



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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February 11, 2021

21-NWP-023

Brian T. Vance, Manager
Office of River Protection
United States Department of Energy
PO Box 450, MSIN: H6-60
Richland, Washington 99352

John R. Eschenberg, President
Washington River Protection Solutions, LLC
PO Box 850, MSIN: H3-04
Richland, Washington 99352

Re: Dangerous Waste Compliance Inspection on January 28, 2021, at Double Shell Tank Systems, 204-AR Waste Unloading Station, and Central Accumulation Areas, RCRA Site ID: WA7890008967, Nuclear Waste Program (NWP) Compliance Index No.: 21.732

Dear Brian T. Vance and John R. Eschenberg:

Thank you for your staff's time during the Double Shell Tank Systems, 204-AR Waste Unloading Station, and Central Accumulation Areas inspection on January 28, 2021. The Department of Ecology's (Ecology) compliance report of this inspection is enclosed. The report cites one area of non-compliance and one concern.

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 70A.300). Persons who fail to comply with any provision of this chapter are subject to penalties of up to \$10,000 per day per violation.

Specific deficiencies or violations not listed in the enclosed compliance report do not relieve your facility from having to comply with all applicable regulations.

If you have questions or need further information, please contact me at (509) 316-6323 or phillip.buser@ecy.wa.gov.

Sincerely,

Buser, Phillip
(ECY)

Digitally signed by Buser,
Phillip (ECY)
Date: 2021.02.11 10:08:10
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Phillip Buser
Dangerous Waste Compliance Inspector
Nuclear Waste Program

tla
Enclosure

Cc: See page 2

Brian T. Vance and John R. Eschenberg
February 11, 2021
Page 2 of 2

21-NWP-023
Double Shell Tank Systems, 204-AR WUS, and CAAs
RCRA Site ID: WA7890008967
NWP Compliance Index No.: 21.732
Inspection Date: January 28, 2021

cc electronic w/enc:

Dave Bartus, EPA
Dave Einan, EPA
Cheryl Williams, EPA
Becky Blackwell, USDOE-ORP
Mary Beth Burandt, USDOE-ORP
Lori Huffman, USDOE-ORP
Christopher Kemp, USDOE-ORP
Joe Sondag, USDOE-ORP
Bryan Trimberger, USDOE-ORP
Duane Carter, USDOE-RL
Tony McKarns, USDOE-RL
Allison Wright, USDOE-RL
Jon Perry, HMIS
Steve Szendre, HMIS
Holly Bowers, WRPS
James Hamilton, WRPS
Jay Warwick, WRPS
Kelly Wood, AAG
Shawna Berven, WDOH
John Martell, WDOH
ERWM Staff, YN
Susan Leckband, HAB
Jeff Burright, ODOE
Max Woods, ODOE
David Bowen, Ecology
Randy Bradbury, Ecology
Phillip Buser, Ecology

Kathy Conaway, Ecology
Steve Lowe, Ecology
Jeff Lyon, Ecology
Jared Mathey, Ecology
Nina Menard, Ecology
Ryan Miller, Ecology
John Price, Ecology
Jonathan Rogers, Ecology, NWP
Compliance Index File: 21.732
Stephanie Schleif, Ecology
Dan Thompson, Ecology
Mign Walmsley, Ecology
NWP RIM Coordinators, Ecology
EPA Region 10 Hanford Field Office
Correspondence Control
Environmental Portal
Hanford Facility Operating Record
TPA Administrative Record
HMIS Correspondence Control
USDOE-ORP Correspondence Control
USDOE-RL Correspondence Control
WRPS Correspondence Control

cc w/o enc:

Mason Murphy, CTUIR
Jack Bell, NPT
Laurene Contreras, YN

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

Site: Double Shell Tank System, 204-AR Waste Unloading Station and Central Accumulation Areas
RCRA Site ID: WA7890008967
Inspection Date: January 28, 2021
Site Contacts: Holly Bowers, Washington River Protection Solutions, LLC (WRPS)
Jay Warwick, WRPS
Chris Kemp, United States Department of Energy Office of River Protection (USDOE-ORP)
Site Location: Hanford Site, 200 East and 200 West Areas
At This Site Since: 1943 **NAICS#:** 562211, 562910, 541715, and 924110
Current Site Status: Large Quantity Generator

