



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950
711 for Washington Relay Service • Persons with a speech disability can call (877) 833-6341

January 15, 2021

21-NWP-010

Brian T. Vance, Manager
Richland Operations Office
United States Department of Energy
PO Box 550, MSIN: H5-30
Richland, Washington 99352

Ty Blackford, President and CEO
CH2M HILL Plateau Remediation Company
PO Box 1600, MSIN: A7-01
Richland, Washington 99352

Re: Non-Financial Records Review on August 26, 2020, for 241-CX Tank System, RCRA Site
ID: WA7890008967, Nuclear Waste Program (NWP) Compliance Index No.: 20.714

Dear Brian T. Vance and Ty Blackford:

The Department of Ecology's compliance report of this review is enclosed. The report cites four concerns and one area of non-compliance.

As of September 23, 2020, this area of non-compliance has been addressed.

Specific deficiencies not listed in the enclosed compliance report as violations 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) 212-1516 or adam.shaffer@ecy.wa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Adam Shaffer".

Digitally signed by Shaffer,
Adam (ECY)
Date: 2021.01.15 09:28:43
-08'00'

Adam Shaffer
Dangerous Waste Compliance Inspector
Nuclear Waste Program

as/tla
Enclosure

cc: See page 2

Brian T. Vance and Ty Blackford
January 15, 2021
Page 2 of 2

21-NWP-010
241-CX Tank System
RCRA Site ID: WA7890008967
NWP Compliance Index No.: 20.714
Inspection Date: August 26, 2020

cc electronic w/enc:

Dave Bartus, EPA
Dave Einan, EPA
Cheryl Williams, EPA
Ben Harp, USDOE-ORP
Duane Carter, USDOE-RL
Al Farabee, USDOE-RL
Tony McKarns, USDOE-RL
Allison Wright, USDOE-RL
Jennifer Copeland, CHPRC
Linda Petersen, CHPRC
Jon Perry, MSA
Steve Szendre, MSA
ERWM Staff, YN
Susan Leckband, HAB
Jeff Burrigh, ODOE
Max Woods, ODOE
Shawna Berven, WDOH
John Martell, WDOH
Deb Alexander, Ecology
David Bowen, Ecology
Kathy Conaway, Ecology
Tabitha Liebrecht, Ecology
Jared Mathey, Ecology

Nina Menard, Ecology
John Price, Ecology
Jonathan Rogers, Ecology, NWP
Compliance Index File: 20.714
Stephanie Schleif, Ecology
Adam Shaffer, Ecology
Kim Welsch, Ecology
NWP RIM Coordinators, Ecology
Environmental Portal
TPA Administrative Record
Hanford Facility Operating Record
CHPRC Correspondence Control
MSA Correspondence Control
USDOE-ORP Correspondence
Control
USDOE-RL Correspondence Control
EPA Region 10 Hanford Field Office
Correspondence Control

cc w/o enc:

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

Facility Background

In 2019, the USDOE Hanford Site reported as a Large Quantity Generator of hazardous waste on their Dangerous Waste Annual Report.

The 241-CX Tank System is located in the 200 East Area of the Hanford Site in the demolished Strontium Semi-works Complex (SSC) and is sometimes referred to as the Hot Semi-works, Strontium Semi-works, 201-C Area, or C-Plant. The 241-CX Tank System consists of three below-grade tanks. They are 241-CX-70, 241-CX-71, and 241-CX-72. It also includes ancillary equipment (waste feed piping). These tanks were in operation from 1952 to 1958. They supported the Reduction-Oxidation Plant (REDOX) and Plutonium Uranium Extraction Plant (PUREX) process pilot studies at the SSC, which began in 1952 and ended in 1956. The three tanks received liquid waste from the 201-C Process Building and Hot Shop of the SSC via underground piping.

