" or an equivalent legend, written in English, and legible from a distance of twenty-five feet or more. Within 60 days of receipt of this report, submit to Ecology, evidence that the signs were posted. The response must include the language used on the signs, the locations where the signs were posted, and a written verification that the signs are legible from a distance of twenty-five feet or more. Note that this should also be done on B, BX, BY, and C Tank Farms that did not have the perimeters walked during the field inspection.

Additionally, within 60 days of receipt of this report, develop and submit to Ecology, an inspection schedule (WAC 173-303-320(2)) for these new signs and conduct inspections according to that schedule.

2) WAC 173-303-400(3), as referenced by the Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion Revision 8C - Condition I.A Effect of Permit.

WAC 173-303-320 General Inspection (2)(d). The owner or operator must keep an inspection log or summary, including at least the date and time of the inspection, the printed name and the handwritten signature of the inspector, a notation of the observations made, an account of spills or discharges in accordance with WAC 173-303-145, and the date and nature of any repairs or remedial actions taken. The log or summary must be kept at the facility for at least five years from the date of inspection.

Observations: I observed inspection logs which did not contain the date of the inspection, the time of the inspection, the printed name of the inspector, the handwritten signature of the inspector, or the date and nature of any repairs or remedial actions taken. The deficiencies found during my inspection are identified on the inspection record deficiency table on the following page.

Action Required: Immediately upon receipt of this report, include the date and time of the inspection, the printed name and the handwritten signature of the inspector, notations for observations made, and the date and nature of any repairs or remedial actions taken on all dangerous waste inspection records that help prevent, detect, or respond to hazards to the public health or the environment. Be sure that the inspection records include the following equipment related to dangerous waste inspections:

- Monitoring equipment
- Safety and emergency equipment
- Security devices
- Operating and structural equipment

Also place a notation in the SST operating record for the inspections performed prior to the date of receipt of this inspection report, stating that all required information (i.e. the WAC 173-303-320(2)(d) requirements) was not included in the inspection record. Submit to Ecology within 60 days of receipt of this report, documentation that the notation was recorded in the operating record.

Inspection Record Deficiency Table

WAC 173-303-320(2)(d) Requirements X=Deficient							
	Inspection Log	Date of Inspection	Time of Inspection	The Printed Name of the Inspector	The Handwritten Signature of the Inspector	A Notation of the Observations Made	The Date and Nature of Any Repairs or Remedial Actions Taken
1	Inactive Waste Site Surveillance Checklist - Interim Measure Maintenance Records for Drywells		X				X
2	IMMP Maintenance Records - WRPS-MOP-2013-3017 and WRPS-MOP-2014-2897		X		X		X
3	Quarterly Inspections of the T Tank Farm Interim Surface Barrier on March 20, 2013, September 19, 2013, April 28, 2014		X	X	X		X
4	Quarterly inspection record with missing date for the T Tank Farm Interim Surface Barrier	X	X	X	X		X
5	Inspection record with missing date for the TY Tank Farm Interim Surface Barrier	X	X	X	X		X
6	August 5, 2014, inspection record for the TY Tank Farm Interim Surface Barrier		X	X	X		X
7	April 16, 2014, inspection record for the TY Tank Farm Interim Surface Barrier		X				X
8	December 10, 2013, inspection record for the TY Tank Farm Interim Surface Barrier		X	X			
9	September 9, 2013, inspection record for the TY Tank Farm Interim Surface Barrier		X	X	X		
10	May 21, 2013, inspection record for the TY Tank Farm Interim Surface Barrier		X	X	X		
11	February 20, 2013, inspection record for the TY Tank Farm Interim Surface Barrier		X	X	X		
12	Misc. Catch Tank/DCRT Tank Level 4th Quarter 2014 inspection records (page 6)*		X	X	X		X
13	July 1, 2014, T Tank Farm Quarterly rounds (page 17)*		X	X	X		
14	July 17, 2014, TY Tank Farm Rounds (page 29)*		X	X	X		X
15	ST-4 Quarterly Surface Level Rounds for July 1, 2014 to September 30, 2014*		X	X			
16	October 27, 2014, T Tank Farm Rounds (page 16)*		X	X	X		X
17	October 21, 2014 TY Farm Rounds (page 29)*		X	X	X		X
18	October 14, 2014 S/SX Farm Weekly Rounds*		X				
19	Liquid Observation Well (LOW) Quarterly Scan Summary Quarter 4 for 2014*		X				
20	February 18, 2015 244-AR Tank/Sump Levels inspection*		X				X
21	Over-Ground Transfer from 241-C-102 to 241-AN-101 and Sluicing of Tank 241-C-102 inspection records from March 21, 2015, to March 23, 2015, April 3, 2015 to April 7, 2015, and April 12, 2015 to April 13, 2015*			X	X		
22	TF-OR-DR-ST Daily Rounds from March 23, 2015, through March 29, 2015*						X
23	October 16, 2014, weekly inspection of 244-TX Receiver Tank Liquid Level*		X				X
24	October 13, 2014, weekly 241-A/AX Tank Farm Inspections*		X				X
25	December 2014, quarterly inspection of cover blocks for 244-AR, 241-A, and 241-AX*		X				
26	March 19, 2015, quarterly inspection of cover blocks for 244-AR, 241-A, and 241-AX*		X				
27	Fire Protection System Inspections and Visual Inspections of Fire Extinguishers		X	X	X		
28	Monthly preparedness and prevention inspection records for October 2014		X	X	X		
29	Reusable contaminated equipment inspections for the month of October 2014		X				X

*Due to the number of duplicative findings, I only included a subset of common findings from the records I reviewed. I observed similar findings on the other inspection records I reviewed.

3) WAC 173-303-400(3), as referenced by the Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion Revision 8C - Condition I.A Effect of Permit.

WAC 173-303-320(3). The owner or operator must remedy any problems revealed by the inspection, on a schedule which prevents hazards to the public health and environment. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

Observations: On the inactive waste site surveillance inspection records, I observed a failure to remedy problems revealed by inspections, on a schedule, which prevents hazards to the environment:

- Inspection record dated 1/20/2014 of 241-BX-106, stated "Open electrical conduit lines may allow water into pits or other areas – Conduits that are no longer in use need to be capped. This has been noted on several past checklists."
- Inspection record dated 3/7/2014 of 241-BY-109, stated "Pump pit is not foamed – Value-handle penetration are allowing liquid intrusion. (This was reported last year)"

Action Required: Within 60 days of receipt of this report, remedy problems revealed during the above cited January 20, 2014 inspection of 241-BX-106 and the March 7, 2014 inspection of 241-BY-109. Within 60 days of receipt of this report, report to Ecology that these remedies have taken place.

4) WAC 173-303-400(3), as referenced by the Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion Revision 8C - Condition I.A Effect of Permit.

WAC 173-303-330(2). Written training plan. The owner or operator must develop a written training plan which must be kept at the facility and which must include the following documents and records: (b) A written description of the type and amount of both introductory and continuing training required for each position;

Observations: Dangerous Waste Training Plan TFC-PLN-07, Rev. B lists the following required training courses to be taken for personnel who perform Off-Site Shipping.

- 020081 - VEHICLE INSPECTION FOR TRAFFIC PERSONNEL
- 020380 - TRANSPORTATION SECURITY PLAN FOR SHIPPERS/WAREHOUSE - CBT
- 050410 - LOAD SECUREMENT FOR DRIVERS AND TRAFFIC PERSONNEL
- 351033 - OFF-SITE SHIPPER

In a follow up inspection meeting on July 1, 2015, I asked if training course number 020380 Transportation Security Plan for Shippers/Warehouse had been assigned another course number, specifically number 351568. Ms. Allen said that the course changed to number 351568 around five years ago when WRPS assumed the operation contract from CH2M Hill Plateau Remediation Company.