Ecology

Lead Contact: Phillip Buser **Phone:** (509) 316-6323

Other Representatives: Jared Mathey (Support Inspector)

Report Date: February 11, 2021

Index #: 21.732

Report By:

Buser,
Phillip (ECY)

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Buser, Phillip (ECY)
Date: 2021.02.11
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(Signed)

(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* (RCRA), as amended, 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 580 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 30 unit groups at the Hanford Site. Individual DWMUs make up a 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 and Operator Information

United States Department of Energy (USDOE) is the owner and operator of the Double-Shell Tank (DST) System and 204-AR Waste Unloading Station (WUS). WRPS has a contract with USDOE to co-operate these units.

Facility Background

In 2020, the USDOE Hanford Site reported as a Large Quantity Generator of hazardous waste on their Dangerous Waste Annual Report.

The USDOE is the owner and operator of the DST System & 204-AR WUS. WRPS is contracted by the USDOE-ORP to co-operate the DST System & 204-AR WUS DWMUs, performing dangerous waste (DW) and mixed waste (MW) management (generation, accumulation, treatment, and storage activities).

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

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).

There are 28 DSTs located in the 200 East and West Areas of the Hanford Site, which store MW.

DST Name	Capacity	Began Operation	Aging or Non-Aging
200 Area West			
241-SY-101	4,542,480	4/77	Non-Aging Waste
241-SY-102	4,542,480	4/77	Non-Aging Waste
241-SY-103	4,542,480	4/77	Non-Aging Waste
200 Area East			
241-AN-101	4,542,480	9/81	Non-Aging Waste
241-AN-102	4,542,480	9/81	Non-Aging Waste
241-AN-103	4,542,480	9/81	Non-Aging Waste
241-AN-104	4,542,480	9/81	Non-Aging Waste
241-AN-105	4,542,480	9/81	Non-Aging Waste
241-AN-106	4,542,480	9/81	Non-Aging Waste
241-AN-107	4,542,480	9/81	Non-Aging Waste
241-AP-101	4,795,460	10/86	Non-Aging Waste
241-AP-102	4,795,460	10/86	Non-Aging Waste

DST Name	Capacity	Began Operation	Aging or Non-Aging
241-AP-103	4,795,460	10/86	Non-Aging Waste
241-AP-104	4,795,460	10/86	Non-Aging Waste
241-AP-105	4,795,460	10/86	Non-Aging Waste
241-AP-106	4,795,460	10/86	Non-Aging Waste
241-AP-107	4,795,460	10/86	Non-Aging Waste
241-AP-108	4,795,460	10/86	Non-Aging Waste
241-AW-101	4,542,480	8/80	Non-Aging Waste
241-AW-102	4,542,480	8/80	Non-Aging Waste
241-AW-103	4,542,480	8/80	Non-Aging Waste
241-AW-104	4,542,480	8/80	Non-Aging Waste
241-AW-105	4,542,480	8/80	Non-Aging Waste
241-AW-106	4,542,480	8/80	Non-Aging Waste
241-AY-101	3,900,000	4/71	Aging Waste
241-AY-102	3,900,000	4/71	Aging Waste
241-AZ-101	3,900,000	11/76	Aging Waste
241-AZ-102	3,900,000	11/76	Aging Waste

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 information listed in the DST Part A Application, the DST System also contains the following types of equipment:

- Pipelines that run between tanks within a tank farm and between tank farms.
- The Cross-Site Transfer System, which connects the SY Tank Farm (200 West Area) and the AP Tank Farm (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, rigid or flexible sections of piping to connect transfer lines or to connect nozzles inside diversion boxes and pits).
- 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 DST 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, airlift circulators or pumps mix the waste in the tanks. The DSTs 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 equipment.

The DST MW consists of three main forms: liquid, sludge, and salt cake. The liquid waste on the top of the sludge is called supernatant. When it fills the void spaces in the tank's solids, the waste is called interstitial liquid. Sludge is solids that cannot be dissolved and are usually at the bottom of the tank. Salt cake consists of solid salts, which can be dissolved and are usually near the top of the tank.

