U.S. Department of Energy
Hanford Site

April 30, 2024

24-PFD-0015

Ms. Stephanie Schleif
Program Manager
Nuclear Waste Program
Washington State Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington 99354

Dear Ms. Schleif:

CALENDAR YEAR 2023 HANFORD LAND DISPOSAL RESTRICTIONS SUMMARY REPORT, DOE/RL-2024-15 REVISION 0

This letter transmits the subject report (Attachment) in accordance with the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement), interim milestone M-026-01AH, "Submit an annual Hanford Land Disposal Restrictions Summary Report in accordance with the Agreement requirements to cover the period from January 1 through December 31 of the reporting year," due April 31, 2024.

This report is being submitted to the Washington State Department of Ecology for approval in accordance with the Tri-Party Agreement Action Plan, Section 9.0, "Documentation and Records." Preparation of this report was coordinated with Jared Mathey of your staff.

If you have any questions, please contact me, or you may contact Kelly Ebert, Director, Project and Facilities Division, at (509) 376-7756.

Sincerely,

Heather Dale

Heather L. Dale, Assistant Manger
for River and Plateau

PFD:KAE

Attachment

cc: See page 2

cc w/attach:
C. Buck, Wanapum
C. E. Cameron, EPA
L. Contreras, YN
D. R. Einan, EPA
T. Q. Howell, Ecology
J. W. Mathey, Ecology
M. R. Mullin, EPA
M. Murphy, CTUIR
E. A. Rochette, Ecology
C. M. Schrader, HMIS
A. Smith, NPT
M. Woods, ODOE
Administrative Record
Environmental Portal
HAB Facilitation (HAB@slind.net)

cc w/o attach:
S. L. Brasher, HMIS
L. K. O'Mara, CPCCo
M. J. Turner, HMIS

Attachment
24-PFD-0015

Calendar Year 2023 Hanford Site Mixed Waste
Land Disposal Restrictions Summary Report
DOE/RL-2024-15 Revision 0

(170 pages including cover sheet)

DOE/RL-2024-15
Revision 0

CALENDAR YEAR 2023 HANFORD SITE MIXED WASTE LAND DISPOSAL RESTRICTIONS SUMMARY REPORT

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

U.S. DEPARTMENT OF ENERGY | Richland Operations Office

P.O. Box 550
Richland, Washington 99352

Approved for Public Release;
Further Dissemination Unlimited

DOE/RL-2024-15
Revision 0

CALENDAR YEAR 2023 HANFORD SITE MIXED WASTE LAND DISPOSAL RESTRICTIONS SUMMARY REPORT

C. M. Schrader
Hanford Mission Integration Solutions (HMIS)

Date Published
March 2024

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

U.S. DEPARTMENT OF ENERGY | Richland Operations Office
P.O. Box 550
Richland, Washington 99352

APPROVED
By Janis Aardal at 6:53 am, Mar 19, 2024

Release Approval Date

Approved for Public Release;
Further Dissemination Unlimited

TRADEMARK DISCLAIMER

Reference herein to any specific commercial product, process, or service by tradename, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors.

This report has been reproduced from the best available copy.

Printed in the United States of America

PRIMARY DOCUMENT STATEMENT

CALENDAR YEAR 2023 HANFORD SITE MIXED WASTE LAND DISPOSAL RESTRICTIONS SUMMARY REPORT

Approval of the U.S. Department of Energy's annual land disposal restrictions report as a *Hanford Federal Facility Agreement and Consent Order* primary document shall be by written approval of U.S. Department of Energy and Washington State Department of Ecology Interagency Management Integration Team representatives.

This document has been prepared, submitted, revised, and approved as a primary document in response to the requirements of the *Hanford Federal Facility Agreement and Consent Order* milestone series M-026-01 and related *Resource Conservation and Recovery Act of 1976* land disposal restrictions and *Hanford Federal Facility Agreement and Consent Order* requirements. As such, this document serves as a binding and enforceable document under the *Hanford Federal Facility Agreement and Consent Order*.

Approved and issued this ____ day of ______________ , 2024.

Heather L. Dale, Assistant
Manager for the River and Plateau
U.S. Department of Energy,
Richland Operations Office

Stephanie Schleif,
Program Manager Nuclear Waste Program
Washington State Department of Ecology

Delmar L. Noyes

Digitally signed by Delmar L. Noyes
Date: 2024.04.29 07:46:56 -07'00'

Delmar L. Noyes,
Assistant Manager for the Tank Farms Project
U.S. Department of Energy,
Office of River Protection

This page intentionally left blank.

CONTENTS

1.0 INTRODUCTION 1-1

1.1 CALENDAR YEAR 2023 LAND DISPOSAL RESTRICTIONS SUMMARY REPORT OVERVIEW 1-2
1.2 SOURCES AND ORGANIZATION OF DATA 1-3

2.0 SUMMARY OF GENERATED AND POTENTIAL WASTE AT HANFORD 2-1

2.1 SUMMARY OF WASTE TREATMENT GROUP INFORMATION 2-1
2.2 SUMMARY OF WASTE STREAM INFORMATION 2-6
2.3 POTENTIAL MIXED WASTE 2-10
2.4 HANFORD SITE WASTE MINIMIZATION PROGRAM 2-29

3.0 SUMMARY OF STORAGE INFORMATION 3-1

3.1 ASSESSMENTS OF MIXED WASTE STORAGE AREAS AND POTENTIAL MIXED WASTE 3-11
3.2 WASTE RELEASES FROM STORAGE UNITS 3-12

4.0 SUMMARY OF CHARACTERIZATION INFORMATION 4-1

5.0 SUMMARY OF TREATMENT AND DISPOSAL INFORMATION 5-1

6.0 REFERENCES 6-1

APPENDICES

A. LAND DISPOSAL RESTRICTIONS REPORTING REQUIREMENTS .... A-i
B. UPDATED TREATABILITY GROUP AND LOCATION SPECIFIC DATA SHEETS .... B-i

TABLES

Table 1-1. Data Sheet Changes from CY 2022 to CY 2023. 1-4
Table 2-1. Treatability Group Summary of Storage, Characterization, and Treatment Activities 2-1
Table 2-2. CY 2023 Reported Waste Streams and Data Sheet Reference Years 2-7
Table 2-3. Explanation of Table 2-4, Potential Mixed Waste. 2-12
Table 2-4. Potential Mixed Waste 2-13
Table 2-5. Historical List of Materials Deleted from Potential Mixed Waste Table. 2-24
Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers 3-2
Table 3-2. Summary of DOE-RL Assessment Results 3-11
Table 3-3. DOE-RL Assessments Planned for Calendar Years 2024 through 2026. 3-11

Table 3-4. Summary of DOE-ORP Assessment Results..3-12
Table 3-5. DOE-ORP Assessments for Calendar Years 2024 through 2026..3-12
Table 4-1. Summary of Characterization Information for each Treatability Group..............................4-2
Table 4-2. Waste Streams with Updated Profile Numbers for CY 2023 4-6
Table 5-1. Summary of Treatment and Disposal Information for each Treatability Group 5-3

Table A-1. Land Disposal Restrictions Requirements. A-4

This page intentionally left blank.

TERMS

AM	action memorandum
ASX	Autosampling System
CAA	central accumulation area
CDI	Canyon Disposition Initiative
CERCLA	*Comprehensive Environmental Response, Compensation, And Liability Act of 1980*
CFR	*Code of Federal Regulations*
CH	contact-handled
CPCCo	Central Plateau Cleanup Company
CHPRC	CH2M HILL Plateau Remediation Company
CPP	CERCLA past practice
CS&I	Closure Services and Infrastructure
CWC	Central Waste Complex
CY	calendar year
D&D	deactivation and decommissioning
D4ES	deactivation, decommission, decontamination, and demolition end states
DFLAW	direct feed low-activity waste
DOE	U.S. Department of Energy
DOE-ORP	U.S. Department of Energy, Office of River Protection
DOE-RL	U.S. Department of Energy, Richland Operations Office
DST	double-shell tank
DWMU	dangerous waste management unit
Ecology	Washington State Department of Ecology
EE/CA	engineering evaluation/cost analysis
EMF	Effluent Management Facility
EPA	U.S. Environmental Protection Agency
ERDF	Environmental Restoration Disposal Facility
ETF	200 Area Effluent Treatment Facility
FFCA	*Federal Facility Compliance Act*
FFTF	Fast Flux Test Facility
FY	fiscal year
GAC	granulated activated carbon
HEPA	high-efficiency particulate air (filter)
HFFACO	*Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement)
HLVIT	high-level waste vitrification
HLW	high-level waste
HMIS	Hanford Mission Integration Solutions
HSTF	Hexone Storage and Treatment Facility
HWMA	*Washington State Hazardous Waste Management Act*
HWTU	Hazardous Waste Treatment Unit
IAES	inner area end states
IAMIT	Interagency Management Integration Team