Course 351568 - WRPS Transportation Security Plan for Shippers does not appear as a required training course in Dangerous Waste Training Plan TFC-PLN-07, Rev. B, but it is required training for off-site shipping.

Action Required: Within 60 days of receipt of this report, update and submit to Ecology, a revision to TFC-PLN-07, Revision B, *Dangerous Waste Training Plan*, to replace course number 020380 Transportation Security Plan for Shippers/Warehouse with training course number 351568 WRPS Transportation Security Plan for Shippers.

Concerns:

1. There is a concern that complete training courses for Mr. Smith's duties for On-Site and Off-Site Shipper are incomplete and he is not properly trained for this position.

In my records request, I asked for dangerous waste training records for the position Qualified Shipper, Keith Smith (Authorized Shipper). A review of Mr. Smith's training records showed that the training courses required under the Advanced Waste Worker Category, were not complete and up to date. Specifically, required training courses for "Off-Site Shippers," include course numbers 020081, 020380, 050410, and 351033. Mr. Smith completed 020081 and 351033, but did not complete training courses 020380 and 050410. Mr. Smith did complete course number 351568, which replaced course number 020380, which was verified verbally during the inspection and in writing from the records request.

Training course number 351024, which applies to WRPS personnel who perform on-site shipping is not recorded as completed for Mr. Smith. On July 1, 2015, I asked if Keith Smith's job duties as of March 31, 2015, was an On-Site and/or Off-Site Shipper. Mr. Doug Swenson, Manager Waste Technical Services, said that Keith Smith was the transportation safety officer. Mr. Swenson explained that Mr. Smith did not routinely make shipments, but that he had the ability to do both on and offsite shipping if staff are not available.

I have a concern that Mr. Smith as the transportation safety officer, is not properly trained for conducting duties he supervises or if he conducts these activities he is not properly trained.

2. It was difficult to determine if the corrective actions from the Interim Measures Maintenance Plan (IMMP) inspection records were performed. When management goes out to do their inspection, they fill out a Management Observation Program (MOP) record. The inspection findings are documented in the MOP and include actions required for resolution of any inspection concerns or issues. A Problem Evaluation Request (PER) is then issued to correct the inspection finding or issues. When I reviewed the PER associated with the inspection concerns and issues found in WRPS-MOP-2014-2897, I could not determine what actual work was performed. In order to verify that the corrective actions were completed, I had to review WRPS-MOP-2015-0768 and follow up with WRPS-MOP-2015-0910. The process used by WRPS to document corrective actions from inspections needs to be updated so that the original inspection records that document the issues either contain, or directly reference another document that contains the date and nature of repairs or remedial actions taken. This concern was also noted on the April 27, 2004, Ecology Inspection Number 04.246.
3. There is a concern if the TY Tank Farm interim barrier has an inspection schedule meeting the requirements of WAC 173-303-320. From reviewing records, I was unable to verify if a schedule exists and it appears the inspections that are being performed are following another criteria; similar to that of the T Tank Farm Interim Barrier inspection schedule.

The 241-TY interim surface barrier inspection records state the following, "This activity provides inspection criteria for the TY Farm Interim Surface Barrier. Requirements: RPP-PLAN-49651, Table 4-1". However during my July 1, 2015, follow-up inspection meeting with WRPS, I was told by Ms. Allen that there was no inspection schedule for the TY Interim surface barrier. No inspection

schedule was provided to Ecology for the TY Interim surface barrier; however, inspection records for the TY interim surface barrier were provided.

WAC 173-303-320(2) states:

The owner or operator must develop and follow a written schedule for inspecting all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment that help prevent, detect, or respond to hazards to the public health or the environment.

The interim barriers over the tank farms were installed in response to hazards from leaks from the SSTs. The barriers help prevent previously leaked waste from moving further down the soil column to the groundwater. The barriers were installed under a TPA process and after their installation, the barriers are required to be inspected and maintained under the general inspection criteria of WAC 173-303-320.

WAC 173-303-320(2)(c) states:

The schedule must indicate the frequency of inspection for specific items. The frequency should be based on the rate of possible deterioration of equipment, and the probability of an environmental or human health incident.

Another related concern is that inspections of the T Tank Farm Interim Surface Barrier are not being performed on a frequency identified in the IMMP and based on the rate of possible deterioration of the barrier. My observations from review of the inspection records stated that "Previous repairs show signs of failure". I reviewed the Inspection and Maintenance Guidance Manual for the T Farm Interim Surface Barrier Demonstration Project and it recommends that inspections be performed quarterly. However, the inspection records I reviewed of the T Tank Farm Interim Surface Barrier were being performed semi-annually as noted on the inspection logs. Frequency of inspections should be performed quarterly as required in the Inspection and Maintenance Guidance Manual.

4. Section 3.1.1 from RPP-22393 Rev. 7 - 241-C-102, 241-C-104, 241-C-107, 241-C-108, and 241-C-112 Tank Waste Retrieval Work Plan states, "*Portable diversion boxes will be added to the C-Farm retrieval system and will be used for the tanks in this work plan. The transfer lines to and from up to three tanks will be routed through a valving arrangement in each box to permit switching retrieval operations between the tanks.*"

The response to my request for the maximum number of SSTs connected to the portable diversion box associated with Tank C-102 retrieval during the same period of time, included the following in an April 8, 2015, e-mail from Jeffrey Boettger to Ruth Allen:

"Portable Diversion Box POR134 is associated with C-102 Retrieval. The full list of SSTs that are connected to POR134 are:

- C-101
- C-102
- C-104
- C-111
- C-112

All of the above SSTs were connected to POR134 at the time C-102 was turned over to operations, and all of the above remain connected at this time.”

The above response indicates that 5 SSTs were connected to a single diversion box. The TWRWP states that “*transfer lines to and from up to three tanks will be routed through a valving arrangement in each box to permit switching retrieval operations between the tanks*”. I have a concern that too many connections may be being made to single diversion box exceeding its design criteria or that the TWRWPs are not being updated to represent the actual configuration of the retrieval equipment.

5. There is unneeded complexity and difficulty in determining SST leak detection requirements as described in the RPP-9937, Rev. 3E, *Single Shell Tank System Leak Detection and Monitoring Functions and Requirements*. When reviewing leak inspection records, I observed that in many cases, tank level readings were marked as N/A, circled in red with a reference to a tracking list, or O/S circled in red. In many cases what looks to be a missed leak detection event or a broken leak detection device, is actually a leak detection performed by Liquid Observation Well (LOW) instead of an ENRAF®, or a level reading that is not required by one document but required by another one. Having multiple schedules for performing leak detection is confusing in itself; however the lack of simple clarity in RPP-9937, *Single Shell Tank System Leak Detection and Monitoring Functions and Requirements* document makes for difficulties in determining compliance with the document from both the regulator, but also the implementer of the document. Ecology’s attempts at revising RPP-9937 have been under way for many years, and currently, no substantive document revisions have been produced.

RPP-9937, Section 5.2 states:

This section describes liquid level and liquid intrusion monitoring activities that supplement the LDM requirements specified in Section 4.0. These supplemental monitoring activities, or BMPs, are not derived from the regulations and are therefore included as recommended practices, not as requirements.

