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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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January 25, 2016 16-NWP-019

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 Protection Solutions, LLC
PO Box 850, MSIN: H3-21
Richland, Washington 99352

Re: Dangerous Waste Compliance Inspection on June 30, 2015 of the Double-Shell Tanks System, Resource Conservation and Recovery Act (RCRA) Site ID: WA7890008967, Nuclear Waste Program (NWP) Compliance Index No. 15.538

Dear Mr. Smith and Mr. Lindholm:

Thank you for your staff's time during the Double-Shell Tanks (DSTs) System facility inspection to determine compliance with the Washington State Dangerous Waste Regulations (Chapter 173-303 Washington Administrative Code). These regulations establish a system for safe and responsible management of dangerous waste.

The Department of Ecology's Compliance Report of the DSTs inspection is enclosed. The Compliance Report cites two areas of non-compliance with the Dangerous Waste Regulations and two concerns. The areas of non-compliance and the actions required for a 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 timeframes specified in the Compliance Problems section of the enclosed 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 Nancy Ware at 3100 Port of Benton Boulevard, Richland, Washington 99354.

Failure to correct the deficiencies 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.

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If you have questions or need further information, please contact me at nancy.ware@ecy.wa.gov or (509) 372-7912.

Sincerely,

Nancy Ware

Nancy Ware
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
Bryan Trimberger, USDOE
Michael Greene, WRPS
Jessica Joyner, WRPS
Jeff Voogd, WRPS
Jon Perry, MSA
Ken Niles, ODOE
Debra Alexander, Ecology
Kathy Conaway, Ecology
Suzanne Dahl, Ecology
Kelly Elsethagen, Ecology
Edward Holbrook, Ecology
Steve Lowe, Ecology
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Jared Mathey, Ecology
John Price, Ecology
Nancy Ware, Ecology
Cheryl Whalen, Ecology
Kristi Wold, Ecology
Environmental Portal
Hanford Facility Operating Record
WRPS Correspondence Control

cc w/enc:
Steve Hudson, HAB
Administrative Record
NWP Central File
NWP Compliance Index File: 15.538

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:	**Double-Shell Tank System/204-AR Waste Unloading Station**
RCRA Site ID:	**WA7890008967**
Inspection Date:	June 30, 2015
Site Contacts:	Michael Greene, Regulatory Inspection Lead, Washington River Protection Solutions (WRPS)
Phone:	(509) 373-1582 FAX: N/A
Site Location:	200 West / 200 East Areas, Hanford Site Benton County, Washington
At This Site Since:	1943 NAICS#: 56221, 924110, 54171
Current Site Status:	Treatment, Storage, and Disposal Facility (TSDF)/Large Quantity Generator Operating Unit Group #12

Ecology

Lead Contact: Nancy Ware Phone: (509) 372-7912 FAX: (509) 372-7971
Other Representatives: Jared Mathey, Kristi Wold, Steve Lowe
Report Date: January 25, 2015
Index: #15.538
Report By: Nancy Ware

Nancy Ware (Signed) 11/25/2016 (Date)

Site Location

The Hanford Site was assigned a single United States Environmental Protection Agency (EPA) identification number, and is considered a single Resource and Conservation 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 Portion, WA7890008967, Revision 8C (hereafter referred to as the Permit).

Owner/Operator

The United States Department of Energy (USDOE) is the owner and operator of the Double-Shell Tank System (DSTs)/204-AR Waste Unloading Station (204-AR WUS); the USDOE – Office of River Protection (USDOE-ORP) oversees waste management (WM) activities ongoing at the DSTs. WRPS is

contracted by the USDOE-ORP to co-operate the DSTs and corresponding DWMUs, including performing dangerous waste (DW) management and waste treatment and storage activities.

Facility Background

According to the Dangerous Waste Permit Application, DST System/204-AR WUS, Part A Form, Revision 4, October 13, 2009:

> *The Double-Shell Tank (DST) System began operations between April 1971 and October 1986 (Table 1). The DST System is used for receipt and the storage (S02) of liquid mixed waste generated on the Hanford Facility. Two operating units, one in the 200 East (242-A Evaporator) and one in the 200 West Area (222-S Laboratory) directly transfer liquid mixed waste through buried double-encased transfer lines to designated underground DSTs. Additionally, the DST System receives liquid mixed waste via temporary transfer lines from, the Single-Shell Tank (SST) System, tank truck transfers (bulk chemical for corrosion control or mixed waste meeting the DST System waste acceptance criteria).*

NOTE: The terms "farm" or "tank farm" refers to an administrative grouping of tank systems, including the storage tanks, piping, ancillary equipment, support facilities, soil, and groundwater.

There are a total of 28 DSTs located in the 200 East and 200 West Areas of the Hanford Site, which store radioactively contaminated DW (MW). (DST information from Part A application below)

200 West Area			
DST Name	**Capacity**	**Began Operation**	**Aging or Non-Aging**
241-SY-101	4,542,480	4/77	Non-Aging*
241-SY-102	4,542,480	4/77	Non-Aging*
241-SY-103	4,542,480	4/77	Non-Aging*
200 East Area			
DST Name	**Capacity**	**Began Operation**	**Aging or Non-Aging**
241-AN-101	4,542,480	9/81	Non-Aging*
241-AN-102	4,542,480	9/81	Non-Aging*
241-AN-103	4,542,480	9/81	Non-Aging*
241-AN-104	4,542,480	9/81	Non-Aging*
241-AN-105	4,542,480	9/81	Non-Aging*
241-AN-106	4,542,480	9/81	Non-Aging*
241-AN-107	4,542,480	9/81	Non-Aging*
241-AP-101	4,795,460	10/86	Non-Aging*
241-AP-102	4,795,460	10/86	Non-Aging*
241-AP-103	4,795,460	10/86	Non-Aging*
241-AP-104	4,795,460	10/86	Non-Aging*
241-AP-105	4,795,460	10/86	Non-Aging*
241-AP-106	4,795,460	10/86	Non-Aging*
241-AP-107	4,795,460	10/86	Non-Aging*
241-AP-108	4,795,460	10/86	Non-Aging*
241-AW-101	4,542,480	8/80	Non-Aging*
241-AW-102	4,542,480	8/80	Non-Aging*
241-AW-103	4,542,480	8/80	Non-Aging*
241-AW-104	4,542,480	8/80	Non-Aging*
241-AW-105	4,542,480	8/80	Non-Aging*
241-AW-106	4,542,480	8/80	Non-Aging*
241-AY-101	3,900,000	4/71	Aging**

241-AY-102	3,900,000	4/71	Aging**
241-AZ-101	3,900,000	11/76	Aging**
241-AZ-102	3,900,000	11/76	Aging**

* Non-aging waste is a waste that is not neutralized current acid waste.
** Aging waste is neutralized current acid waste generated from the Plutonium-Uranium Extraction Plant. (Aging waste tanks differ from non-aging waste tanks by inclusion of internal ancillary equipment (i.e., steam coils).