IDF	Integrated Disposal Facility
IDMS	Integrated Document Management System
IEM	interim examination and maintenance
IMUST	inactive miscellaneous underground storage tank
ISS	interim safe storage
IX	ion exchange
LAB	Analytical Laboratory
LAW	low-activity waste
LAWPS	low-activity waste pretreatment system
LDR	land disposal restrictions
LERF	Liquid Effluent Retention Facility
LLBG	Low-Level Burial Ground
LLW	low-level waste
LMP	Low-Activity Waste Facility Melter Process System
LSDS	location-specific data sheet
LVP	Low-Activity Waste Facility Secondary Offgas/Vessel Vent Process System
MLLW	mixed low-level waste
MW	mixed waste
N/A	not applicable
OAES	outer area end states
OU	operable unit
P2/WMin	pollution prevention/waste minimization
PCB	polychlorinated biphenyl
PFP	Plutonium Finishing Plant
PMM	Project Manager Meeting
PMW	potential mixed waste
PMWT	Potential Mixed Waste Table
PNNL	Pacific Northwest National Laboratory
PPE	personal protective equipment
PUREX	Plutonium Uranium Extraction Plant
R-CPP	RCRA-CERCLA past practice
RADTU	Radioactive Acid Digestion Test Unit
RAWP	Removal Action Work Plan
RCRA	*Resource Conservation and Recovery Act of 1976*
RD/RAWP	Remedial Design/Remedial Action Work Plan
REC	Radiochemical Engineering Cell
REDOX	reduction oxidation (Plant)
RH	remote-handled
RI/FS	remedial investigation/feasibility study
RLWS	Radioactive Liquid Waste System
RMA/RMC	Remote Mechanical A/Remote Mechanical C
ROD	Record of Decision
RO/RO	roll-on/roll-off
RR	railroad
RRLWS	retired radioactive liquid waste sewer

S&M	surveillance and maintenance
SAA	satellite accumulation area
SALDS	state-approved land disposal site
SAP	sampling and analysis plan
SMCA	storage method compliance assessment
SNM	spent nuclear material
SST	single-shell tank
STP	Site Treatment Plan
SWIFT	Solid Waste Integrated Forecast Technical (Report)
TBD	to be determined
TGDS	treatability group data sheet
TPA	*Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement)
TRU	transuranic (waste)
TRUM	transuranic mixed (waste)
TRUSAF	Transuranic Waste Storage and Assay Facility
TSCR	tank-side cesium removal
TSD	treatment, storage, and/or disposal
WAC	*Washington Administrative Code*
WESF	Waste Encapsulation and Storage Facility
WIPP	Waste Isolation Pilot Plant
WMA	waste management area
WMU	waste management unit
WP&O	Waste Projects and Operations
WRAP	Waste Receiving and Processing Facility
WRPS	Washington River Protection Solutions, LLC
WTP	Waste Treatment and Immobilization Plant

This page intentionally left blank.

1.0 INTRODUCTION

In accordance with the *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement or TPA) (Ecology et al. 1989) milestone M-026-01AH, this document presents the status of Hanford Site land-disposal-restricted mixed waste and other waste that the U.S. Department of Energy (DOE), Washington State Department of Ecology (Ecology), and U.S. Environmental Protection Agency (EPA) have agreed to be within the scope of this report. This report documents waste volumes and projected mixed wastes as of December 31, 2023.

TPA milestone M-026-01 requires that DOE submit an annual report equivalent to the reporting requirements of the 1992 *Federal Facility Compliance Act* (FFCA) Site Treatment Plan (STP) as modified and agreed to by the TPA agencies. Additional land disposal restrictions (LDR) reporting requirements are found in the *Requirements for Hanford LDR Plan* (Ecology and EPA 1990), the 2000 LDR Final Determination (Fitzsimmons 2000), "Response to DOE Request for Clarifications" (Stanley 2000), *Resolution of Dispute Pertaining to Hanford Federal Facility Agreement and Consent Order Calendar Year 2000 Hanford Site Mixed Waste Land Disposal Restrictions Report* (Ecology et al. 2002), *Calendar Year 2019 Hanford Land Disposal Restrictions (LDR) Full Report Project Manager Dispute Resolution Agreement Changes* (Ecology and DOE-RL 2022), and those established in TPA project manager meetings (PMM). Appendix A, Table A-1 provides a crosswalk of current LDR reporting requirements and where those requirements are addressed within this report.

Annual LDR report revisions consist of the following:

- Updated mixed waste storage inventories and projected generation rates to reflect current plans and schedules.
- Updated information to include changes in waste characterization, treatment technologies, plans, schedules, and storage assessments.
- Revised waste stream characterization information to reflect current knowledge.
- Updated compliance status of the treatment, storage, and/or disposal (TSD) units to reflect completion of pending storage method compliance assessments (SMCA) and permitting activities.
- Report on completed LDR SMCAs and summarized resulting findings and observations.
- Reevaluation of the adequacy of the capacity of current TSD units for storing LDR mixed waste.
- Addition of new milestones and revision of existing milestones as applicable.
- Report on changes in the management and TSD of mixed waste required by changes in federal policy or regulations as applied to the DOE complex.

- Funding/budget guidance impacts on operating plans and schedules.

- Addition of mixed waste streams and projected mixed waste that will be generated in the 5-year span for the LDR report and adding applicable projected mixed waste as waste is identified.

- Removing mixed waste and potential mixed waste (PMW) from the LDR report that has been disposed or otherwise dispositioned (e.g., recycled) (Refer to Table 2-5).

The LDR reporting schedule was established in TPA Change Control Form M-26-06-01 following a pilot activity for the calendar year (CY) 2005 reporting period. The M-26-06-01 change request modified the Interim Milestone M-026-01 series to allow DOE to submit an LDR summary report annually with a full LDR report due every 5 years. Following the schedule set by TPA Milestone M-026-01, CY 2023 is presented in the summary report format with CY 2019 being the most recently issued full LDR report.

1.1 CALENDAR YEAR 2023 LAND DISPOSAL RESTRICTIONS SUMMARY REPORT OVERVIEW

This report presents information on waste streams that are reported either as a matter of law or as a result of discussions among DOE, Ecology, and EPA. Waste streams reported as a matter of law include mixed waste in storage subject to the storage prohibition of 40 CFR 268.50, "Prohibitions on Storage of Restricted Wastes." WAC 173-303-140, "Land Disposal Restrictions," incorporates the federal rule by reference. EPA's *Guidance on the Land Disposal Restrictions' Effects on Storage and Disposal of Commercial Mixed Waste* (EPA 1990) indicates which mixed waste is subject to the storage prohibition.

Mixed waste is not subject to the storage prohibition until generated and managed in a central accumulation area (CAA) or a TSD unit. Although mixed waste managed in a CAA is not considered stored for purposes of this report, the EPA has indicated that the storage prohibition clock begins when mixed waste is managed in the CAA (OSWER 1990). Where a TSD unit is managing wastes generated pursuant to a *Comprehensive Environmental Response, Compensation, And Liability Act* (CERCLA) decision document, and that unit is not onsite with respect to the scope of the CERCLA action, then the unit must also be subject to a CERCLA offsite determination of acceptability in addition to authorization to treat, store, or dispose according to the Hanford Facility *Resource Conservation and Recovery Act* (RCRA) Permit.

Mixed waste is reported in Section 2.6 of the location-specific data sheets and compiled in this summary as projected waste to be generated. Per agreement with Ecology on February 6, 2003, mixed waste generated and sent directly to disposal does not need to be reported in the LDR report ("M-026 LDR Report Project Manager Meeting Minutes" [Ecology et al. 2003]). If any storage of the mixed waste occurs, or is projected to occur for on-site storage, the mixed waste must be reported.

1.2 SOURCES AND ORGANIZATION OF DATA

Waste stream data is aggregated in this report based on a set of waste treatability groups that are documented in treatability group data sheets (TGDS). Treatability groups comprise wastes that may be geographically similar or disparate but share physical and chemical characteristics and, thus, share similar treatment and disposal pathways, or could be grouped for other reasons appropriate for the storage and disposition of the waste stream(s). The treatability groups describe characteristics that location-specific waste sources share and provide total waste volume data from the associated location-specific waste streams for both stored and projected wastes.

Many different location-specific waste streams can exist within a treatability group; these waste streams are documented in location-specific data sheets (LSDS). The LSDSs of each treatability group describe how, where, and the volume of waste stored, as well as present information concerning disposition of the waste.

A full compendium of TGDSs and LSDSs is produced every 5 years in the full LDR report, the most current of which can be found in Appendix B of the *Calendar Year 2019 Hanford Land Disposal Restrictions Full Report*, Revision 2, also referred to as the CY 2019 LDR Full Report (DOE/RL-2020-09). New or updated data sheets are appended annually with intervening summary LDR reports and can be found in Appendix B of the summary LDR reports. Table 1-1 presents the location-specific waste streams and treatability groups, which have been modified for the CY 2023 reporting period.

Refer to Sections 2.1 and 2.2 for a complete list and description of every treatability group and associated location-specific waste streams in this report.

Other materials and items currently on the Hanford Site that might be designated as mixed waste in the future are described in Section 2.3 and are identified as PMW.