RPP-9937 was written when the TPA Milestone M-045-05 required the completion of retrieval of all waste out of SSTs by September 30, 2018. At that time, the above language was acceptable to Ecology; however, since then, M-045-70, the new TPA milestone for completion of SST waste retrievals, has changed to December 31, 2040. I have a concern that the leak and intrusion detection and response requirements in RPP-9937 are not reflective of the current length of time that SST waste will remain in unfit for use tank systems. The current set of requirements in RPP-9937 are not sufficient to ensure that to the maximum extent practical given the limits of technology, that the groundwater quality will not be further degraded from releases from SSTs.

Additionally, WAC 173-303-283(3) Performance standards, states:

Unless authorized by state, local, or federal laws, or unless otherwise authorized in this regulation, the owner/operator must design, construct, operate, or maintain a dangerous waste facility that to the maximum extent practical given the limits of technology prevents:

- (a) *Degradation of groundwater quality;*
- (c) *Degradation of surface water quality;*

Emphasis needs to be placed on revising RPP-9937 to produce a single document that concisely lists tank waste level monitoring requirements and contains clear responses to level readings that are out

of range. There needs to be a set of response criteria when a significant change in levels readings is confirmed. Overall, the leak detection and tank waste level monitoring program needs to be significantly revised for improved functionality, compliance, and record keeping.

6. Obstructions to conducting drywell cap inspection should be remedied so all drywell cap inspections can be performed as required in the Interim Measure Maintenance Plan WRPS-0900388 R2 inspection schedule. If physical examination of drywell caps is not possible due to the installation of retrieval equipment, WRPS/USDOE should revise the Interim Measure Maintenance Plan WRPS-0900388 R2 to update the inspection schedule for drywell caps in farms where retrieval activities prohibit their inspection.

The Interim Measure Maintenance Plan WRPS-0900388 R2 states that "Annual inspection of the 778 drywell covers installed through the Tank Farm System. Attachment #1 includes a comprehensive listing of all drywells that will be inspected. The inspection will consist of a visual inspection to ensure each drywell has a cover.... Work performed will include visual inspection and confirmation of proper installation of the drywell cap. If a cap is present the inspection will also confirm that the cap is intact with no damage. Confirmation of proper installation will include ensuring the cap is fully turned and engaged on the end of the drywell."

I observed that some inspection records indicated problems observed during the inspection that needed to be remedied in order for the inspection of the drywell caps to take place. Following is a list of all drywell caps that had problems that were not remedied so the inspections of drywell caps could be completed in 2014.

Inspection record dated 6/12/2014 of 241-T-108, stated "Unable to verify status of drywell caps on 299-W10-143 (50-08-05), 299-W10-133 (50-08-07), 299-W10-176 (50-08-08), 299-W10-112 (50-08-09), 299-W10-51 (50-08-11), and 299-W10-178 (50-08-19) due to sand covering caps inside caissons. This has been reported for the last two years."

Inspection record dated 6/12/2014 of 241-T-109, stated "Unable to verify status of drywell caps on 299-W10-166 (50-09-02), 299-W10-134 (50-09-05), 299-W10-144 (50-09-07), 299-W10-120 (50-09-09), and 299-W10-114 (50-09-10) due to sand covering caps inside caissons. This has been reported for last two years."

Inspection record dated 6/12/2014 of 241-T-111, stated "Caissons around two dry wells 299-W10-153 (50-11-10) and 299-W10-177 (50-11-11) are full of sand-unable to check caps. This problem reported last three years."

Inspection record dated 6/19/2014 of 241-T-102, stated "Unable to check drywell cap in 299-W10-124 (50-02-10), caisson full of sand, rad ropes, rad signs, and assorted pieces of trash."

Inspection record dated 6/19/2014 of 241-T-104, stated "Unable to check drywell cap in 299-W10-147 (50-04-07), due to sand inside caisson, covering drywell cap."

Inspection record dated 6/18/2014 of 241-T-106, stated "Unable to check drywells 299-W10-110 (50-06-04), 299-W10-106 (50-06-06), 299-W10-109 (50-06-08), and 299-W10-162 (50-06-17) due to sand inside caisson, covering drywell cap."

Inspection record dated 6/18/2014 of 241-TY-101, stated "Lid on drywell containment cannot be removed by hand. Unable to inspect cap on 299-W10-90."

Inspection record dated 6/18/2014 of 241-TY-102, stated "Lid on drywell containment cannot be removed by hand. Unable to inspect cap on 299-W10-161. Foam damaged on the north end of the Condenser Pit"

Inspection record dated 6/18/2014 of 241-TY-106, stated "Pits need to be re-coated. Lid on drywell containment cannot be removed by hand. Unable to inspect cap on 299-W10-184, 299-W15-185, 299-W15-13."

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November 4, 2015
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Single Shell Tanks
RCRA Site ID: WA7890008967
Inspection Date: March 30-31, 2015