According to additional information listed in the DST System Part A Application, the DST System also contains related equipment such as:

- Pipelines that run between tanks within a tank farm and between tank farms.
- The Cross-Site Transfer System, which is between the SY Tank Farm in the 200 West Area and the AP Tank Farm in the 200 East Area.
- Seal pots, usually on drain lines, to prevent gases from escaping to the atmosphere.
- Pumps to move liquids or solids from tank to tank or to other facilities.
- Valves to direct the flow of waste from one direction to another.
- Jumpers (removable sections of piping to connect transfer lines, or to connect nozzles inside diversion boxes and pits.) Jumpers can be rigid or flexible.
- Nozzles (termination points for transfer lines in a diversion box).
- Pits or diversion boxes that contain various types of equipment, including valves, jumpers, and nozzles.

As described in the Part A Application, the tanks in the DST system are considered treatment units, as well as storage units. Corrosion is controlled by adding chemicals to each tank. In addition, equipment, such as airlift circulators or pumps, mixes the waste in the tanks. The DST tanks are engineered with a primary tank within a second tank. The second tank is designed to have sufficient capacity to hold the wastes from the primary tanks. Both the primary and secondary tanks are equipped with leak detection devices.

The DST waste includes three main forms - liquid, sludge, and "saltcake." The liquid waste is called supernatant when it is on top of the sludge. When it fills the void spaces in the tank's solids, the waste is referred to as interstitial liquid. Sludge is solids that cannot be dissolved and are usually at the bottom of the tank. Saltcake consists of solid salts which can be dissolved, are usually near the top of the tank.

DST MW consists of:

- Characteristic waste (D001, D002, and D003).
- Toxic constituents (D004 - D011, D018, D019, D022, D028 - D030, D033 - D036, D038 - D041, and D043).
- Nonspecific source waste (F001 through F005).
- State-only waste (WT01, WT02, WP01, and WP02).
- Multi-source leachate (F039), a waste derived from non-specific sources F001 through F005.

The DST System/204-AR WUS Part A Application describes that 204-AR WUS began waste management operations in February 1982, but is currently not used for its' original intent. The Part A Application states:

The 204-AR WUS was used for the treatment of liquid mixed waste that exhibited a pH of less than 12. The waste was chemically adjusted in-line at the 204-AR WUS by adding caustic (sodium hydroxide and sodium nitrate) to increase the pH of the waste to meet DST System corrosion specifications for storage in the DST System. The 204-AR WUS received liquid mixed waste transported in railroad tank cars or tank trucks of varying capacity. The mixed waste was generated from decontamination and regeneration operations in the 100 and 200 Areas, from recovery and laboratory operations in the 200 and 300 Areas, and from decontamination operations in the 400 Area. The maximum process design capacity, with a specific gravity for the waste of 1.0, for tank treatment (T04) at the 204-AR WUS was 50,000 gallons (189,270 liters) of which 10,000 gallons (37,854 liters) was associated with the flushing of the system. Due to the non-compliant transfer system between AW Tank Farm and the 204-AR WUS, no waste can be received at the 204-AR WUS for direct transfer into the DST System until the transfer system has been made RCRA compliant. The current function of the 204-AR WUS is to provide storage for approximately 1500 gallons of dilute aqueous mixed waste collected in Tank TK-1 from previous waste unloading activities. Tank TK-1 also continues to receive liquid from building drain seal maintenance, safety shower drainage, and periodic discharge of ventilation condensate water. The mixed waste consists of listed waste, characteristic waste (D001, D002, and D003), toxic constituents (D004 through D011, D018, D019, D022, D028 through D030, D033 through D036, D038 through D041, and D043), nonspecific source waste (F001 through F005), and state-only waste (WT01, WT02, WP01, and WP02). Multi-source leachate (F039) is included as a waste derived from non-specific sources F001-F005. F039 was added to the list of DST System waste codes in 1994 in anticipation of receiving leachate from the start-up of Low-Level Burial Grounds (Trench 31). The debris designation (Section XIV) refers to in-tank equipment that is abandoned in place. This equipment will be addressed by the DST System final closure plan.

Compliance Background for the DSTs

1998 – The Department of Ecology (Ecology) issued a notice of violation to USDOE for failure to have adequate leak detection in the SY Tank Farm, Administrative Order 98NW-009 and Notice of Penalty 98NW-007. Administrative Order 98NW-009 and Notice of Penalty 98NW-007 resulted in a settlement agreement, PCHB No. 98-249; No. 98-250, which is referred as the "SY Settlement Agreement." The SY Settlement Agreement lists requirements for continuous leak detection, maintenance, down time, and notifications. The agreement also specifies how many and how leak detectors were to be installed in the annulus of each tank and in the primary tank. USDOE is required to comply with the SY Settlement Agreement until the DST System has obtained final status in the site-wide Permit.

October 12, 1999 – Ecology conducted a compliance inspection which identified one violation of the *Hanford Federal Facility Agreement and Consent Order* (HFFACO) for failure to complete the requirements of Milestone M-32. The milestone required the completion of an independent, qualified, registered, professional engineer (IQRPE) integrity assessment of the DST system.

November 19, 2002 - An Ecology inspection conducted identified three violations:

- Failure to ensure DST leak detectors were operational.
- Failure to remedy inoperable leak detection equipment.
- Failure to document such remedies.

October 1, 2003 - Ecology conducted a compliance inspection which identified one violation for failure to obtain independent inspections of new tank system component installations per WAC 173-303-640(3)(c). Ecology required USDOE-ORP and CH2M Hill, the co-operating contractor at the time of the inspection, to submit a plan describing how future independent inspections would be assured.

November 4, 2004 - Ecology conducted an inspection which identified one concern regarding the incomplete IQRPE assessment of new tank system components.

Inspection Summary

On Tuesday, June 30, 2015, Mr. Mathey, Ms. Wold, and I performed a focused compliance inspection of the DSTs as part of the annual Hanford Site compliance evaluation inspection. At 8:00 a.m., we met USDOE-ORP and WRPS representatives at the Building 2750 conference room, 200 East Area, Hanford Site. Mr. Mathey and I introduced ourselves as Ecology compliance inspectors and stated that Ms. Wold, Ecology DST Permit Coordinator, would provide technical support. We were joined by the following individuals.

Jim Lynch	USDOE-ORP	Tank Farm Projects Division Program Manager
Bryan Trimberger	USDOE-ORP	P.E. Environmental Engineer, Environmental Compliance Division
Dan Crawford	WRPS	Air Subject Matter Expert, Environmental Programs Reporting, Technical Support
James Hamilton	WRPS	Production Operations Environmental Compliance Field Representative - EV Team
Daniel Herrera	WRPS	Production Operations Environmental Compliance Field Representative - ST Team
Annie McLain	WRPS	Production Operations Environmental Compliance Field Representative - AN Team
George Meyers	WRPS	Production Operations Environmental Compliance Field Representative - AZ Team
Chuck Mulkey	WRPS	Environmental Specialist, Environmental Programs Reporting, Technical Support
Jeff Voogd	WRPS	Manager, Production Operations Environmental Compliance

Mr. Mulkey began by providing a safety briefing. He said the most serious safety issue for this day was the high temperature and reminded us to stay hydrated and watch for signs of heat stress.