DST MW consists of:

- Characteristic DW (D001, D002, and D003).
- Toxicity Characteristic DW (D004–D011, D018, D019, D022, D028–D030, D033–D036, D038–D041, and D043).
- Nonspecific source waste (F001–F005).
- State-only waste (WT01, WT02, WP01, and WP02).

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

Compliance Background

On July 30, 2019, Washington Department of Ecology (Ecology) conducted a dangerous waste compliance inspection of the DST System and 204-AR-WUS (Compliance Index #19.676). The inspection found no areas of non-compliance.

On April 20, 2020, Ecology conducted a dangerous waste compliance inspection of the System and 204-AR WUS (Compliance Index #20.699). The inspection found three areas of non-compliance:

- The facility did not document inspections of preparedness and prevention equipment.
- The facility did not properly train employees.
- The facility did not conduct inspections of alarm panels.

Inspection Summary

On January 28, 2020 at 11a.m. Jared Mathey and I arrived at the parking lot south of the 274-AW Building for a pre-inspection conference. We were met by the following Hanford personnel:

- Becky Blackwell, USDOE-ORP.
- Holly Bowers, WRPS.

- Kate Draper, WRPS.
- James Hamilton, WRPS.
- Jacob Johnson, WRPS.
- Chris Kemp, USDOE-ORP.
- Jay Warwick, WRPS.

I began the in-brief by outlining the scope of the inspection, which consisted of all six double shell tank farms and central accumulation areas (CAA). I stated that questions and document reviews would be handled through a document request form to be sent later. I explained that Ecology's inspection COVID-19 protocols limit us to a five-person inspection team. I asked who was staying for the inspection. Ms. Blackwell, Ms., Draper, and Mr. Warwick were identified as the ones staying.

I asked for the current waste inventory. Mr. Warwick provided a printout from that morning. Mr. Mathey and I reviewed the inventory. I observed the inventory listed the location of containers, the container identification number, the accumulation start date, the size of the container and the hazardous waste codes. Mr. Mathey asked why some containers at the 242-A CAA did not have an accumulation date listed. Mr. Johnson stated that those containers were empty. Mr. Mathey asked if those containers were to be used for the new transfer lines from DSTs to the 242-A Evaporator. Mr. Kemp stated they would be used for prep work prior to any planned construction activity.

I asked Mr. Warwick if he wanted to discuss our route for inspecting the tank farms and CAAs, and discuss safety for the day. Ms. Bowers said we should determine our route first as that would determine safety issues. Ms. Bowers asked what additional CAAs we wanted to visit. I said any CAAs that are outside. Mr. Mathey asked if the 242-A CAA was located outside. She said the CAA for the 242-A Evaporator is outside, but that we would need to go through radiologic access requirements to be able to walk through the 242-A Evaporator Building to get to the CAA in the back. Ms. Bowers explained we could observe the CAA through the fence out back if we liked. I said we would like to observe it from the outside through the facility fence. We referred to the waste inventory and observed the following:

Waste Inventory Information

Tank Farm Facility	Container ID Number	Accumulation Start Date
241AN	WTS-20-337-05	January 5, 2021
241AN	WTS-20-337-01	January 12, 2021
241AN	WTS-20-337-03	January 19, 2021
241AP	CON-20-321-04	December 14, 2020
241AP	WTS-20-329-16	December 3, 2020
241AP	CON-20-301-07	November 25, 2020
241AP	CON-20-321-06	December 10, 2020

Waste Inventory Information

Tank Farm Facility	Container ID Number	Accumulation Start Date
241AP	WTS-20-309-05	January 20, 2021
241AW	TFE-20-342-02	January 14, 2021
241AW	CON-21-020-06	January 25, 2021
241AW	CON-20-315-19	November 18, 2020
242A	CON-20-356-02	January 12, 2021
242A	CON-20-356-01	January 12, 2021

Mr. Kemp asked if we were going to take photographs during the inspection, and I said yes. Mr. Kemp then said that USDOE is not restricting Ecology from taking photographs, but need to follow their security clearing procedures as required in Tri-Party Agreement (TPA) Article 115, sentence 4.