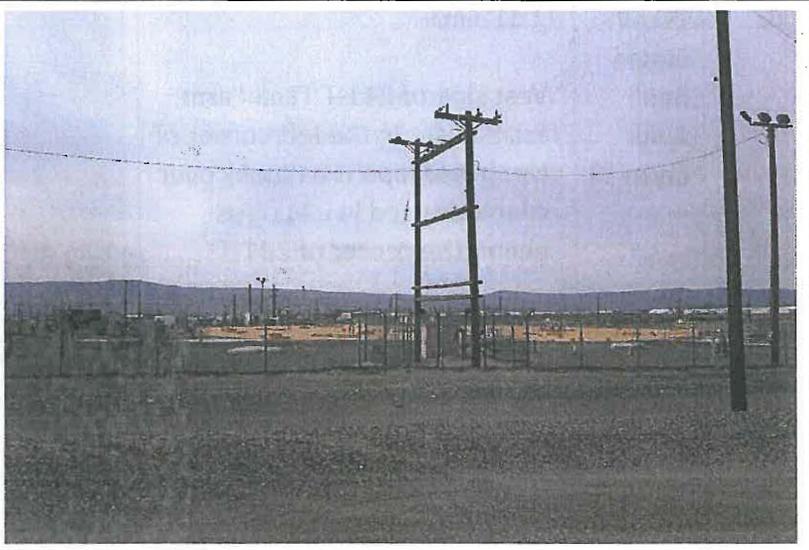
ATTACHMENT 1:
PHOTO LOG
PAGES 23

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

Photographer: Jared Mathey

Witness: Edward Holbrook

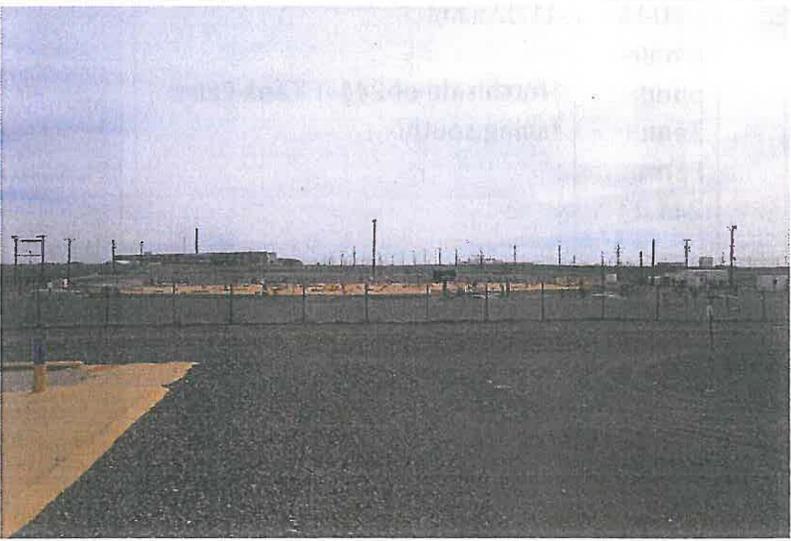
No.	Location	Activity Description/Comment	Photo
1.	200-W Single Shell Tank Farm 241-T	10:55 a.m. Posted signs on the Southeast corner of 241-T Tank Farm. Caution: -Radiation Area -Radioactive material Area -Radiological Buffer Area -Internally Contaminated Systems Located Within -Underground Radioactive Material Area White Sign states, "Water Run-Off Berm Do Not Disturb"	
2.	200-W Single Shell Tank Farm 241-T	10:58 a.m. East side of 241-T Tank Farm, facing west. Sign on the berm states, "Water Run-Off Berm Do Not Disturb"	
3.	200-W Single Shell Tank Farm 241-T	11:02 a.m. North side of 241-T Tank Farm, facing south.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

Photographer: Jared Mathey

Witness: Edward Holbrook

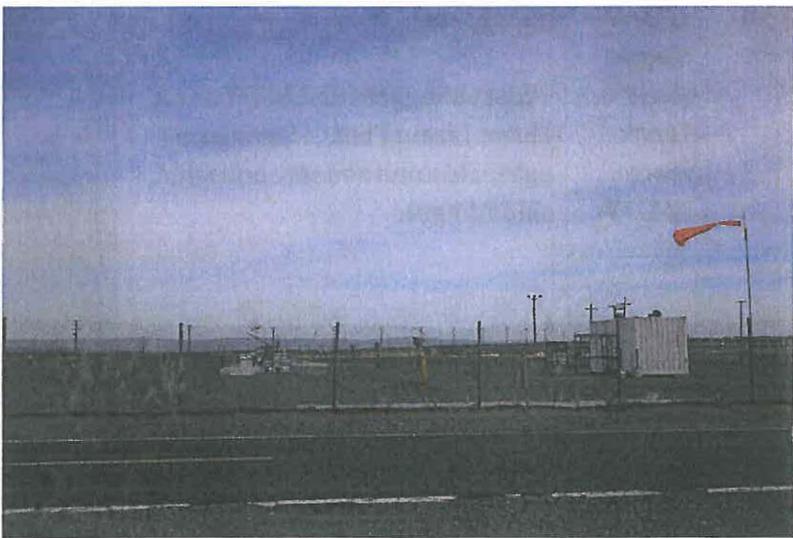
No.	Location	Activity Description/Comment	Photo
4.	200-W Single Shell Tank Farm 241-T	11:03 a.m. North side of 241-T Tank Farm, facing south. A covered drainage trench leads from inside the 241-T fence line into a drainage accumulation area. The trench and accumulation area is marked by radiation signs and a yellow/magenta chain.	
5.	200-W Single Shell Tank Farm 241-T	11:07 a.m. North side gate for 241-T Tank Farm, facing south. Brief description of signs below. -WIDS# 200-W-093 -Caution Respiratory Protection -Notice Video Monitoring -Danger Asbestos -Danger Hazardous Materials Unauthorized Personnel Keep Out -Caution Vehicle Entry Requires Shift Manger Approval	
6.	200-W Single Shell Tank Farm - T	11:11 a.m. West side of 241-T Tank Farm, facing East. In the left corner of the photograph is a mock cover of what is used in 241-T, as seen in the center of 241-T.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

Photographer: Jared Mathey

Witness: Edward Holbrook

No.	Location	Activity Description/Comment	Photo
7.	200-W Single Shell Tank Farm - T	11:15 a.m. South side of 241-T Tank Farm, facing North.	
8.	200-W Single Shell Tank Farm - T	11:16 a.m. South side gate for 241-T Tank Farm, facing North. Signage on gate and right side of gate. The gate is located west of the change trailer MO-821.	
9.	200-W Single Shell Tank Farm 241-TY	11:30 a.m. West side of 241-TY Tank Farm, facing East. 241-TY has an asphalt cover.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

Photographer: Jared Mathey

Witness: Edward Holbrook

No.	Location	Activity Description/Comment	Photo
10.	200-W Single Shell Tank Farm 241-TY	11:32 a.m. West side gate for 241-TY Tank Farm, facing East. Signage on gate, also on the left and right side of gate.	
11.	200-W Single Shell Tank Farm 241-TY	11:36 a.m. North side of 241-TY Tank Farm, facing South.	
12.	200-W Single Shell Tank Farm 241-TY	11:38 a.m. East side of 241-TY Tank Farm, facing West.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

Photographer: Jared Mathey

Witness: Edward Holbrook

No.	Location	Activity Description/Comment	Photo
13.	200-W Single Shell Tank Farm 241-TY	11:41 a.m. East side gate for 241-TY Tank Farm, facing West. Signage on gate and right side of gate.	
14.	200-W Single Shell Tank Farm 241-TX	11:46 a.m. East side gate for 241-TX Tank Farm, facing West. Signage on gate and right side of gate. The Building on the right side of the photograph is 241-T-601.	
15.	200-W Single Shell Tank Farm 241-TX	11:47 a.m. East side gate for 241-TX Tank Farm, facing West. Signage on gate and left side of gate. The Building on the right side of the photograph is 241-T, which is adjacent to 241-T-601.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

Photographer: Jared Mathey

Witness: Edward Holbrook

No.	Location	Activity Description/Comment	Photo
16.	200-W Single Shell Tank Farm 241-TX	11:48 a.m. East side of 241-TX Tank Farm, facing West.	
17.	200-W Single Shell Tank Farm 241-TX	11:52 a.m. South side gate for 241-TX Tank Farm, facing North. Signage on gate and right side of gate.	
18.	200-W Single Shell Tank Farm 241-TX	11:52 a.m. South side of 241-TX Tank Farm, facing North. Signage on gate and right side of gate (See Photo 17).	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

Photographer: Jared Mathey

Witness: Edward Holbrook

No.	Location	Activity Description/Comment	Photo
19.	200-W Single Shell Tank Farm 241-TX	11:54 a.m. Second South side gate for 241-TX Tank Farm, facing North. Signage on gate and right side of gate.	
20.	200-W Single Shell Tank Farm 241-TX	11:54 a.m. Third South side gate for 241-TX Tank Farm, facing North. Signage on gate and left side of gate.	
21.	200-W Single Shell Tank Farm 241-TX	11:57 a.m. Fourth South side gate for 241-TX Tank Farm, facing North. Signage on gate and right side of gate.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