Tank 241-CX-70 operated for approximately one year during 1952 and 1953. Tank 241-CX-71 operated from 1952 to 1957. Tank 241-CX-72 operated for approximately one year during 1957 and 1958. Waste streams received by the 241-CX Tank System were generated in the 201-C Process Building and/or the adjacent Hot Shop. All of the 241-CX tanks received waste from the 201-C Process Building, but only tank 241-CX-70 received liquid waste from Hot Shop sink drains. The Hot Shop supported 201-C Process Building operations and generated unspecified waste streams. The waste streams contained chemical constituents and Atomic Energy Act (AEA) regulated material at unknown concentrations. The REDOX process study waste streams included large volumes of aluminum nitrate, zirconium oxide, sodium fluoride, sodium nitrate, and potassium fluoride that were slightly acidic and contained fission products. The PUREX chemical separation process waste streams were mixed waste that included aluminum and zircaloy coating removal waste, condensates, and spent organic solvent waste that contained fission products and sodium nitrate, sodium carbonate, manganese oxide, and were acidic before being neutralized.

The PUREX and REDOX pilot study was completed in 1956 and the SSC was placed in standby operation mode on July 1, 1957. Even though the SSC was reopened from 1961 through 1967, the 241-CX Tank System did not receive or generate any additional waste. The SSC was permanently removed from service in 1967 and placed on safe standby mode. The 241-CX tanks and waste transfer piping currently remain in place, however they have been physically isolated by cutting and sealing off the end of the pipes in 1985. A Department of Ecology "Silver Letter" resolution was issued in 1996 stating that the tanks are deemed unfit-for-use. For Tank 241-CX-72, Ecology identified specific actions until the 200-SO-1 Work Plan deemed otherwise.

Tank 241-CX-70 is a round concrete vessel, 20 feet in diameter and 15 feet tall, constructed with 12-inch-thick concrete walls and top, and a bottom 2 feet thick at the edges. It is lined with stainless steel. Its design capacity is 30,000 gallons. Waste was removed between 1987 and 1991; currently the tank contains only waste residues. An inventory of approximately 750 gallons of radioactive waste regulated as dangerous waste under Washington Administrative Code (WAC) 173-303 and assigned the dangerous waste codes D002 and D007. This volume remained in Tank 241-CX-70 until December 20, 1991, at which time the waste was placed in containers and transferred to the 224-T Transuranic Waste Storage and Assay Facility. As part of waste removal, access to the manway and risers was required and resulted in excavating to the

top soil layer above the tank in 1991. Plywood used to shore the excavation has since collapsed and obscured the view of the tank. Subsidence and shoring collapse has continued to be an issue. Management of the 241-CX-70 underground tank is done according to the interim status standards. It is defined as a dangerous waste tank system until final closure.

Tank 241-CX-71 is a round vessel constructed of stainless steel. This tank is approximately 5 feet in diameter, approximately 7 feet high, and was constructed on a reinforced concrete foundation pad. Tank 241-CX-71 is an underground tank used to neutralize 201-C Process Building condensate, coil, and condenser cooling water prior to disposal. Tank capacity is approximately 3,800 gallons. This waste was first disposed to the 216-C-1 Crib, then to the 216-C-5 Crib. Along with 201-C Process Building waste, tank 241-CX-71 also received Hot Shop sink drain waste. 241-CX-71 tank currently has a bottom of sludge containing chemical compounds, *Atomic Energy Act of 1954* (AEA)-regulated materials, and limestone used as a neutralizing agent. In 1986 during semi-works decommissioning, the tank was filled with low-density grout to stabilize the tank. The volume of waste and limestone beneath the grout is approximately 900 gallons, which according to the Permit Part A Form, is considered state-only toxic dangerous waste, WT02. The 241-CX-71 underground tank is being managed according to the interim status standards. It is defined as a dangerous waste tank system until final closure.

Tank 241-CX-72 is a below-grade storage tank. The tank is a round vessel made of carbon steel. The tank measures 40 inches in diameter and approximately 35 feet long. The tank is enclosed in a 6-foot diameter caisson made of carbon steel placed on 12-inch-thick reinforced concrete base pad. The design capacity is 2,340 gallons. Tank 241-CX-72 stored 2,305 gallons of SSC waste generated from PUREX process pilot studies. This tank was used as an experimental tank to study the self-concentration of PUREX process waste by the application of heat. The waste in the tank was heated until nearly dry by cylindrical heaters located above each stiffening ring. In 1986, low-density grout was injected through the 8-inch risers over approximately 9 feet of sludge, filling the tank with grout to the top of the risers. A containment structure on a reinforced concrete pad was placed over Tank 241-CX-72.