After introductions, I identified myself as the lead inspector and stated that this inspection was a planned, annual compliance inspection as required for federal facilities in Washington. I said the inspection was to determine compliance with the Interim Status TSDF requirements under 40 Code of Federal Regulation (CFR) Part 265, incorporated by reference and updated by Washington Administrative Code (WAC) Chapter 173-303-400, as well as other applicable sections of

WAC 173-303 for DW management. I stated the scope of the inspection would include TSDF activities; and the method of the inspection would include a visual observation of activities, discussions, and a review of any associated documents or records. I explained that we would be looking at treatment, storage, and disposal (TSD) activities only – no generator activities. I said that we would like to perform a drive-by of all the DST tank farms to inspect each farm and activities. I requested that, after the drive-by, we would return to this location for more discussion and review documents if there is time. I said that I would first like to ask the Operations Manager some questions.

I asked if there were portable emergency or stationary emergency equipment located at each tank farm. Mr. Voogd said WRPS has both within the tank farms. I asked where the emergency equipment is located relevant to each farm. Mr. Voogd said that emergency showers and protective equipment are located in the change trailers. He said that if a work package with hazards is being performed, safety personnel perform an evaluation and may determine if additional portable equipment is needed. I said I would like to randomly look at three emergency equipment locations at change trailers.

I asked which DST farms are currently active, and Mr. Voogd answered, "AY, AN, AP, and AZ." Mr. Hamilton said there was also some activity in the AW Tank Farm. I stated that I would like to look at emergency equipment in the AN, AP, and AZ tank farms.

I stated that in the Part A Application, there is a reference to small temporary storage tanks. I asked what tanks this referred to and where the tanks were located. Mr. Voogd said that the tanks could be personal decontamination units or emergency equipment. I said the Part A referred to the temporary storage tanks, but did not describe the tanks. Mr. Voogd said that the Part A may have been updated, but the Part B may not have been updated since around 2008. Mr. Crawford said WRPS would follow-up on this and check the Part A information for accuracy.

NOTE: Mr. Crawford did not provide any further information or description which would identify the small temporary storage tanks referred to in the Part A Application.

Mr. Voogd stated that he would need to make arrangements for a visit to the 204-AR WUS. He said that entry into the 204-AR WUS would require each person to have dosimetry. He also said that substantial footwear and safety glasses are advised. Mr. Hamilton said a hard hat would be needed for the farm walk-down if there was crane activity, and that there currently was a crane operating in AW farm. Mr. Voogd asked if we wanted to see SY farm, and I answered that we would like to drive by SY Farm.

Mr. Voogd asked if we were interested in processes, and I said yes. I stated that information on integrity, compatibility assessments, and line pressure testing would be part of our discussion. I also requested that someone explain WRPS DW inspections and which documents pertain to those inspections. I requested an explanation of the red arrow / red circle process. I also asked for information on the maintenance schedule.

I requested an update on SY-103 sampling and analysis. Mr. Voogd said the information in the notification to Ecology referenced the lab report. Ms. Wold stated that the notification did not reference the report. Mr. Voogd then asked Mr. Herrera if he could retrieve the SY-103 sampling and analysis information. Mr. Herrera stated that he would provide the information.

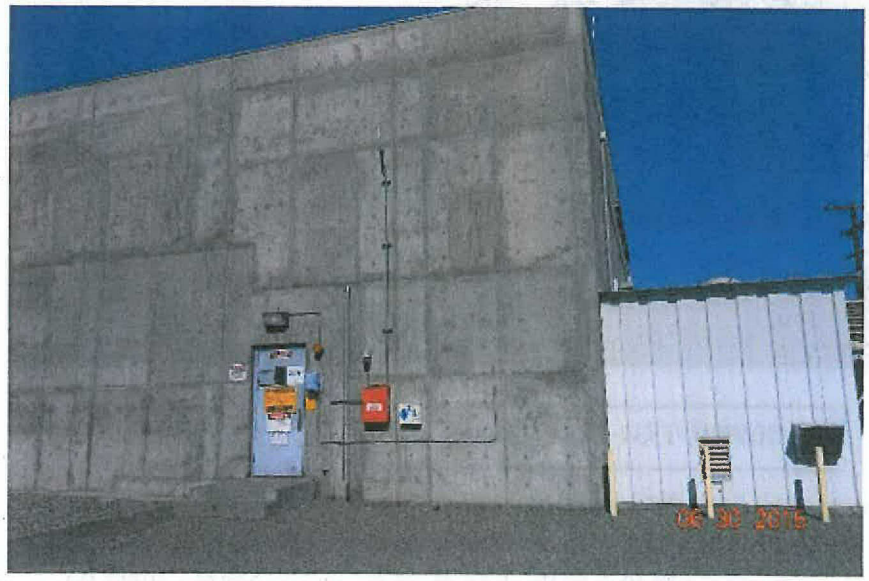
I said that we would like to see how WRPS is complying with the SY settlement agreement and the AY settlement agreement. Mr. Voogd said we would see the AY settlement work during our tour. He explained that there was a significant amount of work being done between AY and AP tank farms. Mr. Voogd said that operations personnel had completed excavation for the hose-in-hose transfer lines

(HIHTLs), and that operations personnel were preparing new pits. He stated that they were also modifying receiver tanks for a slurry distributor.

I asked if there was a plan which outlines the work being performed. Mr. Voogd answered that the operations group maintains that information. Mr. Lynch said bi-weekly updates were being made in the retrieval meetings onsite. Mr. Voogd added that there was several plans prepared, but that his organization does not have that information. He explained that it is the WRPS projects group which prepares the plans for the operations group to perform. Mr. Trimberger stated that the monthly submittals to Ecology summarize the status of work projects connected with AY-102. Mr. Lynch said that the waste retrieval plan has all of the details.

Mr. Voogd said that integrity assessments, line pressure testing, and line compatibility are all functions of engineering. He also stated that the line testing plan and schedule to review the encasement integrity are both functions of engineering. I explained I would like to have engineering personnel available to answer my questions, and that it could be done another time outside of this inspection meeting, if necessary. I said that I would like the engineering personnel to explain how these processes work. Mr. Voogd said for waste transfers, the environmental group addresses RCRA, safety, and design concerns before transfers take place. He gave an example of criticality. Mr. Voogd said the engineering personnel are located downtown, but that the environmental group goes through the analysis and protocols to determine go or no go criteria. He explained that it is all described in WRPS procedures. I said I would like to have engineering personnel available to explain these processes in more detail. Mr. Voogd said that Dan Baide is responsible for integrity and line pressure tests and that Nick Kirch is responsible for the Waste Analysis Plan (WAP). I stated that I would like to discuss these topics with Mr. Kirch and Mr. Baide.

Mr. Meyers stated that the 204-AR WUS tank (TK-1) is closed off, but that we could look through the window to the bottom level, and we can also see how personnel perform inspections. Mr. Voogd added that the 204-AR WUS tank room is a contaminated area and that we would not be able to see the tank, but that we would be able to look at the instrument panel. We ended our discussion in the Building 2750 conference room, and drove to the 204-AR WUS.