Photographer: Jared Mathey

Witness: Edward Holbrook

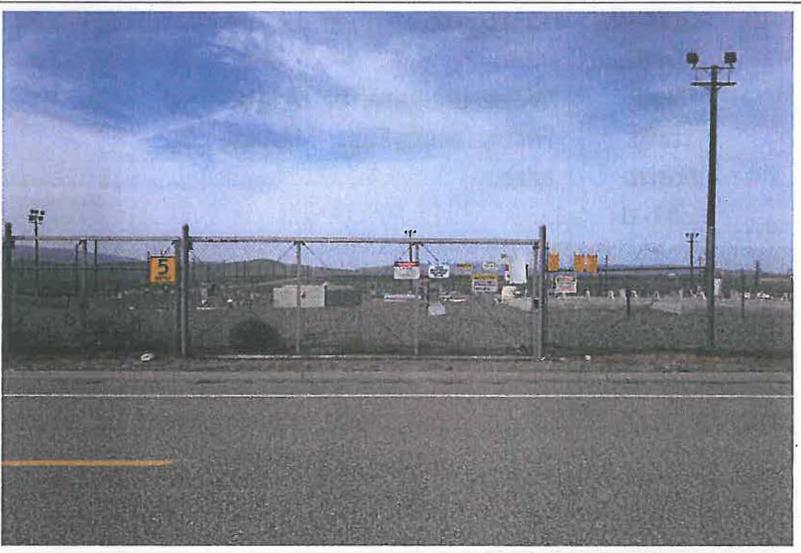
No.	Location	Activity Description/Comment	Photo
22.	200-W Single Shell Tank Farm 241-TX	11:59 a.m. West side gate for 241-TX Tank Farm, facing East. Signage on gate and right side of gate.	
23.	200-W Single Shell Tank Farm 241-TX and 241-TY Change Trailer	12:01 p.m. West side change trailer for 241-TX and 241-TY Tank Farm. Signage on doors entering the tank farms. Signs, telephone, and portable fire extinguisher on the left side of door.	
24.	200-W Single Shell Tank Farm 241-TX and 241-TY Change Trailer	12:01 p.m. West side change trailer for 241-TX and 241-TY Tank Farm. Signage on doors entering the tank farms. Also Signs on the right side of door.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

Photographer: Jared Mathey

Witness: Edward Holbrook

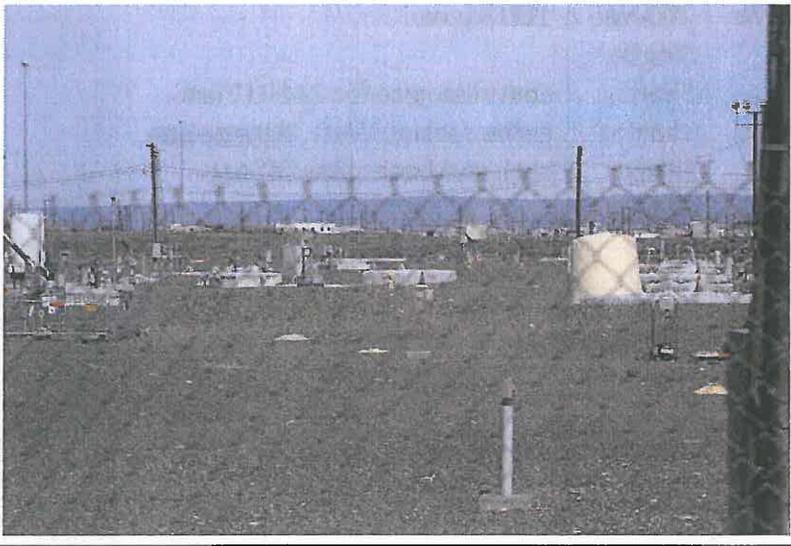
No.	Location	Activity Description/Comment	Photo
25.	200-W Single Shell Tank Farm 241-U	12:13 p.m. East side gate for 241-U Tank Farm, facing West. Signage on gate and both sides of gate.	
26.	200-W Single Shell Tank Farm 241-U	12:13 p.m. Second East side gate for 241-U Tank Farm, facing West. Signage on gate and both sides of gate.	
27.	200-W Single Shell Tank Farm 241-U	12:14 p.m. Southeast side gate for 241-U Tank Farm, facing Northwest. Signage on gate and left sides of gate.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

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Witness: Edward Holbrook

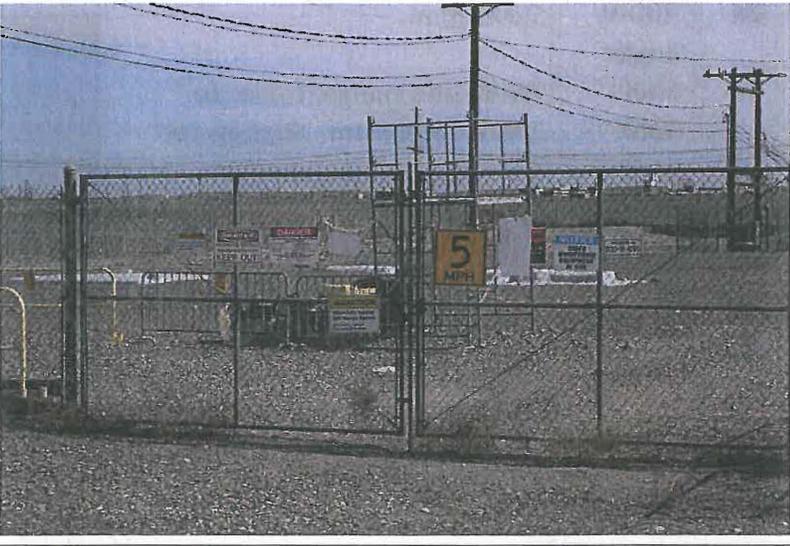
No.	Location	Activity Description/Comment	Photo
28.	200-W Single Shell Tank Farm 241-U	12:15 p.m. South side of 241-U Tank Farm, facing North.	
29.	200-W Single Shell Tank Farm 241-U	12:16 p.m. West side gate for 241-U Tank Farm, facing East. Signage on gate.	
30.	200-W Single Shell Tank Farm 241-U	12:16 p.m. West side of 241-U Tank Farm, facing East. Outside of 241-U along the fence line is a Less Than 90-Day Accumulation Area.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

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Witness: Edward Holbrook

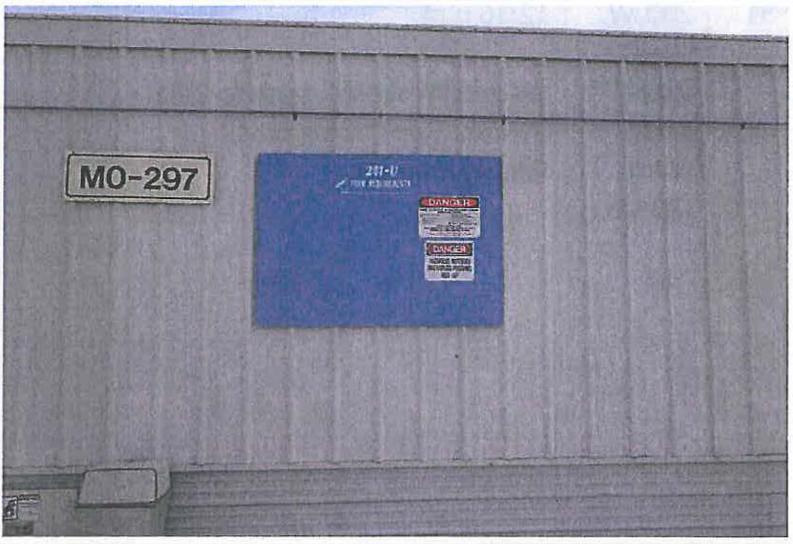
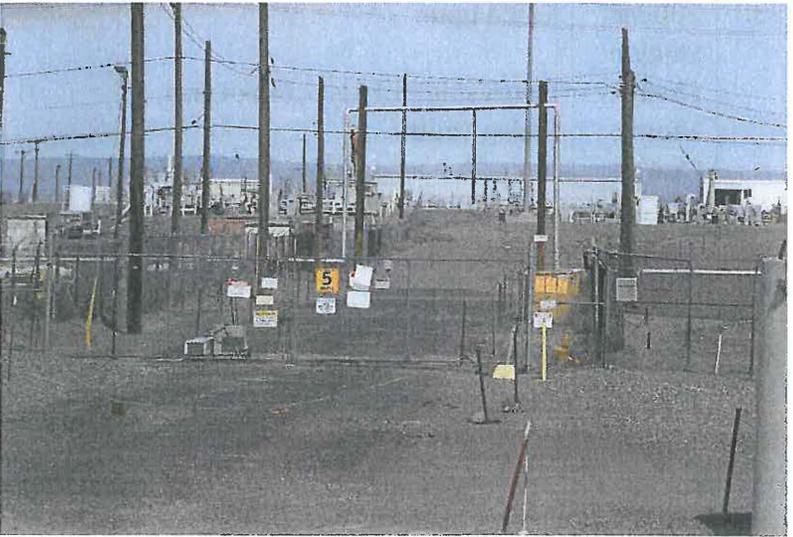
No.	Location	Activity Description/Comment	Photo
31.	200-W Single Shell Tank Farm 241-U	12:16 p.m. Second West side gate for 241-U Tank Farm, facing East. Signage on gate.	
32.	200-W Single Shell Tank Farm Change Trailer for 241-U	12:19 p.m. West side change trailer for 241-U Tank Farm. Signage on doors entering the tank farms. Also Signs between the two doors entering 241-U.	
33.	200-W Single Shell Tank Farm 241-U	12:24 p.m. North side of 241-U Tank Farm, facing South.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