Table 1-1. Data Sheet Changes from CY 2022 to CY 2023. (2 Pages)

Treatability Group Data Sheets	Location-Specific Data Sheets		
Treatability Group Name	**Physical Location**	**Waste Stream**	**Action for CY 2023 Report[1]**
221-T Tank System			**Updated Waste Codes**
	T Plant Complex	RCRA Tank Systems	Updated Waste Codes
ETF Effluents			**New TGDS**
	ETF	Acetonitrile Distillate	New LSDS
	ETF	Brine Concentrate	New LSDS
	ETF	Wastewater	Moved from ETF Liquid Waste Treatability Group
ETF Receipts			**Renamed from ETF Liquid Waste Treatability Group**
	IDF	IDF Leachate	New LSDS
Hanford Site Laboratory Complex			**Updated Radiological Characteristics and Waste Codes**
	222-S	Containerized Mixed Waste	Updated Radiological Characteristics and Waste Codes
WTP – Hazardous Debris			**N/A**
	LAW/EMF/LAB	Miscellaneous Debris	New LSDS
	Effluent Management Facility	Contaminated PPE	Removed, contents now reported under WTP – Hazardous Debris/Miscellaneous Debris LSDS
	Effluent Management Facility	Miscellaneous Debris	Removed, contents now reported under WTP – Hazardous Debris/Miscellaneous Debris LSDS
	LAW/EMF/LAB	Miscellaneous Compactable Debris	Removed, contents now reported under WTP – Hazardous Debris/Miscellaneous Debris LSDS
WTP – LDR Compliant			**N/A**
	LAW Facility	LMP Glass Debris from the Bagging Station	Moved from WTP – Hazardous Debris Treatability Group
	LAW Facility	LMP Melter Consumables	Moved from WTP – Hazardous Debris Treatability Group

Table 1-1. Data Sheet Changes from CY 2022 to CY 2023. (2 Pages)

Treatability Group Data Sheets	Location-Specific Data Sheets		
Treatability Group Name	**Physical Location**	**Waste Stream**	**Action for CY 2023 Report[1]**
	LAW Facility	LMP Melter Pool Bubblers/Thermowells	Moved from WTP – Hazardous Debris Treatability Group

[1] Fields in bold font indicate information related to the corresponding Treatability Group Data Sheet only.

To facilitate updating required waste characterization, treatment technologies, plans, and schedules, the following key assumptions were used to prepare this report.

- Disposition of Plutonium Uranium Extraction (PUREX) Plant, B Plant, Reduction Oxidation (REDOX) Plant and U Plant will be addressed by the Canyon Disposition Initiative (CDI). For planning purposes, DOE intends to defer closure of dangerous waste management units (DWMU) within the T Plant Complex until its mission is completed. At that time, closure of these DWMUs can be performed in conjunction with dispositioning of the T Plant by adding it to Section 8.0 of the TPA Action Plan.

- Applicable TSD closure will be coordinated with the operable unit (OU) remediation in accordance with the dangerous waste permit closure plan requirements.

- Single-shell tank (SST) waste from the SST system continues to be transferred to the double-shell tank (DST) system and mixed with DST waste as part of the stabilization and retrieval programs for the SST system. Supernatant from the DST system may be used to mobilize the SST waste.

- Tank waste will be separated into low-activity waste (LAW) and high-level waste (HLW) fractions. The LAW will be transferred initially to tank-side cesium removal (TSCR) for pretreatment prior to vitrification.

- Separated and pretreated tank waste will be transferred to the LAW and HLW vitrification (HLVIT) facilities, respectively. Initially, only LAW will be processed, with both LAW and HLW vitrification occurring later.

- Process condensate from the 242-A Evaporator and hazardous wastewater from other sources, including liquid effluents from vitrification at the Waste Treatment and Immobilization Plant (WTP), will continue to be treated at the Effluent Treatment Facility (ETF).

- The work scope contained in the LDR report is based on expected funding and is contingent on Congressional budget actions. If funding is reduced or reprioritized, the ability to conduct and complete work scope is affected. To address these changes, changes to TPA milestones are made using Section 12.0 of the TPA Action Plan and are not part of the review and approval of the annual LDR report update.

2.0 SUMMARY OF GENERATED AND POTENTIAL WASTE AT HANFORD

As described in Section 1.2, the 5-year full LDR report provides comprehensive background, designation, storage, characterization, and treatment information for Hanford Site LDR wastes. Intervening summary reports provide a high-level overview of this information through incorporation by reference and providing detailed updates as necessary. Summaries of reported treatability groups, individual waste streams, and PMW are provided in Sections 2.1, 2.2, and 2.3, respectively.

2.1 SUMMARY OF WASTE TREATMENT GROUP INFORMATION

Table 2-1 provides an overall summary of the storage, characterization, and treatment activities for the treatability groups. Treatability group waste descriptions are reported in Section 1.2 for each TGDS. Table 2-1 presents the volume of mixed waste currently in storage and the volume projected to be generated and subsequently stored at Hanford during the next five calendar years. Table 2-1 also identifies the schedules for characterization (if necessary) and treatment for each group. Mixed waste that is managed only in Hanford Site generator locations (SAAs and CAAs) and sent directly offsite for treatment is not reported. Mixed waste volumes projected to be treated offsite or onsite, or generated and stored at a Hanford Site TSD, during the next five calendar years are also reported in Table 2-1.

The WTP is a TSD unit being constructed to treat DST and SST wastes. The WTP project management schedule projects that mixed waste will be generated at the WTP as a result of laboratory startup within the 5-year forecasting window for this report. As of December 31, 2023, the forecast date to begin WTP hot commissioning is April 21, 2025, however, this may change because of ongoing revisions to the WTP contract and will be reflected in future waste generation forecasts.

Table 2-1. Treatability Group Summary of Storage, Characterization, and Treatment Activities. (6 Pages)

Treatability Group Name	Current Inventory[1] (m^3)	Projected Generation 2024–2028 (m^3)	Characterization Information	Treatment Process	Projected Volume to be Treated 2024–2028 (m^3)
221-T Containment Building[3]	58.000	0.000	MLLW; RH; solid; non-wastewater; contains PCBs	Specific treatments in accordance with the dangerous waste permit closure plan requirements.	No treatment expected over the next 5 years.
221-T Tank System[3]	3.623	0.000	MLLW; RH; solid, liquid, semi-solid; non-wastewater; contains PCBs	Specific treatments in accordance with the dangerous waste permit closure plan requirements.	No treatment expected over the next 5 years.
222-S T8 Tunnel	0.200	0.000	MLLW; RH; debris; non-wastewater; does not contain PCBs	Macroencapsulation and/or stabilization.	No treatment expected over the next 5 years.

Table 2-1. Treatability Group Summary of Storage, Characterization, and Treatment Activities. (6 Pages)

Treatability Group Name	Current Inventory[1] (m^3)	Projected Generation 2024–2028 (m^3)	Characterization Information	Treatment Process	Projected Volume to be Treated 2024–2028 (m^3)
241-CX Tank System[4]	5.980	0.000	MLLW; RH; other physical form[2]; non-wastewater; does not contain PCBs	Specific treatments in accordance with the dangerous waste permit closure plan requirements and TPA milestones.	No treatment expected over the next 5 years.
324 Building REC Waste	43.500	0.000	MLLW; RH; solid, debris; non-wastewater; does not contain PCBs	Stabilization, macroencapsulation, and disposal in accordance with the dangerous waste permit closure plan requirements and TPA Milestones.	0.000
400 Area WMU	39.700	0.000	MLLW; CH; solid; non-wastewater, does not contain PCBs	Commercial deactivation and may include specific treatments for 400 Area WMU. DOE intends to decommission the FFTF in accordance with the 1995 EPA-DOE "Policy on Decommissioning Department of Energy Facilities Under CERCLA" and HFFACO Action Plan Section 8. Submittal of a RCRA Part A form or Part B application is not applicable for FFTF.	The combined volume of the FSF and ISA pad waste is 1.900. The ISA pad waste will be sent offsite for treatment before September 30th, 2024. Assuming that Ecology renews the PermaFix Northwest TSD permit to include the Geomelt treatment system, the treatment path of the FSF waste is anticipated to be completed by 2029.
B Plant Cell 4	1.400	0.000	MLLW; RH; solid; non-wastewater; does not contain PCBs	Specific treatment in accordance with the dangerous waste permit closure plan requirements, Section 8.0 of the TPA, and TPA Milestones.	No treatment expected over the next 5 years.
B Plant Containment Building[5]	294,000 kg	0.000	MLLW; RH; solid; non-wastewater; does not contain PCBs	Specific treatment in accordance with the dangerous waste permit closure plan requirements, Section 8.0 of the TPA, and TPA Milestones.	No treatment expected over the next 5 years.