On June 10, 2003 the Ecology granted permission for the 241-CX Tank System Unit to decrease facility inspections from monthly and quarterly intervals down to annual inspections. On December 26, 2017, this permission was rescinded based on:

- 1) Lack of tank integrity assessments;
- 2) Occurrence of subsidence;
- 3) Failure to notify Ecology when subsidence had occurred.

For the requirements of the Hanford Dangerous Waste Permit, Revision 9, the 241-CX Tank System submitted a Dangerous Waste Part A. Permit to Ecology on September 9, 2008. Ecology approved the 241-CX Tank System Closure Plan, DOE/RL-2008-51, Revision 1 on October 13, 2009. USDOE plans to clean-close the 241-CX Tank System under Tri-Party Agreement Milestone M-37-13. This milestone has a due date of September 9, 2022.

Compliance Background

On May 22, 2019, Ecology conducted a Compliance Evaluation Inspection, #19.663. This inspection found no areas of non-compliance. On March 10, 2020, Ecology conducted a Compliance Evaluation Inspection, #19.687. This inspection found one violation due to an incomplete training plan. PRC-STD-TQ-40236, *Central Plateau Risk Management Dangerous Waste Training Plan* was updated due to the findings of this inspection.

Inspection Summary

On August 26, 2020, I sent an email along with a document request to USDOE-RL, CHPRC, and Mission Support Alliance (MSA) personnel announcing a non-financial records review focused on the facility training records (NRR-TPR) of 241-CX Tank System. On September 23, 2020, CHPRC and USDOE provided Ecology with documentation fulfilling the request. This documentation included REG-1159, Revision 0, *Non-financial Records Review— 241-CX*, August 2020. This document stated:

Inspections were conducted quarterly until 10/31/19 at which time the frequency was changed to annually.

The 3rd quarter 2018 inspection was performed 9/18/18 per SM-18-01538.

The following personnel were involved:

- William Doremus – FWS
- Mike Reid – NCO
- Ben Hovley – NCO

The 4th quarter 2018 inspection was performed 12/11/18 per SM-18-07118.

The following personnel were involved:

- William Doremus – FWS
- Debby Older – NCO

The 1st quarter 2019 inspection was performed 3/22/19 per SM-19-00178.

The following personnel were involved:

- Roy Plunkett – FWS
- Debby Older – NCO
- Scott Snook – NCO

The 2nd quarter 2019 inspection was performed 6/11/19 per SM-19-02618.

The following personnel were involved:

- Brian Cordray – FWS
- Debby Older – NCO

The 3rd quarter 2019 inspection was performed 9/9/19 per SM-19-04922.

The following personnel were involved:

- Justin Roberts – FWS
- Lee (Noah) Wilkerson – NCO

Issues identified during the 9/9/19 inspection were corrected 9/17/19 per SM-18-08699. The following personnel were involved:

- Chad Robertson – FWS
- Chico (Isidoro) Mata – D&D
- Aaron Thompson – D&D
- Justin Clancy – D&D

There is no 4th quarter 2019 inspection as the inspection frequency was changed to annual as of 10/31/19. Due to COVID-19 the 2020 inspection has been delayed and is anticipated to be completed by 10/31/20.

Training Records for Field Work Supervisors

I reviewed training records against the requirements (see table below) in the *Central Plateau Risk Management Dangerous Waste Training Plan*, PRC-STD-TQ-40236, Revision 2, Change 2, effective December 11, 2019. This section covers training records for personnel that hold the title of Field Work Supervisor (FWS) during the period from September 1, 2018 until August 26, 2020 including these individuals: Brian Cordray, William Doremus, Roy Plunkett, Justin Roberts, and Chad Robertson.