DSC00928, Entry Door to 204-AR

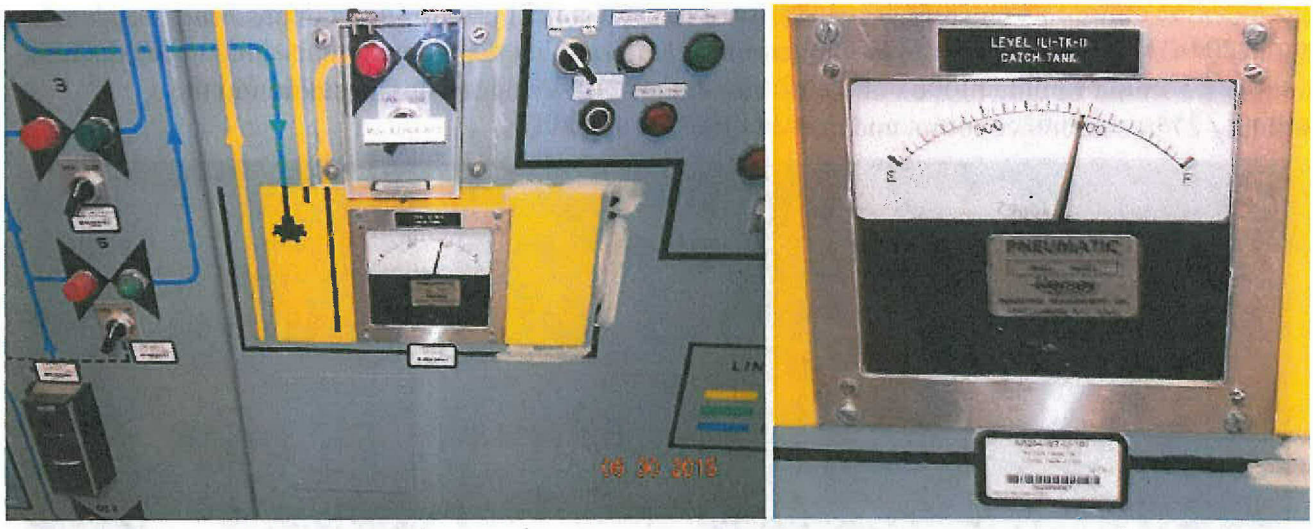
We arrived at the 204-AR WUS at 9:00 a.m. and Mr. Voogd provided a safety briefing explaining that water and ventilation were shut off. He added that there was asbestos in the building.

Mr. Roger Hammer, Tank Farms AZ Team Area Day Shift Manager, unlocked the 204-AR WUS building for us and explained that many of the lights were out in the building. Mr. Voogd pointed to a diagram on the wall that outlined the layout of the building. He indicated on the diagram where the window that looks out over the bay where Tank TK-1 is located.

Mr. Voogd explained that Tanks 2, 3, 4, and 5 were product tanks and had been flushed in 2007 and 2008. I asked if these tanks were blanked off. Mr. Voogd stated that we could go in to look at the product tanks. I asked how tank inspections are performed. Mr. Hammer said that Tank TK-1 still contains MW, so the leak detection readings of the tank are monitored in the control room.

Mr. Hammer explained that the floor drain contained a seal loop and liquids were drained to Tank TK-1. He stated that the line to TK-1 had been capped. He explained that Tank TK-1 still contained around 970 gallons of waste, and that the latest plan was to pump the remaining waste out of the tank. Mr. Voogd said that sampling had been performed on the MW in Tank TK-1 approximately three years ago. I asked if an integrity assessment of TK-1 was scheduled to be performed, and Mr. Voogd answered yes.

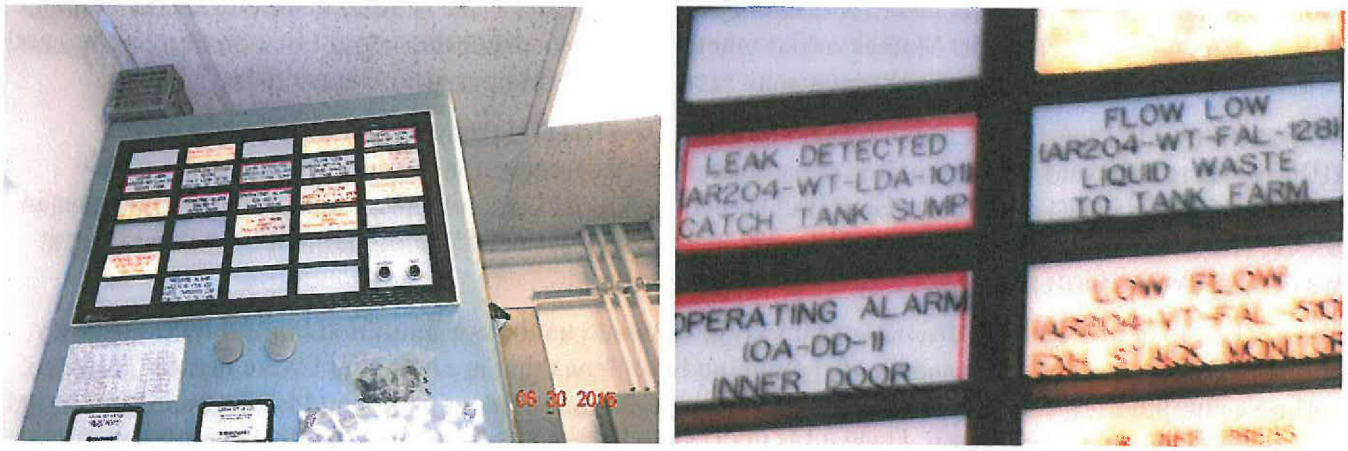
We walked upstairs to the control panel room, where Mr. Hammer pointed out the TK-1 tank level gauge. I observed the TK-1 tank level gauge read ~960 gallons. Mr. Mathey asked what ancillary equipment the 204-AR WUS tank system has. Mr. Voogd said that the equipment is valved to a SST System valve pit, and that the line out of it is a compliant line. He stated that the 204-AR WUS is not currently connected to the DST System, and said that their plan was to close the facility.



DSC00929, TK-1 Level Gauge

Mr. Hammer indicated to us the sump leak alarm in the control room. He explained that both the level gauge and the sump leak alarm are checked twice a day. Mr. Mathey asked what maintenance was performed on the leak detection probe. Mr. Hammer said that leak detection probe maintenance was part of the WRPS preventative maintenance program. Mr. Voogd added that the Enterprise Asset

Management (EAM) database prints out schedules for maintenance activities, provides references for the appropriate procedures to perform work activities, and generates work orders. I asked how activities are input into the EAM database. Mr. Voogd responded that the engineering group is the primary gate keeper to the database, and that safety, quality assurance, operations, and engineering staff and field representatives all look through the equipment they have to set it up in EAM.



DSC00930, 204-AR Control Room Alarm Panel

Mr. Hammer showed us the window to see part of the Tank TK-1. We then walked back downstairs and looked at the product tanks. Mr. Hammer pointed to the TK-1 floor drain and said that it was sealed off, but did not state when the drain had been sealed. He stated that previously facility personnel would add water periodically to keep the seal loop full of water. Mr. Hammer explained that before the drain was sealed, there had been problems with the heating ventilation and cooling system, which discharged water and subsequently drained into the tank through the floor drain. He said that is why USDOE-ORP decided to seal the drain to the tank.

We left the 204-AR WUS and went to the AY-Tank Farm. Mr. Voogd pointed out tents in the AY Tank Farm. He said that operations personnel were performing pit work under the tents. Mr. Voogd explained they were working on installing the supernate pump, sluicer nozzles, and were upgrading the pits to meet standards for operations.