Table 2-1. Treatability Group Summary of Storage, Characterization, and Treatment Activities. (6 Pages)

Treatability Group Name	Current Inventory[1] (m^3)	Projected Generation 2024–2028 (m^3)	Characterization Information	Treatment Process	Projected Volume to be Treated 2024–2028 (m^3)
Cesium and Strontium Capsules	2.000	0.000	HLW; RH; solid; non-wastewater; does not contain PCBs	Specific treatments and TPA Milestones.	No treatment expected over the next 5 years.
DST Waste	99,016.130	1,006.250	HLW; RH; other physical form[2]; non-wastewater; contains PCBs	Vitrification in accordance with the TPA milestones and subsequent supplemental treatment technologies under M-062-45.	30,377.921
ERDF – Treatment	53.650	2,382.000	MLLW; CH; solid, debris, other physical form[2]; non-wastewater; contains PCBs	Macroencapsulation and stabilization	2,382.000
ETF Effluents	3,895.350	1,002.537	MLLW; CH; liquid; wastewater; does not contain PCBs	LERF and ETF	4,897.887
ETF Receipts	32.801	124,767.688	MLLW; CH; liquid; wastewater; contains PCBs	LERF and ETF	106,748.562
Hanford Site Laboratory Complex	7.898	416.600	TRUM, MLLW; CH; solid, liquid, debris, semi-solid; wastewater, non-wastewater; contains PCBs	Hanford Site Laboratory Complex treatment, commercial stabilization, commercial thermal.	416.600
HSTF	0.984	0.000	MLLW; CH; other physical form[2]; non-wastewater; contains PCBs	Stabilization and in accordance with the dangerous waste permit closure plan requirements.	0.984
LERF/ETF Solid Waste	15.803	187.059	MLLW; CH; solid, debris, other physical form[2]; non-wastewater; does not contain PCBs	Macroencapsulation and commercial stabilization.	202.862

Table 2-1. Treatability Group Summary of Storage, Characterization, and Treatment Activities. (6 Pages)

Treatability Group Name	Current Inventory[1] (m^3)	Projected Generation 2024–2028 (m^3)	Characterization Information	Treatment Process	Projected Volume to be Treated 2024–2028 (m^3)
MLLW-01 – LDR Compliant Waste	0.208	0.000	MLLW; CH; solid, debris, other physical form[2]; non-wastewater; contains PCBs	No treatment required.	N/A
MLLW-02 – Inorganic Non-Debris	0.208	0.000	MLLW; CH; solid, liquid, semi-solid, other physical form[2]; non-wastewater; does not contain PCBs	Commercial stabilization and commercial deactivation, under M-091 Series.	No treatment expected over the next 5 years.
MLLW-03 – Organic Non-Debris	0.322	0.000	MLLW; CH; solid, liquid, semi-solid, other physical form[2]; non-wastewater; contains PCBs	Commercial thermal, under M-091 Series.	No treatment expected over the next 5 years.
MLLW-04 – Hazardous Debris	108.269	0.000	MLLW; CH; debris; non-wastewater; contains PCBs	Primarily commercial macroencapsulation, under M-091 Series.	No treatment expected over the next 5 years.
MLLW-07 – RH and Large Container	3.690	0.000	MLLW; RH; solid, liquid, debris, semi-solid, other physical form[2]; non-wastewater; contains PCBs	Commercial macroencapsulation and/or future M-091 capability.	No treatment expected over the next 5 years.
PNNL Low-Level Mixed Waste	12.109	45.500	MLLW; CH; solid, liquid, debris, semi-solid; wastewater, non-wastewater; contains PCBs	HWTU: neutralization, solidification, stabilization, deactivation, macroencapsulation, commercial: macroencapsulation, deactivation, stabilization, thermal treatment	45.500
PUREX Plant	1.000	0.000	MLLW; RH; solid; non-wastewater; does not contain PCBs	Specific treatment in accordance with the dangerous waste permit closure plan requirements and Section 8.0 of the TPA.	No treatment expected over the next 5 years.

Table 2-1. Treatability Group Summary of Storage, Characterization, and Treatment Activities. (6 Pages)

Treatability Group Name	Current Inventory[1] (m^3)	Projected Generation 2024–2028 (m^3)	Characterization Information	Treatment Process	Projected Volume to be Treated 2024–2028 (m^3)
PUREX Storage Tunnel	2,800.000	0.000	MLLW; RH; other physical form[2]; non-wastewater; does not contain PCBs	Specific treatment in accordance with the dangerous waste permit closure plan requirements and Section 8.0 of the TPA.	No treatment expected over the next 5 years.
SST Waste	107,000.000	0.000	HLW, TRU; RH; other physical form[2]; non-wastewater; contains PCBs	Retrieved SST waste will be transferred to the DST Waste and treated with the DST Waste. Residuals remaining in SSTs will be closed insitu.	No treatment expected over the next 5 years.
TRUM-CH Large Container	3,287.751	0.000	TRUM; CH; solid, debris; non-wastewater; contains PCBs	Waste is planned to be treated at a variety of facilities with M-091 capabilities that may or may not be onsite. The primary objective of treatment is to cut metal debris into smaller pieces so that it can be placed in a smaller box. WIPP can currently accept a box (SLB2) up to an internal volume of approximately 6.95 m^3 and in accordance with TPA Milestones.	280.000
TRUM-CH Small Container	5,654.702	5.000	TRUM; CH; solid, debris, other physical form[2]; non-wastewater; contains PCBs	The waste is processed at WRAP, CWC, and T Plant. Future unit operations will include solidification. The unit operations are performed as necessary for the waste to meet the WIPP waste acceptance criteria, and in accordance with TPA Milestones.	No treatment expected over the next 5 years.
TRUM-RH	375.795	9.600	TRUM; RH; solid, debris; non-wastewater; PCBs unknown	Future M-091 capability, and in accordance with TPA Milestones.	No treatment expected over the next 5 years.
TSCR IX Column	4.880	28.060	HLW; CH; solid; non-wastewater; does not contain PCBs	Future capability into WTP HLW vitrification in accordance with TPA Milestones.	No treatment expected over the next 5 years.

Table 2-1. Treatability Group Summary of Storage, Characterization, and Treatment Activities. (6 Pages)

Treatability Group Name	Current Inventory[1] (m^3)	Projected Generation 2024–2028 (m^3)	Characterization Information	Treatment Process	Projected Volume to be Treated 2024–2028 (m^3)
WTP – Hazardous Debris	0.000	794.000	MLLW; CH; debris; non-wastewater; contains PCBs	Commercial or on-site macroencapsulation. Waste volume reduction, repackaging, treatment and disposal to be performed by off-site treatment, storage and disposal facilities as directed by DOE-ORP or at the Integrated Disposal Facility.	794.000
WTP – LDR Compliant	0.000	16,894.780	MLLW; CH; solid; non-wastewater; contains PCBs	No treatment required.	N/A
WTP – Organic Non-Debris	0.000	29.000	MLLW; CH; solid, liquid; non-wastewater; contains PCBs	Commercial thermal. Waste volume reduction, repackaging, treatment and disposal to be performed by offsite treatment, storage, and disposal facilities as directed by DOE-ORP.	29.000

[1] Current inventory expressed in cubic meters unless otherwise noted.
[2] See Section 3.2.2 in Treatability Group Datasheets in Appendix B from DOE/RL-2020-09, Rev. 2 for greater details on other physical form.
[3] For planning purposes, DOE intends to defer closure of DWMUs within the T plant complex until its mission is completed. At that time closure of these DWMUs can be performed in conjunction with dispositioning of the T plant by adding it to Section 8.0 of the TPA action plan.
[4] The stored volume reported contains uncertainty as to the actual volume (05-AMCP-0318, "Calendar Year 2004 Land Disposal Restrictions Report Comment Reponses").
[5] Current inventory in 221BB and 221BF tanks estimated at 0.848 m^3. Total B Plant Containment Building quantity estimated at 294,000 kg. A more detailed determination of waste volume would require extensive item identification and specific drawing information. At this time, obtaining this information is cost and schedule prohibitive.

2.2 SUMMARY OF WASTE STREAM INFORMATION

Each treatability group is a collection of one or more location-specific waste streams. Stored volumes and projected generation rates of individual waste streams are reported for every LSDS. The stored volumes and projections are aggregated across all waste streams within each treatability group and presented as current inventory and projected generation values in Table 2-1.

Table 2-2 lists every location-specific waste stream reported for CY 2023 grouped by their assigned treatability group. Table 2-2 also includes the calendar year LDR report reference to find the most current published data sheets for the reported waste. As previously stated in Section 1.2, any new or significantly updated data sheets can be found in Appendix B within the corresponding calendar year LDR report.

Specific waste stream information including general description, generation history, regulated constituents, and information sources are reported in Sections 1.3 and 2.12 of each LSDS. See Table 2-2 for the most current LSDS.

Table 2-2. CY 2023 Reported Waste Streams and Data Sheet Reference Years. (4 Pages)

Treatability Group Data Sheets	Location-Specific Data Sheets		
Treatability Group Name	**Physical Location**	**Waste Stream**	**LDR Report Reference Year[1]**
221-T Containment Building			**2019**
	T Plant Complex	221-T Containment Building	2019
221-T Tank System			**2023**
	T Plant Complex	RCRA Tank Systems	2023
	T Plant Complex	Tank 11L	2019
222-S T8 Tunnel			**2019**
	222-S Laboratory Complex	T8 Tunnel RH-MLLW	2019
241-CX Tank System			**2019**
	241-CX Tank System	CX Tank System	2019
324 Building REC Waste			**2019**
	324 Building	Radiochemical Engineering Cells	2019
400 Area WMU			**2019**
	400 Area WMU	Mixed Waste	2019
	FFTF Reactor Building	Sodium Residuals	2019
B Plant Cell 4			**2019**
	B Plant Complex	Cell 4	2019
B Plant Containment Building			**2019**
	221BB and 221BF Tanks	221BB and 221BF Tanks	2022
	B Plant Complex	Containment Building Storage	2019
Cesium and Strontium Capsules			**2022**
	WESF	Cesium and Strontium Capsules	2019
DST Waste			**2019**
	204-AR Waste Unloading Station, TK-1 Catch Tank	Aqueous Mixed Waste	2019
	222-S Laboratory Complex/ 219-S Waste Handling Facility	Bulk Aqueous Liquids	2019
	DST System	DST System	2019
	WTP Effluent Management Facility	Conditioned Liquid Effluent	2020
ERDF—Treatment			**2019**
	222-S Laboratory	Hazardous Debris to ERDF	2019
	325 HWTU	Radioactive Lead and Debris	2019