Note: TPA Article XXXVII, Access, paragraph 115 states:

Without limitation on any authority conferred on either agency by law, EPA, Ecology and/or their Authorized Representatives, shall have authority to enter the Hanford Site at all reasonable time for the purposes of, among other things: (1) inspecting records, operating logs, contracts and other documents relevant to implementation of this Agreement, subject to Article XLV (Classified and Confidential Information); (2) reviewing the progress of DOE or its response action contractors in implementing this Agreement; (3) conducting such tests as the Ecology and the EPA project managers deem necessary; and (4) verifying the data submitted to EPA and Ecology by DOE. DOE shall honor all requests for access by EPA and Ecology, conditioned only upon presentation of proper credentials, conformance with Hanford Site safety and security requirement, and shall be conducted in a manner minimizing interference with any operations at Hanford. Any denial of consent to access must be justified in writing within fourteen (14) days of such denial, and arrangements shall be made for access to the facility or area in question as soon as practicable. DOE reserves the right to require EPA and Ecology personnel or representatives to be accompanied by an escort while on the Hanford Site. Escorts shall be provided in a timely manner.

I asked what is the process if we take photographs. Mr. Kemp said after the inspection, we can turn our camera's Secure Digital (SD) card over to Mr. Warwick, or take the SD card to a Hanford Security office. After the photographs have been cleared (could take a few days), then the SD card will be returned with the photographs. Mr. Kemp said this is not denial of access. Also, Mr. Kemp said Ecology is authorized to take photographs, but the photographs need to be cleared according to their process. He explained that photographs need to be reviewed before leaving the site. Mr. Mathey stated we are okay with a security review of photographs before

leaving the site, but Ecology needs to maintain possession of our camera's SD card. Mr. Kemp said no, that would not be allowed.

Mr. Mathey read Revised Code of Washington (RCW) 70A.300.220 stating:

Department's powers as designated agency under federal act. (2) The power granted to the department by this section is the authority to: (d) Enter at reasonable times establishments regulated under this section for the purposes of inspection, monitoring, and sampling;

Mr. Mathey also read a portion of TPA Action Plan, Section 4.1, stating:

Subject to the limitations set forth in Article XXXVII (Access) of the Agreement and, in addition to other authorities and responsibilities, the Ecology and EPA project managers, or their designated representative(s), shall have the authority to: (3) observe all activities performed pursuant to this Agreement, take photographs, and make sure other reports are prepared on the progress of the work as the project manager deems appropriate;

Ms. Bowers said USDOE/WRPS could take photographs with their camera and send the photos to Ecology when they are cleared, or Ecology can use the USDOE/WRPS camera to take photographs and then get the photographs after clearing. Mr. Mathey said we consider this a denial of access.

We departed the facility at 11:45 am.

Compliance Problems

The Dangerous Waste inspection on January 28, 2021, 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 the times specified below. Include all supporting documentation such as photographs, records, and statements explaining the actions taken and dates completed to return to compliance.

Attention: Phillip Buser
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 Phillip Buser 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:
Phillip Buser at (509) 316-6323**

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

- 1) **Revised Code of Washington (RCW) 70A.300.220 (1) The department is designated as the state agency for implementing the federal Resource Conservation and Recovery Act (42 U.S.C. Sec. 6901 et seq.).**
 - (2) **The power granted to the department by this section is the authority to:**
 - (d) **Enter at reasonable times establishments regulated under this section for the purposes of inspection, monitoring, and sampling;**

Washington Administrative Code 173-303-700 Requirements of the Washington state extremely hazardous waste management facility at Hanford (4) Department surveillance (b) The state operator must admit the department's duly authorized representative to inspect the site at any reasonable hour of day. Inspection may cover any of the following: (iv) Any records, reports, information, or test results relating to the purpose of this regulation.