We walked to the AY-Tank Farm change trailer and went inside. Mr. Voogd said that the AY Tank Farm maintains personnel protective equipment, a fire extinguisher, a telephone, and a spill kit in the change trailer. Mr. Mathey observed that the date on the fire extinguisher tag indicated that it was serviced in June 2015. Mr. Voogd then showed us the emergency showers.

We walked to AZ Tank Farm where we were shown a personnel decontamination unit. Mr. Meyers showed us AZ-301 and explained that this unit handles condensate from the exhausting system for AY and AZ Tank Farms. Mr. Voogd said that AZ-301 was the most complex exhauster system any of the tank farms has. Mr. Meyers stated that the condensate is removed weekly through use of a tanker truck in 217-AZ. He explained that the tanker truck transports the condensate to the Liquid Effluent Retention Facility (LERF) basins. We walked through the remainder of AZ Tank Farm and to the far end of AP Tank Farms.

Next we went to AW Tank Farm, and Mr. Hamilton stated that AW Tank Farm had six tanks, two primary exhausters, and one ancillary exhauster. He explained to me the different types of pits in the AW Tank Farm. He said that one pit had a pump that routed to the 242-A evaporator. Mr. Hamilton stated that in the AW and AP Tank Farms, the requirement for respiratory protection was not for full respiratory protection in all areas of the tank farms. He pointed to the cabinets inside of the AW Tank Farm, and said that the cabinets were for holding electronics. Next Mr. Hamilton showed us the change trailer for AW Tank Farm. Mr. Mathey asked when the 242-A evaporator might be operating again, and Mr. Hamilton answered that the evaporator may restart in late July or early August 2016.

We walked to AP Tank Farm. Mr. Voogd showed us the HIHTL retrieval route from AY-102 to AP Tank Farm. He said that operations personnel were currently in the process of putting in a new exhauster for AP Tank Farm. Mr. Hamilton showed us the old tank exhauster and annulus exhauster in the AP Tank Farm. Mr. Hamilton also showed us the valve pit in AP Tank Farm and explained that it was central in the farm for transferring waste out of the farm.

We walked to Building 274-AW where Mr. Voogd showed us the configuration control board used by all Tank Farms operations managers. He explained how lines that are compliant were marked in green, and non-compliant lines were marked in red. We entered the Incident Command Post where Mr. Voogd discussed emergency procedures. I asked if DST Tank Farms have implemented their contingency plan in the last five years, and Mr. Voogd answered yes. Mr. Hamilton explained that in 2013, the DST Building Emergency Director (BED) had implemented the Tank Farms contingency plan. I asked if the contingency plan implementation had ever failed, and Mr. Hamilton said no. Mr. Mathey asked who the Single Point of Contact (SPOC) was for DSTs, and Mr. Hamilton answered that he was the SPOC. I asked if the SPOC was on call 24 hours per day, and Mr. Voogd answered yes. Mr. Voogd said there were two different types of SPOCs -- one for high management of resources and the other for the environmental on-call. He explained that the environmental on-call SPOC is the environmental subject matter expert, and that is the position which Mr. Hamilton fills. Mr. Voogd showed us the central command post, and we ended our field inspection at 11:15 a.m.

We returned to the Building 2750 conference room to continue our inspection discussions, and Ms. Jessica Joyner, WRPS, Manager, Environmental Protection, joined the discussion. Mr. Voogd provided a diagram outlining how the integrity assessment program worked (RPP-7574, Revision 4, *DST Integrity Project Plan*). I requested a copy of the diagram. Mr. Voogd said that DSTs were assessed once every ten years and explained that there were sub-elements to the structural integrity, which included tank levels and seismic concerns. He stated that specific integrity work performed for each tank farm is based on the construction history. Mr. Voogd said that WRPS performs visual integrity assessments, ultrasonic testing, developmental work, corrosion work, materials testing, chemistry control (e.g. pH adjustments), and that independent panels look at all of this work. Mr. Mathey asked if Revision 29 was the latest revision of RPP-16922, and Mr. Voogd said yes.

I asked for the dates of integrity assessments performed on 204-AR WUS Tank TK-1. Mr. Voogd said that around 2006 an integrity assessment of Tank TK-1 had been performed. He further explained that the integrity assessment did not include waste compatibility or line testing. Mr. Meyers said that in 2015, the operations group conducted preventative maintenance for the 204-AR WUS. He added that there is no visible damage to the inside and outside of the building. I requested a copy of the Tank TK-1 integrity assessment.

I stated that the 2014 Land Disposal Restriction (LDR) Report listed Tank TK-1 (located in the 204-AR WUS), but that the tank had not been listed in the 2009 LDR Report. I asked why Tank TK-1 had not

been reported prior to the current report and how did USDOE-ORP and WRPS apply the waste codes for the waste being stored in Tank TK-1. Mr. Voogd stated that the operations group moves water through Tank TK-1. I asked him if that water is designated and managed as DW, and he said yes. I asked how this DW is managed. Mr. Voogd explained that readings are taken for the tank levels twice a day and recorded on a checklist. The checklist also includes checking the low level alarm and high level alarms for the tank and the sump.

NOTE: It is unclear how this explanation relates to the 2009 LDR report not listing Tank TK-1, and the 2014 LDR report including Tank TK-1. We were told earlier in the morning that the line to Tank TK-1 had been capped and that no liquids had been drained to Tank TK-1 for a number of years.

I said that as stated in the 2014 LDR Report, the generation amount for each year 2015 through 2019 for the DST System lists the same figure. I asked how this generation amount is calculated, because it seems that the generation amount would vary between evaporator campaigns and SST retrieval activities. The personnel present did not provide a response for this question, but Mr. Crawford said they could look into it and get back to me.

NOTE: I did not receive any answers to the questions on DST LDR reporting.

I asked if there were any engineering documents which explained the leak detection equipment. Mr. Voogd said that Procedure 6-PCD-369, Revision E-1, and preventative maintenance records document how the DST operations are meeting regulatory requirements for tanks. He said that line testing is performed; WRPS developed and implements a compatibility program; and daily, weekly, and monthly inspections are performed. Ms. McLain stated that operations personnel perform the daily rounds. Mr. Voogd explained the numbering sequences listed in the document title. He said that DR = Daily Rounds and AN = AN Tank Farm. He also stated that ES is the acronym for Environmental Specification. I asked if personnel are trained to know which specific procedures apply for performance of inspections, and if these personnel are trained to the procedures. Mr. Voogd said yes.

Mr. Herrera told me that the weekly round inspections are described in TFC-OPS-OPER-C-60, Revision A. Mr. Voogd explained how information is gathered, and what is done if anything is noted as out of line. He said that if an item or a reading is found to be out of range, the personnel observing the out of range items circles the item on the inspection log and adds in a comment. Mr. Voogd stated that red-circled items on an inspection log will cause the shift supervisor to initiate actions. He said at the time of an inspection, an out of range item is not considered a deficiency. He said that further investigation determines whether the item is deficient.