The Requirements for Field Work Supervisor (FWS)

Course Number	Course Title	Frequency	Training Type
000001	Hanford General Employee Training (Computer Based Training)	Annual	Contingency Plan Training
290200	Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist (Computer Based Training)	Annual	Contingency Plan Training
02006G or 035100	Waste Management Awareness (Classroom) (02006G does not require refresher training)	Initial	Operations Training
035100	Container Management Initial (Classroom)	Initial	Operations Training
035110	Container Waste Management Refresher (Computer Based Training)	Annual	Operations Training

Cordray, Brian — Field Work Supervisor (FWS)

Course Number	Course Title	Frequency	Dates Taken
000001 & 000019	Hanford General Employee Training (Computer Based Training)	Annual	07/18/2016 06/26/2019
290200	Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist (Computer Based Training)	Annual	03/18/2020 (2019 missing)
02006G or 035100	Waste Management Awareness (Classroom) (02006G does not require refresher training)	Initial	06/13/2001
035100	Container Management Initial (Classroom)	Initial	N/A
035110	Container Waste Management Refresher (Computer Based Training)	Annual	N/A

In the training records provided, I observed Brian Cordray was missing course 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist* during calendar year 2019. This course is required on an annual basis for the FWS employment position.

Doremus, William — Field Work Supervisor (FWS)

Course Number	Course Title	Frequency	Dates Taken
000001 & 000019	Hanford General Employee Training (Computer Based Training)	Annual	04/15/2016 03/02/2020
290200	Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist (Computer Based Training)	Annual	02/20/2020 (2019 missing)
02006G or 035100	Waste Management Awareness (Classroom) (02006G does not require refresher training)	Initial	08/07/2001
035100	Container Management Initial (Classroom)	Initial	09/19/2007
035110	Container Waste Management Refresher (Computer Based Training)	Annual	09/29/2014

In the training records provided, I observed William Doremus was missing *Hanford General Employee Training* during 2019. In 2019 course 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist* was also missing. These courses are required on an annual basis for the FWS employment position.

Plunkett, Roy — Field Work Supervisor (FWS)

Course Number	Course Title	Frequency	Dates Taken
000001 & 000019	Hanford General Employee Training (Computer Based Training)	Annual	04/15/2016 09/20/2019
290200	Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist (Computer Based Training)	Annual	04/02/2020 (2019 missing)
02006G or 035100	Waste Management Awareness (Classroom) (02006G does not require refresher training)	Initial	02/28/1991
035100	Container Management Initial (Classroom)	Initial	09/18/1997
035110	Container Waste Management Refresher (Computer Based Training)	Annual	05/23/2011

In the training records provided, I observed Roy Plunkett was missing course 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist* during calendar year 2019. This course is required on an annual basis for the FWS employment position.

Roberts, Justin — Field Work Supervisor (FWS)

Course Number	Course Title	Frequency	Dates Taken
000001 & 000019	Hanford General Employee Training (Computer Based Training)	Annual	09/26/2016 07/26/2019
290200	Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist (Computer Based Training)	Annual	08/22/2019
02006G or 035100	Waste Management Awareness (Classroom) (02006G does not require refresher training)	Initial	10/27/2009
035100	Container Management Initial (Classroom)	Initial	N/A
035110	Container Waste Management Refresher (Computer Based Training)	Annual	N/A

Robertson, Chad — Field Work Supervisor (FWS)

Course Number	Course Title	Frequency	Dates Taken
000001 & 000019	Hanford General Employee Training (Computer Based Training)	Annual	09/21/2016 08/26/2019
290200	Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist (Computer Based Training)	Annual	03/30/2020 (2019 missing)
02006G or 035100	Waste Management Awareness (Classroom) (02006G does not require refresher training)	Initial	03/31/2008
035100	Container Management Initial (Classroom)	Initial	N/A
035110	Container Waste Management Refresher (Computer Based Training)	Annual	N/A

In the training records provided, I observed Chad Robertson was missing course 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist* during calendar year 2019. This course is required on an annual basis for the FWS employment position.

Training Records for Nuclear Control Officers

I reviewed training records against the requirements (see table below) in the *Central Plateau Risk Management Dangerous Waste Training Plan*, PRC-STD-TQ-40236, Revision 2, Change 2, effective December 11, 2019. This section covers training records for personnel that hold the title of Nuclear Control Officer (NCO) during the period from September 1, 2018 until August 26, 2020 including these individuals: Ben Hovley, Deborah Older, Mike Reid, Scott Snook, and Lee Wilkerson.