Photographer: Jared Mathey

Witness: Edward Holbrook

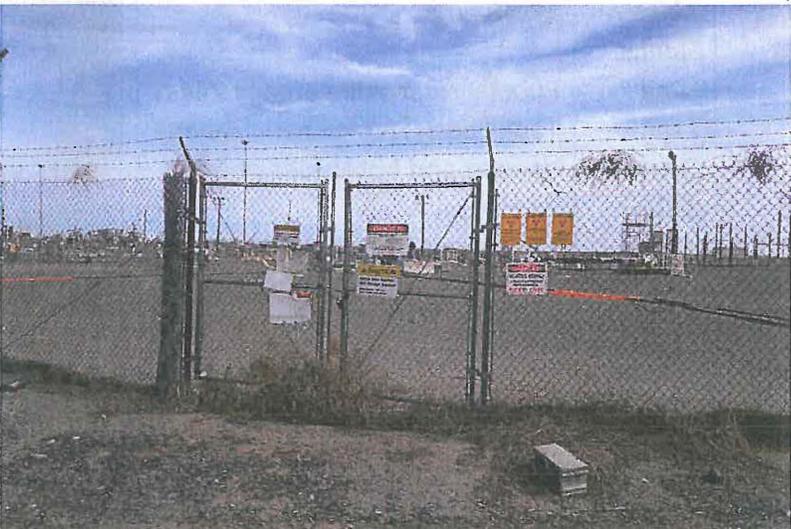
No.	Location	Activity Description/Comment	Photo
34.	200-W Single Shell Tank Farm Change Trailer for 241-U	12:25 p.m. West side change trailer for 241-U Tank Farm. Signage on the outside of the change trailer (MO-397).	
35.	200-W Single Shell Tank Farm 241-SX	12:32 p.m. East side of 241-SX Tank Farm, facing West.	
36.	200-W Single Shell Tank Farm 241-SX	12:32 p.m. East side gate for 241-SX Tank Farm, facing West. Signage on gate and right side of gate.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

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Witness: Edward Holbrook

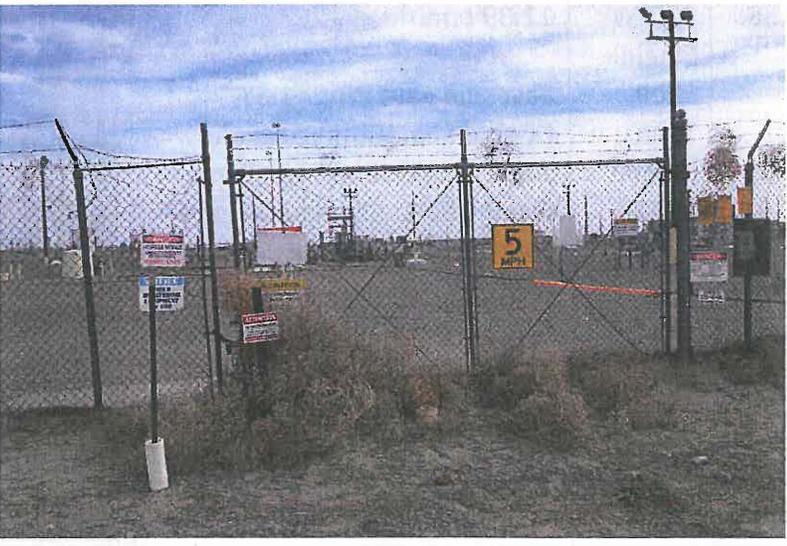
No.	Location	Activity Description/Comment	Photo
37.	200-W Single Shell Tank Farm 241-SX	12:35 p.m. East side gate for 241-SX Tank Farm, facing West. Signage on gate and right side of gate.	
38.	200-W Single Shell Tank Farm 241-S	12:39 p.m. East side gate for 241-SY Double Shell Tank Farm and 241-S Single Shell Tank Farm, facing West. Signage on gate and right side of gate. The gate provides immediate access the 241-SY, but provides access to 241-S.	
39.	200-W Single Shell Tank Farm 241-S	12:46 p.m. West side gate for 241-S Tank Farm, facing East. Signage on gate and right side of gate.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

Photographer: Jared Mathey

Witness: Edward Holbrook

No.	Location	Activity Description/Comment	Photo
40.	200-W Single Shell Tank Farm 241-S	12:46 p.m. Second West side gate for 241-S Tank Farm, facing East. Signage on gate and both sides of gate.	
41.	200-W Single Shell Tank Farm 241-S	12:47 p.m. Third West side gate for 241-S Tank Farm, facing East. Signage on gate and both sides of gate.	
42.	200-W Single Shell Tank Farm 241-S	12:48 p.m. Fourth West side gate for 241-S Tank Farm, facing East. Signage on gate and both sides of gate.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

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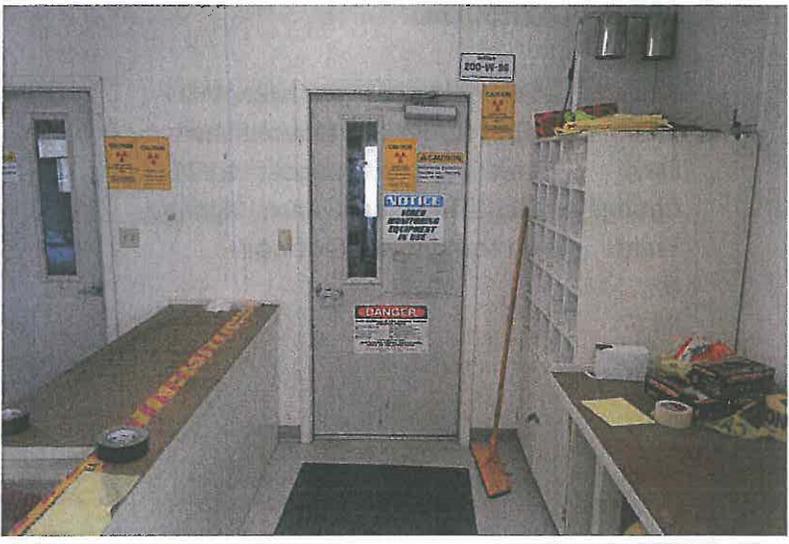
No.	Location	Activity Description/Comment	Photo
43.	200-W Single Shell Tank Farm Change Trailer for 241-S	12:50 p.m. West side change trailer (MO-295) for 241-SY Double Shell Tank Farm, with access to 241-S Single Shell Tank Farm. Signage on the right side of door.	
44.	200-W Single Shell Tank Farm Change Trailer for 241-S	12:55 p.m. West side change trailer (MO-295) for 241-SY Double Shell Tank Farm, with access to 241-S Single Shell Tank Farm. Signage on door and left side of door.	
45.	200-W Single Shell Tank Farm Change Trailer for 241-SX	12:58 p.m. West side change trailer (MO-298) for 241-SX Tank Farm. Signage on the right side of door.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