Mr. Voogd said that a Rounds Action Tracking List (RATL) is used to document items needing action. He explained that the RATL initiates a problem being entered into the corrective action process. Mr. Mathey asked how problems are scheduled to be remedied. Mr. Voogd said that preventative maintenance and corrective maintenance logs usually take priority, but that it sometimes takes a bit longer to resolve issues when the problems are reviewed by system engineering. He explained that after a problem is reviewed by engineering, a work package is generated. He said that at that point, teams are assigned the work, and then the work is performed. Mr. Voogd stated that operational activities are prioritized highest for repair. I asked if there is a RATL for each team, and Mr. Voogd said yes. I asked him to explain the difference between preventative maintenance and corrective action. Mr. Voogd said that RATLs require corrective action.

I asked how an issue is resolved if it relates to compliance with the DW regulations. Ms. McLain said that a high priority is given to environmental issues. Ms. Joyner said that the Problem Evaluation Request (PER) procedure is followed for an adverse condition. Mr. Voogd stated that environmental issues follow the PER procedure and that the operational issues follow the RATL procedure. He referred me to Figure 2 in TFC-OPS-OPER-C-60 Revision A.

Mr. Voogd said WRPS uses the red arrow process to communicate issues to shift managers and that the red arrow process is used in daily reports as a communication tool. I asked for clarification; I said that I heard him say that the red circle process may or may not be a deficiency, but that if a red-circled item is found to be a deficiency, the inspection log would be updated to note the deficiency. Mr. Herrera said they do not update the initial inspection logsheet, but will instead, initiate a corrective action, or a RATL or work package will be referenced on the inspection logsheet. I asked if the RATL continues to document all items, even after the items are closed. Mr. Voogd said that the RATL was an action tracking system. Ms. McLain stated that deficiencies are closed out with work orders. Mr. Voogd said that maintenance personnel plan and schedule work activities. Ms. McLain showed me a group schedule and explained that preventative maintenance was tracked on the preventive maintenance schedule.

Mr. Mathey asked for a description of the teams and their responsibilities relating to the various tank farms. Mr. Herrera said that the ST team covered S, SX, SY, T, TX, TY, and U Tank Farms; the AN team covered AN, AP, B, BX, BY, and C Tank Farms; the AZ team covered A, AX, AY, AZ Tank Farms, the 204-AR WUS, and the 244-AR facility. Mr. Meyers added that the AZ team also includes 702-AZ.

I was given LAB-RPT-15-0003, Revision 0 (test results for particulate analysis for ENRAF® plummet removed from tank 241-SY-103 analysis in 2015) for review.

I asked for an update of the AY-102 retrieval operations. Ms. Joyner said the daily rounds were performed the same as for other operations, and that if a worsening condition is identified during the daily rounds, it is handled in the same manner as discussed for other deficiencies. She said that AY-102 has a separate contingency plan, and that bi-monthly camera inspections are performed for AY-102. Mr. Voogd said the order of the process would be to first use a round sheet to report a problem, then place the item on the RATL list, and then generate a work order.

I thanked the personnel present for their time, and stated that I did not have any items of non-compliance to discuss from our inspection at that time. I said that I need to review the documents requested before I could provide further feedback to the facility. I requested that Mr. Crawford set up a meeting with engineering personnel to discuss line testing and waste compatibility. We ended our inspection at 2:05 p.m. and departed the facility.

On Wednesday, July 15, 2015, at 1:00 p.m., Mr. Mathey, Mr. Lowe, and I met with WRPS and USDOE-ORP personnel at 3100 Port of Benton Boulevard WRPS Office conference room for a follow-up meeting to the DST inspection discussions. Personnel present included the following individuals.

- Bryan Trimberger, USDOE-ORP
- Dan Baide, WRPS, Manager, Tank Farm Projects & Integrity Engineering
- Dan Crawford, WRPS
- Michael Greene, WRPS
- Jessica Joyner, WRPS

- Nick Kirch, WRPS, Processing Engineer, Tank Farms Production Operation
- Tony Miskho, WRPS, Environmental Permitting

Mr. Greene presented a brief safety message for fire and evacuation.

I explained that the purpose of this meeting was to have WRPS engineering personnel provide Ecology compliance inspectors with a better understanding of the integrity assessments, line pressure testing, and line compatibility. I asked them to explain their processes for the annual leak line testing and the waste compatibility testing.

Mr. Kirch stated that HNF-SD-WM-OCD-015, Revision 38, is a procedure issued out of the document control system which provides the program direction for compatibility assessments. He summarized the procedure as follows:

> HNF-SD-WM-OCD-015 lists the requirements for receipt of waste transferred from non-tank farm facilities; waste transferred between DSTs; and waste transferred from SSTs to DSTs. Currently, non-tank farm facilities include only the 222-S Laboratories. A waste compatibility assessment is performed for every transfer. The program meets both environmental requirements and safety basis requirements, and describes caustic additions for corrosion control and water additions. The procedure outlines the evaluation of operational controls:
>
> - Safety Basis
> - Flammable gas generation
> - Technical Safety Requirement Controls
> - Check before transfer
> - Evaporator Campaigns
> - Waste compatibility
> - Implement WAP Requirements
> - Controls out of Tank Waste Retrieval Work Plans (TWRWPs)
> - Characteristics of sending and receiving tank waste using the best basis inventory (BBI). (may sample if lacking information)
> - Material balance – calculate the composition of waste in receiving waste
> - Comparison of characteristics
> - Look at temperature controls
> - Set levels of controls that are monitored during this transfer (e.g., temperature/level/volume, etc.)

I requested a copy of a compatibility assessment along with the associated procedure, and Mr. Kirch suggested the compatibility assessment related to moving waste from AZ-102 to AW-102.

Mr. Lowe asked if sampling is performed before transfers. Mr. Kirch said samples are always taken before transfers. He stated that they can take a slurry sample and boil the liquids off to simulate evaporation.

I asked how leak tests are performed. Mr. Baide said that the American Society of Mechanical Engineers Fitness for Service (FFS) Program governs the standards for piping and assists in managing the piping system by performing pipeline testing every ten years, as well as, integrity pneumatic

pressure delay check of the core pipe and encasements. He added that procedure TO-140-170 governs this testing. Mr. Baide said the procedure requires 66 pounds per square inch (psi) pressure tests with a less than 5 percent drop over 30 minutes and tightening the fittings before leak tests.

Ms. Joyner stated that one test had recently failed due to core pipe integrity issues. Mr. Baide said the leak testing program works to identify where the problems are. Mr. Baide told me that there is no code requirement which dictates the frequency of testing; WRPS has set a frequency of testing every ten years. He added that Bechtel Engineering personnel performed an independent review and concurred a ten-year frequency was appropriate.

Mr. Baide said that RPP-PLAN-52788, Revision 0, *Fitness for Service Implementation Plan* and RPP-RPT-52206, Revision 1, *Tank Farms Waste Transfer System*, list the fitness for service requirements and recommendations. Mr. Baide further stated that a flow check (water leak check) is performed every time a jumper is installed. He said that new lines require more testing than the ones that are already in use. Mr. Baide stated that the FFS program also includes:

- Specific equipment testing – pressure test valves
- Testing on cycling valves
- A large program on forensics and corrosion
- Nondestructive examination (NDE) sensors to monitor wall thickness

I asked if the line leak tests are IQRPE-certified. Mr. Baide answered that the 10-year line testing is not IQRPE-certified, but that the system testing is IQRPE-certified. Mr. Lowe asked if that means that an IQRPE certification is done eventually to look at pressure testing, and Mr. Baide said yes. Mr. Baide explained that FFS is a fairly new program at the DST tank farms; and said that this year will be the first of a recurring annual report. I requested a copy of last line leak test performed.