The Requirements for Nuclear Control Officer (NCO)

Course Number	Course Title	Frequency	Training Type
000001	Hanford General Employee Training (Computer Based Training)	Annual	Contingency Plan Training
290200	Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist (Computer Based Training)	Annual	Contingency Plan Training
035100	Container Management Initial (Classroom)	Initial	Operations Training
035110	Container Waste Management Refresher (Computer Based Training)	Annual	Operations Training
290004	Central Plateau Risk Management NCO Waste Handler Qualification	Every 2 Years	Operations Training

Hovley, Ben — Nuclear Control Officer (NCO)

Course Number	Course Title	Frequency	Dates Taken
000001 & 000019	Hanford General Employee Training (Computer Based Training)	Annual	06/27/2016 10/17/2019
290200	Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist (Computer Based Training)	Annual	10/17/2019 (2018 missing)
035100	Container Management Initial (Classroom)	Initial	03/21/1996
035110	Container Waste Management Refresher (Computer Based Training)	Annual	11/07/2018 09/24/2019
290004	Central Plateau Risk Management NCO Waste Handler Qualification	Every 2 Years	Missing from records

In the training records provided, I observed Ben Hovley was missing course 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist* during calendar year 2018. This course is required on an annual basis for the NCO employment position. I also observed course 290004 *Central Plateau Risk Management NCO Waste Handler Qualification*, was missing from Ben Hovley’s training record. This course is required for the NCO employment position every two years.

Older, Deborah — Nuclear Control Officer (NCO)

Course Number	Course Title	Frequency	Dates Taken
000001 & 000019	Hanford General Employee Training (Computer Based Training)	Annual	05/24/2016 03/10/2020
290200	Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist (Computer Based Training)	Annual	03/10/2020 (2019 missing)
035100	Container Management Initial (Classroom)	Initial	08/21/2017
035110	Container Waste Management Refresher (Computer Based Training)	Annual	5/30/2019
290004	Central Plateau Risk Management NCO Waste Handler Qualification	Every 2 Years	12/04/2018

In the training records provided, I observed Deborah Older was missing *Hanford General Employee Training* during 2019. In 2019 course 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist* was also missing. These courses are required on an annual basis for the NCO employment position.

Reid, Mike — Nuclear Control Officer (NCO)

Course Number	Course Title	Frequency	Dates Taken
000001 & 000019	Hanford General Employee Training (Computer Based Training)	Annual	09/19/2016 8/29/2019
290200	Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist (Computer Based Training)	Annual	03/03/2020 (2019 missing)
035100	Container Management Initial (Classroom)	Initial	08/13/1998
035110	Container Waste Management Refresher (Computer Based Training)	Annual	12/05/2019 (2018 missing)
290004	Central Plateau Risk Management NCO Waste Handler Qualification	Every 2 Years	11/28/2018

In the training records provided, I observed Mike Reid was missing course 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist* during calendar year 2019, and course 035110 *Container Waste Management Refresher* during calendar year 2018. These courses are required on an annual basis for the NCO employment position.

Snook, Scott — Nuclear Control Officer (NCO)

Course Number	Course Title	Frequency	Dates Taken
000001 & 000019	Hanford General Employee Training (Computer Based Training)	Annual	08/03/2016 06/13/2019
290200	Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist (Computer Based Training)	Annual	10/23/2019 (2018 missing)
035100	Container Management Initial (Classroom)	Initial	01/30/2017
035110	Container Waste Management Refresher (Computer Based Training)	Annual	03/13/2019 02/24/2020
290004	Central Plateau Risk Management NCO Waste Handler Qualification	Every 2 Years	03/11/2019

In the training records provided, I observed Scott Snook was missing course 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist* during calendar year 2018. This course is required on an annual basis for the NCO employment position.

Wilkerson, Lee — Nuclear Control Officer (NCO)

Course Number	Course Title	Frequency	Dates Taken
000001 & 000019	Hanford General Employee Training (Computer Based Training)	Annual	09/19/2016 08/01/2019
290200	Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist (Computer Based Training)	Annual	03/18/2020 (2019 missing)
035100	Container Management Initial (Classroom)	Initial	06/01/1995
035110	Container Waste Management Refresher (Computer Based Training)	Annual	03/18/2020 (2019 missing)
290004	Central Plateau Risk Management NCO Waste Handler Qualification	Every 2 Years	11/12/2019

In the training records provided, I observed Lee Wilkerson was missing courses 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist*, and 035110 *Container Waste Management Refresher* during calendar year 2019. These courses are required on an annual basis for the NCO employment position.