Table 2-2. CY 2023 Reported Waste Streams and Data Sheet Reference Years. (4 Pages)

Treatability Group Data Sheets	Location-Specific Data Sheets		
Treatability Group Name	**Physical Location**	**Waste Stream**	**LDR Report Reference Year[1]**
	CERCLA Waste	CERCLA Waste	2019
	CS&I	Hazardous Debris to ERDF	2019
	Tank Farms	Long Length Equipment Debris to ERDF	2020
	Tank Farms	Other MLLW Debris to ERDF	2019
ETF Effluents			**2023**
	ETF	Acetonitrile Distillate	2023
	ETF	Brine Concentrate	2023
	ETF	Wastewater	2023
ETF Receipts			**2023**
	242-A Evaporator	Evaporator Process Condensate	2019
	WTP Effluent Management Facility	WTP DFLAW Condensate	2019
	LLBG/Mixed Waste Trench	TR34 and TR31 Leachate	2019
	T Plant Complex/2706-TB Tank System	2706-TB Tank System	2019
	IDF	IDF Leachate	2023
Hanford Site Laboratory Complex			**2023**
	222-S	Containerized mixed waste	2023
HSTF			**2019**
	HSTF	HSTF 276-S-141/142	2019
LERF/ETF Solid Waste			**2019**
	ETF	Powder Drums	2019
	LERF/ETF	Operational and Maintenance Waste	2019
MLLW-01 – LDR Compliant Waste			**2019**
	CWC	LDR Compliant	2019
MLLW-02 – Inorganic Non-Debris			**2019**
	CWC	Inorganic Non-Debris Solids and Labpacks	2019
	LLBG	Inorganic Non-Debris	2019
	T Plant Complex	Inorganic Non-Debris	2019
MLLW-03 – Organic Non-Debris			**2019**
	CWC	Organic Non-Debris	2019
	LLBG	MLLW Retrieval Organic Non- Debris	2019
	T Plant Complex	Organic Non-Debris	2019
MLLW-04 – Hazardous Debris			**2019**
	CWC	Hazardous Debris	2019

Table 2-2. CY 2023 Reported Waste Streams and Data Sheet Reference Years. (4 Pages)

Treatability Group Data Sheets	Location-Specific Data Sheets		
Treatability Group Name	**Physical Location**	**Waste Stream**	**LDR Report Reference Year[1]**
	LLBG	MLLW Retrieval Hazardous Debris	2019
	T Plant Complex	Hazardous Debris	2019
	WRAP	Hazardous Debris	2019
MLLW-07 – RH and Large Container			**2019**
	CWC	MLLW-07	2019
	LLBG	MLLW-07	2019
	T Plant Complex	RH and Large Container	2019
PNNL Low-Level Mixed Waste			**2019**
	325 HWTU	PNNL Low-Level Mixed Waste	2019
PUREX Plant			**2019**
	PUREX Plant	PUREX Containment Building	2019
PUREX Storage Tunnels			**2019**
	PUREX Storage Tunnels	Tunnels 1 and 2	2019
SST Waste			**2019**
	SST System	SST System	2019
TRUM – CH Large Container			**2019**
	CWC	TRUM Boxes	2019
	LLBG	TRUM Retrieval Boxes	2019
	T Plant Complex	TRUM Box	2019
	WRAP	TRUM Large Container	2019
TRUM – CH Small Container			**2019**
	325 HWTU	TRUM-CH	2019
	CWC	CH TRUM	2019
	LLBG	TRUM-CH Retrieval	2019
	T Plant Complex	TRUM-CH	2019
	WRAP	TRUM-CH	2019
TRUM – RH			**2019**
	325 HWTU	TRUM-RH	2019
	CWC	RH TRUM	2019
	LLBG	RH TRUM	2019
	T Plant Complex	TRUM-RH	2019
	WRAP	TRUM-RH	2019
TSCR IX Column			**2020**
	TSCR Storage Pad	Ion Exchange Columns	2020
WTP – Hazardous Debris			**2020**
	LAW Facility	LVP HEPA Filters	2020

Table 2-2. CY 2023 Reported Waste Streams and Data Sheet Reference Years. (4 Pages)

Treatability Group Data Sheets	Location-Specific Data Sheets		
Treatability Group Name	**Physical Location**	**Waste Stream**	**LDR Report Reference Year[1]**
	LAW Facility	LVP Selective Catalytic Reduction Media	2020
	LAW Facility	LVP Thermal Catalytic Oxidizer Media	2020
	LAW Facility	Miscellaneous Metal Parts	2020
	LAW/EMF/LAB	Miscellaneous Debris	2023
WTP – LDR Compliant			**2023**
	LAW Facility	Immobilized Low Activity Waste	2020
	LAW Facility	LMP Glass Debris from the Bagging Station	2023
	LAW Facility	LMP Melter Consumables	2023
	LAW Facility	LMP Melter Pool Bubblers/Thermowells	2023
WTP – Organic Non-Debris			**2020**
	LAW Facility	LVP Sulfur Impregnated Carbon Adsorbent Media	2020
	LAB	Spent Chemical/Reagents	2020

[1] LDR Report Reference Years: 2019 see DOE/RL-2020-09, Rev. 2; 2020 see DOE/RL-2021-62, Rev. 0; 2021 see DOE/RL-2022-51, Rev. 0; 2022 see DOE/RL-2023-51, Rev. 0.

2.3 POTENTIAL MIXED WASTE

Tables 2-3 through 2-5 provide information about materials that have not been generated as mixed waste and waste that has not been actively managed as mixed waste. Table 2-3 provides explanatory information pertinent to Table 2-4 (herein referred to as the potential mixed waste table [PMWT]). Table 2-5 provides a historical list of materials deleted from the PMWT. The PMWT includes solid waste that reasonably could be expected to be generated as mixed waste at some future time. The materials included in the PMWT (e.g., equipment, piping) are currently not being used and do not have a clear path for reuse or recycling.

The waste that has not been actively managed as mixed waste is, in many cases, contained in *Resource Conservation and Recovery Act – Comprehensive Environmental Response, Compensation, and Liability Act* past-practice units (R-CPP) or CERCLA past-practice units (CPP) under the Tri-Party Agreement. A past-practice unit is a waste management unit in which wastes or substances were disposed (intentionally or unintentionally) or abandoned in place before the first effective date of applicable regulations for mixed waste in Washington State, typically August 19, 1987. A past-practice unit is not subject to regulation as a TSD unit (or Dangerous Waste Management Unit) as specified in Section 3.2 of the TPA Action Plan. Classification of waste management units as past-practice units is described in Section 3.0 of the TPA Action Plan, and the criteria for classification is set forth in TPA Change Control Form C-13-01 (2017). When cleanup actions occur in an operable unit that includes these past-practice units, mixed waste could, or is expected to, be generated. The PMWT also includes a similar category of materials currently in standby for a potential future use.

The PMWT was developed for the following reasons:

- To acknowledge that materials might become mixed waste at a future date.
- To begin identifying data gaps (e.g., whether the material would be designated as mixed waste) and facilitate discussions to establish a path forward toward disposition for those materials eventually identified as mixed waste.

The TPA agencies have agreed that the following categories of materials are excluded from the PMWT:

- Generated mixed waste. This mixed waste is included in treatability groups and location-specific waste streams.
- Contaminated soil sites, cribs, ponds, ditches, trenches, etc., considered engineered disposal units. However, these materials would be included in LDR report location-specific waste streams when management or disposition activities associated with those units are expected to result in the generation of mixed waste requiring treatment in the next 5 years.
- The building structures themselves, including contaminated walls, floors, floor sweepings, dust, etc. Building equipment that would be considered part of the structure (e.g., ventilation system components, building utilities) also is not included.
- Equipment and chemicals being used.

In addition to identifying information, the PMWT includes information on SMCAs that have been performed, proposed, or scheduled to meet the requirement of the land disposal restrictions storage report. Section 3.1 of this report provides more information about SMCAs.

The PMWT also includes, as applicable, known or proposed schedule information for completing data gap plans, start dates for TPA negotiations, existing milestones or schedules, or schedules associated with the operable units that encompass the facility or unit.

Table 2-3. Explanation of Table 2-4, Potential Mixed Waste.