I asked if there is a link between finding a problem and fixing problems. Ms. Joyner stated that the Manager's routing board connects the problem with the correction, and that the shift office is tasked with making the updates to the routing board. Mr. Baide said that if a line is found to have a problem, the problem is entered into the safety equipment compliance database (SECD), for maintenance and verification of components and equipment.

Mr. Mathey asked about non-compliant pipelines. Mr. Baide stated that the design of some of the pipelines is non-compliant with environmental regulations. He said these lines did not have a path for encasement to be monitored for leak detection, and this has led to deferred use line management. Mr. Miskho said the AY-102 emergency pumping guide describes the conditions and circumstances where those lines could be used. Ms. Joyner clarified that the guide provides for emergency use only.

Ms. Joyner stated that she wanted to discuss one item on the document request. She explained the following:

> We do not have an integrity test to provide for the 204-AR WUS Tank TK-1, as Tank TK-1 was not originally part of DST system. In 2001, we performed ultrasonic testing, and a DST integrity assessment per M-48-14. At that time, there was a recommendation to perform an integrity assessment of Tank TK-1 in 2011. In 2006, integrity issues with lines from the 204-AR WUS to DST were identified. We realized we could not use the system (no use for tankers; no value because it was not being used). Ecology accepted not having an integrity assessment performed on Tank TK-1 because there was no use for the system, and the system was isolated.

I asked if they would be using the 204-AR WUS in the future, and Ms. Joyner said no.

We adjourned the meeting at 2:20 p.m.

Document Review

Closure

The Hanford Federal Facility Agreement and Consent Order, Appendix D, *Work Schedule Milestones and Target Dates Including Designation of Lead Regulatory Agency*, M-042-00A, lists a milestone to "Complete the closure of all DST Tank Farms," with a due date, "TBD, Based Upon Completion of Retrieval Under M-062-45 Plus 5 Years But No Later Than 9/30/2052." I observed that the milestone does not list the 204-AR WUS.

During the inspection walk-down of the 204-AR WUS on June 30, 2015, Mr. Hammer had explained that the floor drain in this facility contained a seal loop for liquids to be drained to Tank TK-1. He had stated that the line to Tank TK-1 had been capped, and that the floor drain had been sealed. He did not tell us when these actions had taken place. Mr. Voogd had stated that the 204-AR WUS was not currently connected to the DST System, and said that WRPS planned to close the facility. During our inspection discussion on July 15, 2015, Ms. Joyner had told me that WRPS realized the system could no longer be used (no use for tankers; no value because it was not being used). I had asked if WRPS would be using the 204-AR WUS in the future, and Ms. Joyner said no. In addition, RPP-27869, *Building Emergency Plan for Tank Farms*, Revision 6, states:

> *The 204-AR facility is out of service and does not have a defined mission and there are no current plans to operate. If reactivated, the development of emergency procedures will be implemented as part of a readiness review for restart.*

I observed that USDOE-ORP and WRPS submitted a closure plan to Ecology for the DSTs and 204-AR WUS as part of the Hanford RCRA Permit Revision 9 submittals and Ecology had responded with a letter of completeness for the submittal. I observed that Section H-6, *Schedule for Closure,* did not include an individual schedule for closure of 204-AR WUS. Section H-6 states,

> *Closure of the DST System is not anticipated to occur within the next 15 to 30 years.*

I was told during the inspection interviews that the last receipt of waste to 204-AR WUS had taken place. I observed that more than one year has passed since the last receipt of waste. I observed that USDOE-ORP and WRPS have not submitted a demonstration to the Ecology Regional Administrator which shows that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and that they have taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all interim status requirements.

NOTE: The Hanford Federal Facility Agreement and Consent Order, Action Plan, Section 5.3 states:

> *All TSD units that undergo closure, irrespective of permit status, shall be closed pursuant to the authorized State Dangerous Waste Program in accordance with 173-303-610 WAC.*

Integrity Assessments

I reviewed RPP-25299, Revision 1, *Volume 4: IQRPE DST System Integrity Assessment – Cathodic Protection for DST Transfer Lines*; RPP-7574, Revision 3, *Double-Shell Tank Integrity Program Plan*; and RPP-28538, Revision 3C, *Double-Shell Tank Integrity Assessment Report HFFACO M-48-15.* I observed no problems with these documents.

During the inspection discussion, dated June 30, 2015, Mr. Voogd had said that around 2006 an integrity assessment of the 204-AR WUS Tank TK-1 had been performed. He had further explained that the integrity assessment did not include waste compatibility or line testing. As a result of these statements, I requested a copy of the Tank TK-1 integrity assessment. During the inspection discussion, dated July 15, 2015, Ms. Joyner explained that no integrity assessment was ever performed on Tank TK-1 for reasons as described above in this report.

Waste Analysis Plan

I reviewed RPP-29002, Revision 1, *Double Shell Tank Waste Analysis Plan*, and observed no problems with the document. In conjunction with the review of the Waste Analysis Plan, I reviewed RPP-RPT-58255, Revision 0, *Waste Compatibility Assessment of Tank 241-AZ-102 Waste with Tank 241-AW-102 Waste*. I observed no problems with this document.

Inspections

I reviewed RPP-16922, Revision 29, *Tank Farm Environmental* Requirements, TFC-OPS-OPER-C-17, Revision C-15, *Operating Logbooks – Red Circle / Red Arrow Process*, TFC-OPS-OPER-C-60, Revision A, *Surveillance Rounds*, and TFC-OPS-OPER-C-08, Revision C-2, *Shift Routines and Operating* Practices. RPP-16922 provided the schedule for daily, weekly, monthly, before use, and annually performing environmental inspections required by the DW regulations in Table 5-2, *General Environmental Inspections for Double-Shell Tank Farms*. In addition, RPP-16922, Table 5-3, *Double-Shell Tank and Auxiliary Systems Inspection and* Monitoring, provides a schedule for daily inspections and monitoring auxiliary systems.

WRPS provided RATLs to accompany the inspection records. I observed that RATLs are used to track problems identified during DW inspections and other types of inspections, and that each entry corresponds to an alpha-numeric log designation for a particular problem on the list. I observed that the remedial action list had a column which identified problems when problems are closed. The RATLs provided to me did not include a description of the problem resolution. I observed that the discovery for some problems remaining open dated back to 2010.

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

> *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.*

I reviewed inspection records and observed records that did not include the printed name of the inspector; records which did not include the date and time of the inspection; records which did not include a notation of the observations made; and records that did not include the date and nature of any repairs or remedial actions taken. Examples of observations of DST tank farm daily round records follow.

- AN Daily Rounds, March 23, 2015
  - Time of inspection not recorded on inspection record.
  - Printed name of inspector not recorded on inspection record.
  - Notation of the observations made not recorded on inspection record.
  - Date and nature of any repairs or remedial actions taken not recorded on inspection record.