Training Records for Deactivation and Decommissioning Workers

I reviewed training records against the requirements (see table below) in the *Central Plateau Risk Management Dangerous Waste Training Plan*, PRC-STD-TQ-40236, Revision 2, Change 2, effective December 11, 2019. This section covers training records for personnel that hold the title of Deactivation and Decommissioning Worker (D&D) during the period from September 1, 2018 until August 26, 2020 including these individuals: Justin Clancy, Chico Mata, and Aaron Thompson.

The Requirements for Deactivation and Decommissioning Workers (D&D)

Course Number	Course Title	Frequency	Training Type
000001	Hanford General Employee Training (Computer Based Training)	Annual	Contingency Plan Training
290200	Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist (Computer Based Training)	Annual	Contingency Plan Training
035100	Container Management Initial (Classroom)	Initial	Operations Training
035110	Container Waste Management Refresher (Computer Based Training)	Annual	Operations Training

Clancy, Justin — Deactivation and Decommissioning Worker (D&D)

Course Number	Course Title	Frequency	Dates Taken
000001 & 000019	Hanford General Employee Training (Computer Based Training)	Annual	05/01/2017 01/07/2020
290200	Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist (Computer Based Training)	Annual	03/19/2020 (2019 missing)
035100	Container Management Initial (Classroom)	Initial	Missing from records
035110	Container Waste Management Refresher (Computer Based Training)	Annual	Missing from records

In the training records provided, I observed Justin Clancy was missing *Hanford General Employee Training* during 2019. Course 035100 *Container Management Initial*, and the annual refresher course 035110 *Container Waste Management Refresher* were also missing. I also observed course 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist* was missing during calendar year 2019. Both course 035110 *Container Waste Management Refresher* and course 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist* are required on an annual basis for the D&D employment position.

Mata, Chico — Deactivation and Decommissioning Worker (D&D)

Course Number	Course Title	Frequency	Dates Taken
000001 & 000019	Hanford General Employee Training (Computer Based Training)	Annual	04/19/2016 05/01/2019
290200	Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist (Computer Based Training)	Annual	02/25/2020 (2019 missing)
035100	Container Management Initial (Classroom)	Initial	Missing from records
035110	Container Waste Management Refresher (Computer Based Training)	Annual	Missing from records

In the training records provided, I observed Chico Mata was missing course 035100 *Container Management Initial* and the annual refresher course 035110 *Container Waste Management Refresher*. I also observed course 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist* was missing during calendar year 2019. Both course 035110 *Container Waste Management Refresher* and course 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist* are required on an annual basis for the D&D employment position.

Thompson, Aaron — Deactivation and Decommissioning Worker (D&D)

Course Number	Course Title	Frequency	Dates Taken
000001 & 000019	Hanford General Employee Training (Computer Based Training)	Annual	12/03/2018 11/26/2019
290200	Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist (Computer Based Training)	Annual	03/19/2020 (2019 missing)
035100	Container Management Initial (Classroom)	Initial	Missing from records
035110	Container Waste Management Refresher (Computer Based Training)	Annual	Missing from records

In the training records provided, I observed Aaron Thompson was missing course 035100 *Container Management Initial* and the annual refresher course 035110 *Container Waste Management Refresher*. I also observed course 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist* was missing during calendar year 2019. Both course 035110 *Container Waste Management Refresher* and course 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist* are required on an annual basis for the D&D employment position.