Photographer: Jared Mathey

Witness: Edward Holbrook

No.	Location	Activity Description/Comment	Photo
46.	200-W Single Shell Tank Farm Change Trailer for 241-SX	12:59 p.m. West side change trailer (MO-298) for 241-SX Tank Farm. Signage on the door and right side of door.	 <p>A photograph showing the interior of a change trailer. A white door is the central focus, covered with several warning signs including 'DANGER', 'CAUTION', and 'NOTICE'. To the right of the door is a white shelving unit. A broom leans against the wall. A yellow and black striped mat is on the floor near the door.</p>
47.	200-W Single Shell Tank Farm 241-SX	1:00 p.m. West side gate for 241-SX Tank Farm. Signage on the gate and both sides of gate.	 <p>A photograph of an outdoor fenced-in area. A chain-link fence runs across the middle ground, with a gate visible. Several yellow and black signs are posted on the fence. The ground is gravel, and there are some buildings and utility poles in the background under a cloudy sky.</p>
48.	200-W Single Shell Tank Farm 241-SX	1:01 p.m. Second West side gate for 241-SX Tank Farm. Signage on the gate and both sides of gate.	 <p>A photograph showing a different view of a fenced-in area. A chain-link fence is in the foreground, with a gate leading to another fenced area. Signs are visible on the fence, including a prominent yellow '5 MPH' sign. A building is visible in the background.</p>

Single Shell Tank Farms (WA7890008967)

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Witness: Edward Holbrook

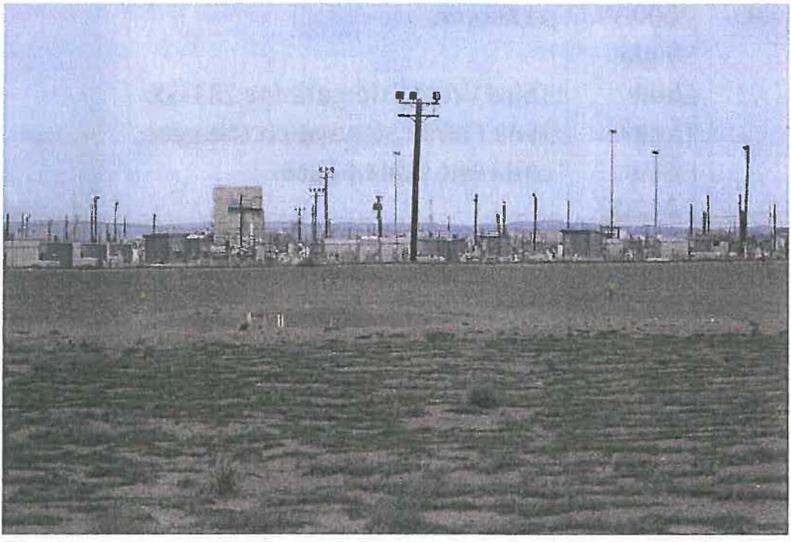
No.	Location	Activity Description/Comment	Photo
49.	200-W Single Shell Tank Farm 241-SX	1:02 p.m. Third West side gate for 241-SX Tank Farm. Signage on the gate and right side of gate.	
50.	200-W Single Shell Tank Farm 241-SX	1:03 p.m. Fourth West side gate for 241-SX Tank Farm. Signage on the gate and left side of gate.	
51.	200-W Single Shell Tank Farm 241-SX	1:04 p.m. Fifth West side gate for 241-SX Tank Farm. Signage on the gate and right side of gate.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

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Witness: Edward Holbrook

No.	Location	Activity Description/Comment	Photo
52.	200-W Single Shell Tank Farm 241-SX	1:10 p.m. South side of 241-SX Tank Farm, facing North.	
53.	200-E Single Shell Tank Farm 241-A	2:40 p.m. East side of 241-A Tank Farm, facing West.	
54.	200-E Single Shell Tank Farm 241-A	2:41 p.m. North side gate for 241-A Tank Farm, facing South. Signage on the gate.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

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Witness: Edward Holbrook

No.	Location	Activity Description/Comment	Photo
55.	200-E Single Shell Tank Farm 241-AX	2:42 p.m. South side gate for 241-AX Tank Farm, facing North Signage on the gate and left side of gate.	
56.	200-E Single Shell Tank Farm 241-A	2:43 p.m. North side gate for and 241-A Tank Farm, facing Southwest. Signage on the gate and right side of gate.	
57.	200-E Single Shell Tank Farm 241-A	2:44 p.m. North side gate for 241-A Tank Farm, facing Southwest. Signage on the gate and left side of gate.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

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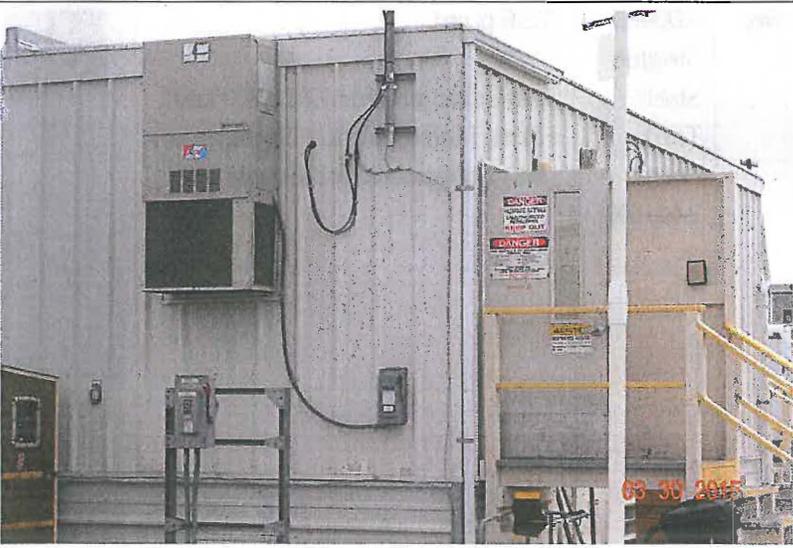
No.	Location	Activity Description/Comment	Photo
58.	200-E Single Shell Tank Farm 241-AX	2:45 p.m. East side of 241-AX Tank Farm, facing Northwest.	
59.	200-E Single Shell Tank Farm 241-A	2:47 p.m. South side gate for 241-A Tank Farm, facing North. Signage on the gate.	
60.	200-E Single Shell Tank Farm 241-A	2:50 p.m. South side of 241-A Tank Farm, facing North.	