- AZ Daily Rounds, March 16, 2015
  - Time of inspection not recorded on inspection record.
  - Printed name of inspector not recorded on inspection record.
  - Notation of the observations made not recorded on inspection record.
  - Date and nature of any repairs or remedial actions taken not recorded on inspection record.
- ST Daily Rounds, March 23, 2015
  - Time of inspection not recorded on inspection record.
  - Printed name of inspector not recorded on inspection record.
  - Notation of the observations made not recorded on inspection record.
  - Date and nature of any repairs or remedial actions taken not recorded on inspection record.

Dangerous Waste Training

I reviewed the DW training records provided by WRPS for an environmental manager, BED, environmental compliance field representative, operations manager, waste designator, waste acceptance, nuclear chemical operator, transportation, and system engineer (leak detection). I was unable to determine if all the requirements for DW training are met for Environmental Compliance Field Representative, as the training plan does not list DW training requirements for this job title/position.

I observed that training courses #020380 and #050410 were listed as required for offsite shippers, but were not recorded as completed on the training records I reviewed for transportation personnel. Training course #050411 appears to have replaced #050410, but #050411 does not appear to be listed as a requirement in the Dangerous Waste Training Plan (DWTP). Records for authorized shippers indicate that the course number for *Transportation Security Plan for Shippers/Warehouse – CBT* should be listed as course #351568. I observed that the DWTP has not been update to reflect the required training under the new course number.

NOTE: On January 8, 2016, Ecology received letter #15-ECD-0064, dated January 7, 2016, from Mark A. Lindholm and Kevin W. Smith to Jane A. Hedges, "Response to Single-Shell Tank Dangerous Waste Compliance Inspection on March 30 and 31, 2015, at the Hanford Site Resource Conservation and Recovery Act Site ID: WA7890008967, Nuclear Waste Program Compliance Index No. 15.518." The letter indicated that a revision to TFC-PLN-07, Revision B, *Dangerous Waste Training Plan*, had been made to replace course number 020380 Transportation Security Plan for Shippers/Warehouse with training course number 351568 WRPS Transportation Security Plan for Shippers.

Contingency Plan

I reviewed RPP-27869, *Building Emergency Plan for Tank Farms*, Revision 6. RPP-27869, Section 7.1 states:

> *The BED initiates the evacuation by directing an announcement be made to evacuate along with the evacuation location over the facility radios. Personnel proceed to a staging area, or other safe upwind location, as determined by the BED.*

WAC 173-303-350(3) states:

> *The contingency plan must contain the following: (f) An evacuation plan for facility personnel where there is possibility that evacuation could be necessary. This plan must describe the signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes.*

I observed that RPP-27869 does not include an evacuation route or an alternate evacuation route map or description.

NOTE: Ecology and USDOE are currently participating in workshops to jointly agree upon revisions to the Hanford Emergency Management Plan, DOE/RL-94-02. As part of this process, a template is being developed for the individual unit-specific building emergency plans; this template includes a description of evacuation routes and evacuation route maps.

Compliance Problems

The Dangerous Waste inspection on June 30, 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 at the following address within 60 days of receipt of this compliance report. Include all supporting documentation such as photographs, records, and statements explaining the actions taken and dates completed to return to compliance.

Attention: Nancy Ware
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 Nancy Ware 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:
Nancy Ware at (509) 372-7912

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.

40 CFR 265.112(d), as incorporated by WAC 173-303-400(3)(a). Notification of partial closure and final closure. (1) The owner or operator must submit the closure plan to the Regional Administrator at least 180 days prior to the date on which he expects to begin closure of the first surface impoundment, waste pile, land treatment, or landfill unit, or final closure if it involves such a unit, whichever is earlier. The owner or operator must submit the closure plan to the Regional Administrator at least 45 days prior to the date on which he expects to begin partial or final closure of a boiler or industrial furnace. The owner or operator must submit the closure plan to the Regional Administrator at least 45 days prior to the date on which he expects to begin final closure of a facility with only tanks, container storage, or incinerator units. Owners or operators with approved closure plans must notify the Regional Administrator in writing at least 60 days prior to the date on which he expects to begin closure of a surface impoundment, waste pile,

landfill, or land treatment unit, or final closure of a facility involving such a unit. Owners or operators with approved closure plans must notify the Regional Administrator in writing at least 45 days prior to the date on which he expects to begin partial or final closure of a boiler or industrial furnace. Owners or operators with approved closure plans must notify the Regional Administrator in writing at least 45 days prior to the date on which he expects to begin final closure of a facility with only tanks, container storage, or incinerator units. (2) The date when he "expects to begin closure" must be either: (i) Within 30 days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes, or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous waste. If the owner or operator of a hazardous waste management unit can demonstrate to the Regional Administrator that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all interim status requirements, the Regional Administrator may approve an extension to this one-year limit.

Observation: I was told during the inspection interviews that the last receipt of waste to the 204-AR WUS had taken place. I observed that more than one year has passed since the last receipt of waste. I observed that USDOE-ORP and WRPS have not submitted a demonstration to the Ecology Regional Administrator which shows that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and that they have taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all interim status requirements.

Action Required: Within 60 days of receipt of this inspection report, USDOE-ORP and WRPS must submit to Ecology either: 1) a closure schedule for the 204-AR WUS; or 2) a demonstration which shows that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and that they have taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all interim status requirements.

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(2)(d) as incorporated by WAC 173-303-400(3)(a). 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.

Observation: I observed inspection records that did not include the printed name of the inspector; records which did not include the date and time of the inspection; records which did not include a notation of the observations made; and records that did not include the date and nature of any repairs or remedial actions taken. Examples of observations of DST tank farm daily round records follow.

- AN Daily Rounds, March 23, 2015
  - Time of inspection not recorded on inspection record.
  - Printed name of inspector not recorded on inspection record.
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- ST Daily Rounds, March 23, 2015
  - Time of inspection not recorded on inspection record.
  - Printed name of inspector not recorded on inspection record.
  - Notation of the observations made not recorded on inspection record.
  - Date and nature of any repairs or remedial actions taken not recorded on inspection record.

Action Required: Immediately upon receipt of this inspection report, USDOE-ORP and WRPS must include the printed name, the handwritten signature, a notation of the observations made, and the date and nature of any repairs or remedial actions taken on inspection records. USDOE-ORP and WRPS must submit to Ecology one week of daily round records within 30 days after completion of the one week of daily round inspections.

Concerns:

1. The Part A application mentions "small temporary storage tanks, but does not describe the tanks." No USDOE-ORP or WRPS personnel were able to identify what tanks were being referred to. The Part A application does not list any catch tanks as dangerous waste management units. However, in documents provided to Ecology during this inspection, Catch Tank 241-AZ-151, Catch Tank 241-AZ-301, and Catch Tank 241-EW-151 are described. It is a concern that all tanks and DWMUs storing MW should be identified in the Part A application.
2. No integrity assessment of the Tank TK-1 in the 204-AR WUS has ever been performed, and there is remaining MW in the tank. If USDOE-ORP and WRPS provide a demonstration to Ecology and request a delay of closure for this unit, it is a concern that the liquid waste would be allowed to remain in the tank indefinitely without an integrity assessment of Tank TK-1.

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