Compliance Problems

The Dangerous Waste inspection on August 26, 2020, 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: Adam Shaffer
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 Adam Shaffer 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:
Adam Shaffer at (509) 212-1516**

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 173-303-330 Personnel Training

(1) Training program. 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 addition:

- (a) The training program must be directed by a person knowledgeable in dangerous waste management procedures, and must include training relevant to the positions in which the facility personnel are employed;**
- (b) Facility personnel must participate in an annual review of the training provided in the training program;**
- (c) This program must be successfully completed by the facility personnel:**
 - (i) Within six months after these regulations become effective; or**
 - (ii) Within six months after their employment at or assignment to the facility, or to a new position at the facility, whichever is later.**
- (d) Employees hired after the effective date of these regulations must be supervised until they complete the training program; and**
- (e) At a minimum, the training program must familiarize facility personnel with emergency equipment and systems, and emergency procedures. The program must include other parameters as set forth by the department, but at a minimum must include, where applicable:**
 - (i) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;**
 - (ii) Key parameters for automatic waste feed cut-off systems;**
 - (iii) Communications or alarm systems;**
 - (iv) Response to fires or explosions;**
 - (v) Response to ground-water contamination incidents; and**
 - (vi) Shutdown of operations.**
- (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:**
 - (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.**
- (3) Training records. Training records on current personnel must be kept until closure of the facility. Training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.**

Observations

PRC-STD-TQ-40236, Revision 2, Change 2, *Central Plateau Risk Management Dangerous Waste Training Plan*, section 2.0 states in part:

Hanford Facility personnel cannot perform a task for which they are not properly trained, except the gain required experience while under the direct supervision of a supervisor or coworker who is properly trained.

In the training records provided, I observed the following individuals were missing course 000019 *Hanford General Employee Training* during calendar year 2019:

- Doremus, William (FWS).
- Older, Deborah (NCO).
- Clancy, Justin (D&D).

In the training records provided, I observed the following individuals were missing course 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist*, during calendar year 2019:

- Cordray, Brian (FWS)
- Doremus, William (FWS)
- Plunkett, Roy (FWS)
- Robertson, Chad (FWS)
- Older, Deborah (NCO)
- Reid, Mike (NCO)
- Wilkerson, Lee (NCO)
- Clancy, Justin (D&D)
- Mata, Chico (D&D)
- Thompson, Aaron (D&D)

This course is required on an annual basis for the FWS, NCO, and D&D positions.

Action Required

In calendar year 2020, all of the individuals listed above completed course 290200 *Central Plateau Risk Management Orientation and Facility Emergency Hazards Identification Checklist*. In calendar year 2020, William Doremus, Deborah Older, and Justin Clancy completed *Hanford General Employee Training*. This indicates all of these individuals have completed the required training under PRC-STD-TQ-40236, Revision 2, Change 2, *Central Plateau Risk Management Dangerous Waste Training Plan* —**No Further Action Required.**

Concerns:

- 1) I observed course 290004 *Central Plateau Risk Management NCO Waste Handler Qualification*, was missing from Ben Hovley's training record. This course is required for the NCO employment position every two years. This omission may be due to the virus quarantine in calendar year 2020.
- 2) I observed Ben Hovley and Scott Snook (NCOs) were missing course 290200 during calendar year 2018. I also observed Mike Reid (NCO) was missing course 035110 *Container Waste Management Refresher (Computer Based Training)* during calendar year 2018, and Lee Wilkerson (NCO) was missing the same course during calendar year 2019. These courses are required on an annual basis for the NCO job position; however,

these omissions may have been due to these individuals having held different job positions in prior years.

- 3) In the training records provided, I observed three individuals in the D&D position that performed work at the 241-CX facility from September 1, 2018 until August 26, 2020, which have no record of ever taking both the initial course 035100 *Container Management Initial*, and the related refresher course 035110 *Container Waste Management Refresher*. Although these courses are required for the D&D employment position under PRC-STD-TQ-40236 *Central Plateau Risk Management Dangerous Waste Training Plan*, in Revision 9 Addendum G revisions, Ecology agreed that D&D workers would only be required to take course 02006G *Waste Management Awareness Initial*, in place of course 035100 *Container Management Initial*. PRC-STD-TQ-40236, *Central Plateau Risk Management Dangerous Waste Training Plan*, Revision 2, Change 2, should be updated to avoid future non-compliances.
- 4) In the training courses provided, I observed *Hanford General Employee Training* was given the course number 000019 rather than 000001 when taken as an annual refresher. This is not reflected in PRC-STD-TQ-40236, Revision 2, Change 2, *Central Plateau Risk Management Dangerous Waste Training Plan*, which should be updated to include Course 000019 *Hanford General Employee Training Refresher* as a subset to Course 000001 *Hanford General Employee Training*.

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.

This page left intentionally blank.