Column	Column Title	Content Definition
A	Company, project	Self-explanatory.
B	Common name or description	Self-explanatory.
C	Facility number	Self-explanatory.
D	Solid waste with potential for mixed waste not integral to the building or structure (no use)	"Stuff" (e.g., equipment, materials) that is not currently in use and for which no future use is currently known, but for which the final disposition has not yet been determined. The "stuff" is not currently considered mixed waste and may or may not currently be contaminated but includes items with the potential for becoming mixed waste, depending on future decisions regarding the ultimate use and disposition. "Stuff" integral to the building (e.g., walls, piping, ducting) is not to be included. "None" in this column indicates the project/facility contains no "stuff" known to be in this category.
E	Materials with potential to become solid waste and subsequently mixed waste (in standby, possible use)	"Stuff" (e.g., equipment, materials) that is currently in "standby" and may at some point, if it becomes waste, designate as mixed waste. Provide details for standby equipment/material that has a clear use or path for reuse/recycling, but may at some point, if/when it becomes waste, designate as mixed waste. A future use must be documented for material to be included in column E of the PMW table (Table 2-4). Documentation of the future use of items in column E shall be available upon request. Columns D and E encompass contents of buildings and structures only. Floor sweepings, dust, etc., are not included. The structures themselves, including contaminated walls, floors, piping, ducting, etc., are not included. Equipment and chemicals that are in use are not included.
F	DOE assessment of storage methods	Indicate when the DOE storage method compliance assessment for the purpose of meeting LDR report requirements is scheduled. Provide an alternative explanation if required (e.g., the assessment completion date, key facility in S&M phase, further DOE LDR storage method compliance assessment not needed).
G	Schedule information	Include schedule information relative to materials detailed in these columns. Include references to pertinent documents (e.g., closure plans, RODs) and identify any applicable OUs or other Tri-Party Agreement drivers for remediation. Provide a date for completing the data gap plan, if applicable. Also, for major negotiations related to the path forward for the PMW (e.g., start of facility transition or deactivation), provide a date for starting the negotiations with the regulators.
H	Integrating factors	Include factors that should be considered when determining when negotiations should occur. These include factors such as relative threat to human health and the environment if no action, ties to other activities such as OU remediation, ties of action to facility missions, etc.

Table 2-4. Potential Mixed Waste. (11 Pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
Battelle Memorial Institute, Pacific Northwest National Laboratory	Radiochemical Processing Laboratory	325	Tank system formerly used for product materials subsequently used as feedstock for research projects. Tanks have been drained and flushed but remain in place.	Hot cells, hoods, and gloveboxes used for radioactive materials and waste analysis and research (reused as needed for new or expanded research activities). Contaminated equipment and materials stored for potential reuse.	A&E-DWR-02-004	Data gap plan: Reference January 16, 2003, Waste Management Project/PNNL Facilities Project meeting minutes. Starting TPA negotiations: N/A (no data gaps identified)	325 is an active facility maintained such that potential mixed waste does not pose a risk to human health or the environment. The closure schedule will be coordinated with remediation under the ROD for 300-FF-2, *Hanford Site 300 Area Record of Decision for 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1.* The U.S. Department of Energy (DOE) has determined that certain buildings and utilities within the 300 Area need to be retained to support the ongoing mission of the Pacific Northwest National Laboratory (PNNL) and the Hanford Site. Therefore, some remediation work in the 300 Area has been deferred due to ongoing use of some buildings and supporting in-ground infrastructure like utility lines by PNNL. DOE will submit an Engineering Evaluation/Cost Analysis (EE/CA) to EPA addressing demolition and removal of 325 facility elements 6 months prior to the 325 facility completing its mission (anticipated in 2045) to support a subsequent action memorandum. The 7 vault/tanks (W-4, WT-1, PT-1 through PT-5) will be included in the removal scope of this EE/CA and action memorandum for characterization and disposition. The status of tanks WT-1 and PT-2 vault tanks is not definitive. PNNL will review historical records and update the 2024 LDR report, or an earlier LDR Report, if the tanks are determined not to be potential mixed waste.

Table 2-4. Potential Mixed Waste. (11 Pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
WRPS	Evaporators	242-T	Liquids/solids in process tanks and contaminated equipment, piping, and debris.	None.	FY 2006-POPD-S-0313	Data gap plan: Deferred until facility enters D&D due to industrial and radiological safety concerns with entering the portions of the facility necessary to gather meaningful data. Starting TPA negotiations: N/A The selected removal action alternative for certain 200 West Area facilities is identified in DOE/RL-2020-56, *Action Memorandum for the 200 West Area Tier 2 Buildings/Structures*, which includes the 242-S and 242-T facilities. Characterization and disposition of waste associated with implementation of the selected removal action for 242-S and 242-T will be performed in accordance with DOE/RL-2021-06, *Removal Action Work Plan for the 200 West Area Tier 2 Buildings/Structures* (RAWP) and DOE/RL-2021-07, *Sampling and Analysis Plan for the 200 West Area Tier 2 Buildings/Structures* (SAP). The schedule for implementation of this action is yet to be determined.	Is a past practice unit and will be dispositioned in accordance with the TPA milestone M-045-00 "Complete the closure of all Single Shell Tank Farms."
CPCCo, D4 End States (D4ES)	100-KE and KW Reactor Facilities	105-KE and 105-KW	Miscellaneous contaminated material in the facility is being managed as part of S&M activities.	None.	SNFP-ENV-04-MA-0101a SNFP-ENV-04-MA-0101c	Waste will be generated as part of the ISS activities. Data gap plan: SNFP-ENV-04-MA-0101a SNFP-ENV-04-MA-0101c The RAWP for 105-KE/105-KW Reactor Facilities and Ancillary Facilities (DOE/RL-2005-26, Rev. 2) was published in May 2019.	The reactor is a key facility under Section 8.0 of the TPA.

Table 2-4. Potential Mixed Waste. (11 Pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
CPCCo, D4ES	224-B Building	224-B	Chemicals associated with operations at the 224-B Building may exist as residual deposition in tanks. PMW remains in the 224 B process cells and vessels.	None.	Not required (Singleton 2011).	Data gap plan: Not required (Singleton 2011). Starting TPA negotiations: Negotiations are not needed. The RAWP for the 224B Plutonium Concentration Facility, (DOE/RL--2017--33, Rev. 0) was published in February 2020.	None.
CPCCo, D4ES	231-Z	231-Z	Potential for liquid in vessels.	None.	Attached to M-026 LDR Report Project Manager Meeting Minutes for April 23, 2009.	Data gap plan: Attached to M-026 LDR Report Project Manager Meeting Minutes for April 23, 2009. Starting TPA negotiations: N/A The approach for dispositioning 231-Z is under development. The drafted *Action Memorandum for the 200 West Area Tier 2 Buildings/Structures* (DOE/RL-2020-56, Rev. 0) published January 2022. *Removal Action Work Plan for the 200 West Area Tier 2 Buildings/Structures* (DOE/RL-2021-06, Rev. 0) was published in CY 2022.	Media that might designate as mixed waste, if present, are expected to be contained in stainless steel vessels.
CPCCo, D4ES	IMUSTs not associated with a building	242-T-135, 242-TA-R1	Tank system heels in each IMUST, piping, equipment, and components.	None	Initiated December 2022 – assessment is ongoing	Data gap plan: CY 2024. Tanks/vaults are in WMA TX/TY. Starting TPA negotiations: Negotiations are not needed. The selected removal action alternative for certain 200 West Area facilities is identified in *Action Memorandum for the 200 West Area Tier 2 Buildings/Structures* (DOE/RL-2020-56, Rev. 0), which includes the 242S and 242T facilities. Characterization and disposition of waste associated with implementation of the selected removal action for 242S and 242T will be performed in accordance with	Tank farm closure will include ancillary equipment such as IMUSTs (Eberlein 2015).

Table 2-4. Potential Mixed Waste. (11 Pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
						Removal Action Work Plan for the 200 West Area Tier 2 Buildings/Structures (DOE/RL-2021-06, Rev. 0) and *Sampling and Analysis Plan for the 200 West Area Tier 2 Buildings/Structures* (DOE/RL-2021-07, Rev. 0). The schedule for implementation of this action is yet to be determined.	
CPCCo, D4ES	REDOX	202-S, 291-S, 292-S, 293-S, 211-S, 2715-S, 2904-SA	DOE/RL-98-19, Rev. 3, Appendix A identifies the hazardous material remaining in the facility.	DOE/RL-98-19, Rev. 3, Appendix A identifies the hazardous material remaining in the facility.	N/A	Data gap plan: N/A Starting TPA negotiations: Complete. An AM was published in February 2019 (DOE/RL-2016-52, Rev. 1). The RAWP (DOE/RL-2017-06, Rev. 1) was published in December 2020. It covers the following buildings: 202-S, 211-S, 291-S, 292-S, 293-S, 2715-S, and 2904-SA.	REDOX is in the S&M phase of the facility decommissioning process described in Section 8.0 of the TPA. M-085-00, "Complete Response Actions for canyon facilities/past practice waste sites, other Tier 1 Central Plateau facilities not covered by existing milestones, and Tier 2 Central Plateau facilities."
CPCCo, D4ES	U Plant	221-U, 276-U, 291-U, 292-U, 241-WR-001, 241-WR-002, 241-WR-003, 241-WR-004, 241-WR-005, 241-WR-006, 241-WR-007, 241-WR-008, 241-WR-009	DOE/RL-98-20, Rev. 1, identifies the hazardous material remaining in the facility.	DOE/RL-98-20, Rev. 1, surveillance and maintenance Plan for the 221-U Facility (U Plant).	N/A	Data gap plan: N/A Starting TPA negotiations: Complete. Any additional negotiations will be completed in accordance with the TPA Action Plan Section 8.0. The RD/RAWP (DOE/RL-2006-21, Rev. 0) Removal Action Work Plan (DOE/RL-2004-83, Rev. 1) was published in December 2008.	U Plant is in the S&M phase of the facility decommissioning process described in Section 8.0 of the TPA.
CPCCo, D4ES	224-T	224-T	There is a glovebox/hood with vessels in the glovebox/hood, but mixed waste is not expected to be found in these items.	None.	A&E-SEC-02-009	A&E-SEC-02-009 Starting TPA negotiations: Negotiations are not needed. An AM was published in June 2005 (DOE/RL-2004-68, Rev. 0). The RAWP for the 224-T Plutonium Concentration Facility (DOE/RL-2019-36	None.