Single Shell Tank Farms (WA7890008967)

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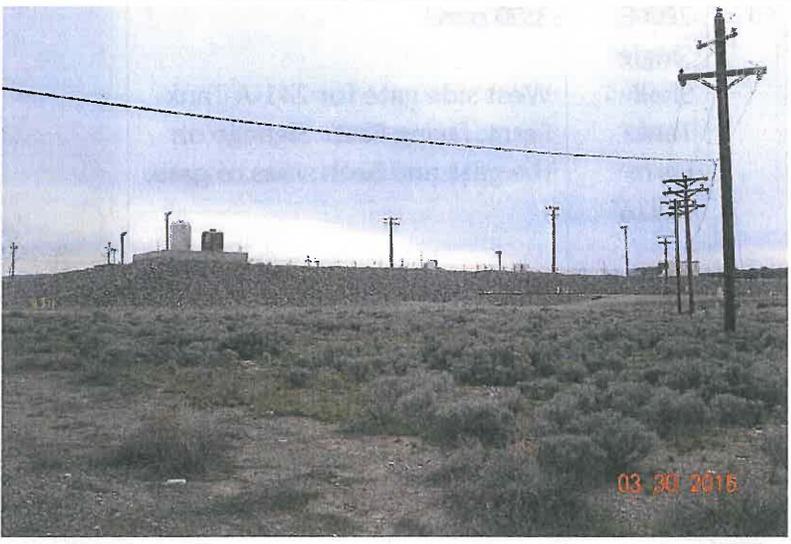
No.	Location	Activity Description/Comment	Photo
61.	200-E Single Shell Tank Farm 241-A	3:00 p.m. West side gate for 241-A Tank Farm, facing East. Signage on the gate and both sides of gate.	 <p>A photograph showing a chain-link fence with a gate. On the right side of the gate, there is a sign that reads "241-A TANK FARM". The ground is gravel, and there are some utility poles and structures in the background under an overcast sky. A date stamp "03 30 2015" is visible in the bottom right corner.</p>
62.	200-E Single Shell Tank Farm 241-C	3:26 p.m. South side of 241-C Tank Farm, in the control room for C-102 operations. Instrument Panel POR137-WT-IE-001.	 <p>A close-up photograph of an instrument panel. At the top, a white label reads "INSTRUMENT PANEL POR137-WT-IE-001". Below the label is a row of six red indicator lights with labels. To the right of these lights are four buttons labeled "SHL", "ACK", "TEST", and "RESET". Below the indicator lights are several analog gauges and control knobs, each with a label such as "OPERATE", "PROBE TEST", and "FAIL". A date stamp "03 30 2015" is visible in the bottom right corner.</p>
63.	200-E Single Shell Tank Farm 241-C	3:44 p.m. Northwest side of 241-C Tank Farm, ingress change trailer for 241-C.	 <p>A photograph of a large, grey metal ingress change trailer. The trailer has a door on the right side with a yellow handrail leading up to it. There are various electrical boxes and conduits on the side of the trailer. A date stamp "03 30 2015" is visible in the bottom right corner.</p>

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

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No.	Location	Activity Description/Comment	Photo
64.	200-E Single Shell Tank Farm 241-BY	3:55 p.m. North side of 241-BY Tank Farm, facing Southwest.	
65.	200-E Single Shell Tank Farm 241-BY	3:56 p.m. East side gate for 241-BY Tank Farm, facing West. Signage on the gate.	
66.	200-E Single Shell Tank Farm 241-BX	3:56 p.m. East side gate for 241-BX Tank Farm, facing West. Signage on the gate and right side of gate.	

Single Shell Tank Farms (WA7890008967)

Inspection Date: March 30 & 31, 2015

Photographer: Jared Mathey

Witness: Edward Holbrook

No.	Location	Activity Description/Comment	Photo
67.	200-E Single Shell Tank Farm 241-B	3:57 p.m. West side gate for 241-B Tank Farm, facing Southeast Signage on the gate and right side of gate.	

November 4, 2015

15-NWP-196

By certified mail

Mr. Kevin W. Smith, Manager
Office of River Protection
United States Department of Energy
PO Box 450, MSIN: H6-60
Richland, Washington 99352

Mr. Mark Lindholm, President and Project Manager
Washington River and Protection Solutions
PO Box 850, MSIN: H3-21
Richland, Washington 99352

Re: Single-Shell Tank Dangerous Waste Compliance Inspection on March 30 and 31, 2015 at the Hanford Site, Resource Conservation and Recovery Act (RCRA) Site ID: WA7890008967, Nuclear Waste Program (NWP) Compliance Index No. 15.518

Dear Mr. Smith and Mr. Lindholm:

Thank you for your time during the Single-Shell Tank Dangerous Waste Management Unit Group inspection to determine compliance with the Washington State Dangerous Waste Regulations (Chapter 173-303 Washington Administrative Code) and the *Hanford Federal Facility Agreement and Consent Order*.

The Department of Ecology's (Ecology) compliance report for inspection of the Single-Shell Tank Permit Closure Unit Group 4 is enclosed. The report cites four areas of non-compliance with the Dangerous Waste Regulations and six concerns. The four areas of non-compliance and their actions required to return to compliance are listed in the Compliance Problems section of the report.

To return to compliance, complete the actions required and respond to Ecology within 60 days of receipt of this letter and compliance report. Include all supporting documentation such as photographs, records, and statements explaining the actions taken and dates completed to return to compliance.

Submit the above paperwork, along with any requested documentation, to Jared Mathey at 3100 Port of Benton Boulevard, Richland, Washington 99354.

Failure to correct the areas of non-compliance may result in an administrative order, a penalty, or both, as provided by the Hazardous Waste Management Act (Revised Code of Washington 70.105.080 and .095). Persons who fail to comply with any provision of this chapter are subject to penalties of up to \$10,000 per day per violation.

Mr. Smith and Mr. Lindholm
November 4, 2015
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15-NWP-196
Single-Shell Tank Inspection
RCRA Site ID: WA7890008967
NWP Compliance Index No.: 15.518
Inspection Dates: March 30 and 31, 2015

If you have questions or need further information, please contact me at jared.mathey@ecy.wa.gov
or (509) 372-7949.

Sincerely,

Jared Mathey
Dangerous Waste Compliance Inspector
Nuclear Waste Program

tkb

Enclosure

cc electronic w/enc:

Dave Bartus, EPA
Jack Boller, EPA
Dennis Faulk, EPA
Lori Huffman, USDOE-ORP
Bryan Trimberger, USDOE-ORP
Cliff Clark, USDOE-RL
Ruth Allen, WRPS
Michael Greene, WRPS
Jessica Joyner, WRPS
Jeff Voogd, WPRS
Ken Niles, ODOE
Debra Alexander, Ecology
Jim Alzheimer, Ecology
Kathy Conaway, Ecology
Suzanne Dahl, Ecology
Kelly Elsethagen, Ecology
Edward Holbrook, Ecology
Jeff Lyon, Ecology
Jared Mathey, Ecology
John Price, Ecology
Nancy Ware, Ecology
Mign Walmsley, Ecology
Cheryl Whalen, Ecology
Environmental Portal
Hanford Facility Operating Record

cc w/enc:

Steve Hudson, HAB
Administrative Record
WRPS Correspondence Control
NWP Central File
NWP Compliance Index File: 15.518

cc w/o enc:

Rod Skeen, CTUIR
Gabriel Bohnee, NPT
Russell, Jim, YN
NWP Reader File