Hanford Federal Facility Agreement and Consent Order (HFFACO) Article XXXVII, Access, paragraph 115 states:

“Without limitation on any authority conferred on either agency by law, EPA, Ecology and/or their Authorized Representatives, shall have authority to enter the Hanford Site at all reasonable time for the purposes of, among other things: (1) inspecting records, operating logs, contracts and other documents relevant to implementation of this Agreement, subject to Article XLV (Classified and Confidential Information); (2) reviewing the progress of DOE or its response action contractors in implementing this Agreement; (3) conducting such tests as the Ecology and the EPA project managers deem necessary; and (4) verifying the data submitted to EPA and Ecology by DOE. DOE shall honor all requests for access by EPA and Ecology, conditioned only upon presentation of proper credentials, conformance with Hanford Site safety and security requirement, and shall be conducted in a manner minimizing interference with any operations at Hanford. Any denial of consent to access must be justified in writing within fourteen (14) days of such denial, and arrangements shall be made for access to the facility or area in question as soon as practicable. DOE reserves the right to require EPA and Ecology personnel or representatives to be accompanied by an escort while on the Hanford Site. Escorts shall be provided in a timely manner.”

HFFACO Action Plan, Section 4.1 Subject to the limitations set forth in Article XXXVII (Access) of the Agreement and, in addition to other authorities and responsibilities, the Ecology and EPA project managers, or their designated representative(s), shall have the authority to: (3) observe all activities performed pursuant to this Agreement, take photographs, and make sure other reports are prepared on the progress of the work as the project manager deems appropriate[.]

Observations: During the inspection, Mr. Kemp asked if we were going to take photographs and we said yes. Mr. Kemp then said that USDOE is not restricting Ecology from taking photographs, but we would need to follow their security clearing procedures as required in TPA Article 115, sentence 4.

I asked what is the process if we take photographs. Mr. Kemp said after the inspection, we can turn our camera's SD card over to Mr. Warwick, or take the SD card to a Hanford Security office. After the photographs have been cleared (could take a few days), then the SD card will be returned with the photographs. Mr. Kemp said this is not denial of access. Also, Mr. Kemp said Ecology is authorized to take photographs, but the photographs need to be cleared according to their process. He explained that photographs need to be reviewed before leaving the site.

Mr. Mathey stated we are okay with a security review of photographs before leaving the site, but Ecology needs to maintain possession of our camera's SD card. Mr. Kemp said no, that would not be allowed.

Mr. Mathey read RCW 70A.300.220 stating:

Department's powers as designated agency under federal act. (2) The power granted to the department by this section is the authority to: (d) Enter at reasonable times establishments regulated under this section for the purposes of inspection, monitoring, and sampling;

Mr. Mathey also read TPA Action Plan, Section 4.1, stating:

Subject to the limitations set forth in Article XXXVII (Access) of the Agreement and, in addition to other authorities and responsibilities, the Ecology and EPA project managers, or their designated representative(s), shall have the authority to: (3) observe all activities performed pursuant to this Agreement, take photographs, and make sure other reports are prepared on the progress of the work as the project manager deems appropriate;

Ms. Bowers said USDOE/WRPS could take photographs with their camera and send the photos to Ecology when they are cleared, or Ecology can use the USDOE/WRPS camera to take photographs and then get the photographs after clearing. Mr. Mathey said we consider this a denial of access.

Action Required: Recent discussions between our agencies have been productive in developing a process where Ecology maintains physical custody and control of our inspection photos while following USDOE security requirements. Within 60-days of receipt of this compliance report, USDOE, with Ecology cooperation and agreement, must finalize a process to allow Ecology to maintain physical custody and control of photos taken during inspections of the Hanford Site.

Concerns

- 1) On January 21, 2021, Ecology sent out a Notice of Inspection for the Double Shell Tank Systems (Index #21.732) to USDOE and WRPS representatives. In that notice, it specifically stated “We are limited to a 5-person inspection team, including Ecology inspectors, so this allows for up to 3 DOE/Contractors (in total) to accompany us on the inspection. This limit does not include Hanford staff that are working at the Treatment, Storage, and Disposal facility, so as long as they do not accompany the inspection team.” Upon arrival for the Ecology scheduled DWMU inspection on January 28, 2021, the two Ecology inspectors were met by five WRPS contractor employees and two USDOE employees – more than the allotted 5-person personnel per inspection protocols. For future inspections, please have the appropriate personnel in attendance, as stipulated in the inspection announcement.

To request ADA accommodation including materials in a format for the visually impaired, call Ecology at (509) 372-7950 or visit <https://ecology.wa.gov/accessibility>. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at (877) 833-6341.

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