Table 2-4. Potential Mixed Waste. (11 Pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
						Rev. 0) was published in December 2020. Demolition preparation activities are expected to take up to 2 years. Due to interference risks with T Plant Operations, 224-T demolition is expected to be coordinated so as not to impact major T Plant operations (e.g., sludge storage and future treatment and disposition). Removal activities for the 224-T Building will be executed using a phased approach based on emergent facility conditions, funding availability, craft and engineering resources availability, and overall interactive site priorities.	
CPCCo, D4ES	B Plant	207-BA, 211-B, 212-B, 217-B, 221-B, 221-BG, 271-B, 276-B, 291-BA, 291-B, 291-BB, 291-BD, 291-BF, 291-BG, 292-B, 2711-B, 2715-B, 270-E-1 (IMUST)	DOE/RL-99-24, Rev. 3, Appendix A identifies the hazardous material remaining in the facility. Tank heels relate to TSD tank system and 270-E-1.	DOE/RL-99-24, Rev. 3, Appendix A identifies the hazardous material remaining in the facility.	A&E-00-ASS-075	See Columns D&E: As described in DOE/RL-99-24, Rev. 3, Appendix A. Data gap plan: N/A Starting TPA negotiations: Complete. Any additional negotiations will be completed in accordance with the TPA Action Plan Section 8.0. M-085-00, TBD. An AM was published in July 2013 (DOE/RL-2010-22, Rev. 1) that covers the following buildings (among others): 207BA, 211B, 217B, 221BG, 276B, 292B, 2711B and 2715B. The RAWP (DOE/RL-2010-33, Rev. 0) was published in April 2010 that covers the following buildings (among others): 207BA, 211B, 217B, 221BG, 276B, 292B, 2711B and 2715B. An AM was published in February 2011 (DOE/RL-2010-102) that covers the following buildings (among	B Plant is in the S&M phase of the facility decommissioning process, as described in Section 8.0 of the TPA.

Table 2-4. Potential Mixed Waste. (11 Pages)

A	B	C	D	E	F	G	H
Company, Project	Common Name or Description	Facility Number	Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)	Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled	DOE Assessment of Storage Methods[1]	Schedule Information	Integrating Factors
						others): 212B, 221BB, 221BF, 271B, 291B, 291BA, 291BB, 291BD, 291BF and 291BG. The RAWP (DOE/RL-2016-46, Rev. 0) was published in December 2018 that covers the following buildings (among others): 212B and 271B. The AM (DOE/RL-2016-51, Rev. 0) was published in August 2021. The draft RAWP (DOE/RL-2020-45 Draft A) is currently under review. Published August 2022. An EE/CA (DOE/RL-2016-14, Draft B) was drafted in December 2017 that covers the following buildings (among others): 221B. The IMUST (270-E-1) will be addressed as part of CERCLA remedial actions at 200-IS-1 OU (C-17-04). M-085-00 "Complete Response Actions for canyon facilities/past practice waste sites, other Tier 1 Central Plateau facilities not covered by existing milestones, and Tier 2 Central Plateau facilities." M-085-76 "Initiate response actions for the B Plant geographic area, dated 9/30/2025."	
CPCCo, D4ES	PUREX	202-A, 203-A, 204-A, 206-A, 211-A, 212-A, 213-A, 214-A/B/C/D, 215-A, 216-A, 225-EC, 271-AB, 276-A, 281-A, 291-A, 291-AB/AC/ AD/AE/AG/AH/AJ/AK, 291-A-1, 292-AA/AB, 293-A, A93-AA, 294-A, 295-A, 295-AA/AB/AC/AD/AE, 296-A-1, 296-A-2, 296-A-3, 296-A-5A/5B, 296-A-6/7/8/9/10/14/ 24, 2711-A-1, 2712-A, 2714-A/U,	DOE/RL-98-35, Rev. 3, Appendix A, identifies the hazardous material remaining in the facility. Tank heels relate to TSD tank system and 216-A-5.	DOE/RL-98-35, Rev. 3, Appendix A, identifies the hazardous material remaining in the facility.	N/A	Data gap plan: N/A Starting TPA negotiations: Complete. Any additional negotiations will be completed in accordance with the TPA Action Plan Section 8.0. An EE/CA (DOE/RL-2016-15, Rev. 0) was submitted to the regulars for review in June 2019 that covers the following building (among others): 202A. An AM was published in	PUREX remains in the S&M phase of the facility decommissioning process described in Section 8.0 of the TPA. In addition, 203A and 211A are under the Removal Action Work Plan for the PUREX Complex Tier 2 Buildings/Structures, DOE/RL-2016-47, Revision 0.

Table 2-4. Potential Mixed Waste. (11 Pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
		217-A, 252-AC/AB, 216-A-5 (IMUST)				February 2011 (DOE/RL-2010-102) that covers the following buildings (among others): 203A, 206A, 212A, 213A, 216A, 276A, 291AB, 291AC, 291AD, 291AE, 291AH, 291AK, 292AA, 292AB, 293A, 294A, 295A, 295AA, 295AB, 295AC and 295AD. An AM was published in July 2013 (DOE/RL-2010-22, Rev. 1) that covers the following buildings (among others): 211A, 214A, 225EC, 271AB, 281A, 291AG, 291AJ, 295AE, 2712A and 2714A. The RAWP (DOE/RL-2010-33, Rev. 1) was published in June 2020 that covers the following buildings (among others): 214A, 225EC, 271AB, 281A, 291AG, 291AJ, 295AE, 2712A and 2714A. The RAWP PUREX Complex Tier Two Buildings/Structures (DOE/RL-2016-47, Rev. 0) was published in April 2020 that covers the following buildings: 203A, 211A, 212A, 213A, 216A, 291AD, 293A and 294A. The AM (DOE/RL-2016-53, Rev. 1) was published in January 2021, PUREX Complex including the following buildings: 202A, East Annex, and West Annex. The IMUST (216-A-5) will be addressed as part of CERCLA remedial actions at 200-CP-1 OU. M-085-84 "Initiate response actions for the PUREX Plant geographic area, dated 9/30/2025."	

Table 2-4. Potential Mixed Waste. (11 Pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
CPCCo, D4ES	216-Z-9 Crib Soil Removal Glovebox (inactive)	216Z-9A, B, and C	Soil removal glovebox and mining equipment. Air compressor (potential for regulated oil). Residual contamination within glovebox (potential for mixed wastes during cleanout). Note: Glovebox probably will function as containment when conducting facility cleanout/transition activities.	None.	Not required. A time-critical removal action will be mitigating the risk.	241-Z-9 was grouted in 2021/2022 under a time-critical removal action (DOE/RL-2020-11, Rev. 0). Final disposition to be performed under CERCLA in accordance with the schedule provided in DOE/RL-2015-23.	To be dispositioned under the 200-PW-1/3/6, 200-CW-5 ROD, *Record of Decision, Hanford 200 Area, Superfund Site, 200-CW-5 and 200-PW-1, 200-PW-3 and 200-PW-6 Operable Units*.
CPCCo, D4ES	PFP Settling Tank	241-Z-361	Tank containing waste from past practices and piping.	None.	Reference M-026 LDR Report Project Manager Meeting Minutes for April 23, 2009.	Starting TPA negotiations: N/A Characterization completed December 20, 2001 (HNF-8735, *241-Z-361 Tank Characterization Report*). Data gap plan: Completed (reference M-026 LDR Report Project Manager Meeting Minutes for April 23, 2009) 241-Z-361 was grouted under a time-critical removal action that was completed in January 2021 (DOE/RL-2020-11, Rev. 0). Final disposition to be performed under CERCLA in accordance with the schedule provided in DOE/RL-2015-23, Rev. 1.	To be dispositioned under the 200-PW-1/3/6, 200-CW-5 ROD.
CPCCo, Soil and Groundwater Operations	270-W	270-W	PMW in the underground tank.	Although no specific matrix can be identified at this time, a possibility exists that matrices could be found which would qualify as PMW.	Not required (Singleton 2011).	Data gap plan: Not required (Singleton 2011). Starting TPA negotiations: N/A The RI/FS Work Plan (DOE/RL-2010-49, Rev. 0) was published in January 2017.	TSD closure will be coordinated with the OU remediation in accordance with M-015 milestones for 200-WA-1 OU.
CPCCo, Waste Projects and Operations (WP&O)	GAC Vapor Extraction System	None.	None.	Potential salvaged components of vapor extraction system.	N/A	Data gap plan: N/A Data for starting TPA negotiation: Negotiations are not anticipated.	Usable equipment will be evaluated upon resuming retrieval activities for continued use.

Table 2-4. Potential Mixed Waste. (11 Pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
CPCCo, WP&O	T Plant Canyon, RR Tunnel, Head-end	221-T	Process cells containing an inventory of PMW include inaccessible cells, process cells proposed to be cleaned, and process cells with potentially no proposed future uses. Inaccessible cells include: 20R, 20L, and 16L. Proposed cells to be cleaned include (subject to change): 19R, 18R, 10R, and 7R. Cells with potentially no proposed future uses include (subject to change): 19L, 18L, 17L, 14L, 12R, 12L, 9R, 8L, 6R, 4R, 4L, and 3R. Examples of inventory are jumpers, tanks, pumps, pump racks, centrifuges, fuel racks, fuel canisters, and agitators.	Items having the potential for reuse include cover blocks, lead shielding (including portable lead walls), hand tools and toolboxes, metal ramp, chokers and slings, hoists, railroad ties, portable fences, cutters (e.g., jaws), portable pumps and hoses, impact wrenches, spill pallets, HEPA vacuums, HEPA filter and duct work, torch cart and welding cart, work bench, portable exhauster, aqueous make-up tanks, drum crusher, plasma arc cutter.	WSD-TP-EP-06-MA-37	DOE will submit a notice to Ecology for closure after T plant has completed its mission, 2045. At that time closure can be performed in conjunction with dispositioning of the T plant by adding it to Section 8.0 of the TPA action plan. Data gap plan: WSD-TP-EP-06-MA-37. RL responded to Ecology comments in October 2007.	Milestone M-091-01 and RCRA permitting schedule. Schedules for processing and operational activities on the canyon floor will impact the schedule for disposition of this PMW.
CPCCo, WP&O	T Plant Complex IMUSTs	292-TK-1 and 292-TK-2	292-TK-1 and 292-TK-2 consist of two stainless steel 55-gal drums encased in concrete. These units contained a mixture of irradiated fuel and nitric acid. The solutions in the tanks were then neutralized with molar equivalents of sodium hydroxide.	None.	WSD-TP-EP-06-MA-37	Data gap plan: WSD-TP-EP-06-MA-37. DOE will submit a notice to Ecology for closure after T plant has completed its mission, 2045. At that time closure can be performed in conjunction with dispositioning of the T plant by adding it to Section 8.0 of the TPA action plan.	The tanks will be addressed as part of 200-WA-1 CERCLA remedial process.
CPCCo, D4ES	100-B Reactor Facilities	105-B	Miscellaneous contained/controlled hazardous/contaminated material remains in the facility.	None.	ARQP-04-11	Data gap plan: Completed June 15, 2004. Starting TPA negotiations: Approval of TPA Change Request M-93-01-02 completed TPA milestone M-093-14, “Initiate Negotiations for the Remaining Surplus Reactor Disposition Schedules.” The B Reactor became a National Historic Landmark in September 2008 and became part of the Manhattan Project National Historic Park in December 2014.	The reactor is a key facility under Section 8.0 of the TPA.

Table 2-4. Potential Mixed Waste. (11 Pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
WRPS, Tank Farms	702-A Ventilation Building	241-A-702	Seal pot that received liquids from the HEPA pre-heater.	None.	FY2005-SPMA-S-0317	Data gap plan: None. When the building is deactivated, characterization of the seal pot heel will be completed as necessary. Starting TPA negotiations: N/A	None.
WRPS, Tank Farms	Double-Shell Tank Farms Equipment	241-AN, AW, AP, AY, AZ, SY	Contaminated unusable equipment, e.g., ductwork, exhausters, piping, etc.	None.	S-08-ESQ-TANKFARM-003	Data gap plan: The equipment will be handled in accordance with waste management procedure as it is removed. Starting TPA negotiations: N/A. Equipment will be taken care of on a continuous basis.	Tank retrieval and closure, permit conditions.
WRPS, Tank Farms	242-S Evaporator Building	242-S	Liquids/solids in process tanks and contaminated equipment, piping, and debris.	None.	FY 2006-POPD-S-0313	Data gap plan: Deferred until facility enters D&D due to industrial and radiological safety concerns with entering the portions of the facility necessary to gather meaningful data. Starting TPA negotiations: N/A The selected removal action alternative for certain 200 West Area facilities is identified in DOE/RL-2020-56, *Action Memorandum for the 200 West Area Tier 2 Buildings/Structures*, which includes the 242S and 242T facilities. Characterization and disposition of waste associated with implementation of the selected removal action for 242S and 242T will be performed in accordance with DOE/RL-2021-06, *Removal Action Work Plan for the 200 West Area Tier 2 Buildings/Structures* (RAWP) and DOE/RL-2021-07, *Sampling and Analysis Plan for the 200 West Area Tier 2 Buildings/Structures* (SAP). The schedule for implementation of this action is yet to be determined.	None.

Table 2-4. Potential Mixed Waste. (11 Pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
WRPS, Tank Farms	IMUSTs not associated with a building	241-A-302-B, 241-SX-302	Tank system heels and contaminated equipment associated with each IMUST.	None.	Scheduled August 2022 – assessment is ongoing	Data gap plan is used in lieu of storage assessment but documented as a storage assessment.	Tank farm closure will include ancillary equipment such as IMUSTs (Eberlein 2015). Assessment scheduled at the request of Ecology.
WRPS, Tank Farms	IMUSTs not associated with a building	241-BX-302A, 241-B-302B, 241-BX-302B, 241-BX-302C, 241-TX-302B, 241-TX-302BR	Tank heels and contaminated equipment associated with each IMUST.	None.	N/A	Data gap plan: Deferred until closure of specific WMA.	Tank farm closure will include ancillary equipment such as IMUSTs (Eberlein 2015).
WRPS, Tank Farms	Single-Shell Tank Farms Building	241-A-431, 241-C-801, 241-SX-401, 241-SX-402	Liquids/solids in piping and debris.	None.	A-01-OPD-TANKFARM-011 A-02-EMD-TF-01	Data gap plan: Deferred until closure of specific WMA.	SST retrieval, WTP construction, and closure, permit conditions.
WRPS, Tank Farms	Reusable Contaminated Equipment	Various.	None.	Reusable contaminated equipment associated with tank farms activities.	N/A	Data gap plan: N/A Starting TPA negotiations: N/A	None.
WRPS, Tank Farms	Single-Shell Tank Farms Equipment	241-A, AX, B, BX, BY, C, T, TX, TY, S, SX, U, 244-AR, 244-CR	Contaminated unusable equipment, e.g., ductwork, exhausters, piping, ion exchange columns	None.	S-08-ESQ-TANKFARM-009	Data gap plan: The equipment will be handled in accordance with waste management procedures as it is removed. Starting TPA negotiations: N/A Equipment will be taken care of on a continuous basis.	SST retrieval and closure, permit conditions.

[1] Key facilities in the surveillance and maintenance phase, and locations with only central accumulation areas are exempt from the storage method compliance assessment requirement.

Table 2-5. Historical List of Materials Deleted from Potential Mixed Waste Table. (5 Pages)

Common Name or Description	Facility Number	Last Calendar Year Reported in Table 2-4	"Stuff"/Material Deleted	Reason for Deletion
CPCCo, REDOX	2718-S, 2711-S, 2710-S, 2706-S	2022	DOE/RL-98-19, Rev. 3, Appendix A identifies the hazardous material removed from the facility.	The 2718-S, 2711-S, 2710-S, and 2706-S structures were demolished under RAWP DOE/RL-2010-33, Rev. 1 and DOE/RL-2017-06, Rev. 2.
CPCCo, B Plant	221-BB, 221-BF	2020	Tank systems.	These were incorporated as a new LSDS under the B Plant Containment Building treatability group beginning with the CY 2022 LDR Summary Report.
WRPS, IMUSTs not associated with a building	241-S-302B	2019	Tank system heels and contaminated equipment associated with each IMUST.	The IMUST listed under "Facility Number" column has been moved to the SST System LSDS, Table 2.2 because the tank was categorized as TSD and not Past Practice.
WRPS, IMUSTs not associated with a building	241-B-301B, 241-C-301C, 241-S-302A, 241-T-301, 241-TX-302A, 241-TX-302X, 241-TY-302A, 241-TY-302B, 244-BXR (Vault), 244-TXR (Vault), 244-UR (Vault)	2019	Tank system heels and contaminated equipment associated with each IMUST.	The IMUSTs listed under "Facility Number" column have been moved to the SST System LSDS, Table 2.2 because the tanks were categorized as TSD and not Past Practice. For 241-TX-302X, the nomenclature was corrected when it was moved to 241-TX-302XB.
CHPRC, D&D Project, S&M IMUSTs not associated with a building	216-BC-201, 216-BY-201, 216-TY-201, 241-B-361, 241-ER-311A, 241-U-361, 241-T-361, 200-W-7 (243-S-TK-1), 231-W-151, 241-Z-8	2015	Tank system heels in each IMUST, piping, equipment, and components.	The following IMUSTs will be dispositioned with their respective cribs as shown. Further information regarding the remediation strategy can be found in the following OU documentation. 216-BC-201 (aka 200-E-14): 200-BC-1 216-BY-201: 200-IS-1 216-TY-201: 200-IS-1 241-B-361: 200-IS-1 241-ER-311A: 200-IS-1 241-U-361: 200-WA-1 241-T-361: 200-WA-1
T Plant Canyon Cell 11-L	221-T	2015	Tank 11-L contents.	DOE agreed to close Tank 11-L under RCRA.
WRPS, Tank Farms IMUSTs not associated with a building	240-S-302, 241-B-302B, 241-BX-302B, 241-BX-302C, 241-TX-302B, 241-TX-302BR	2015	Tank system heels and contaminated equipment associated with each IMUST.	The following IMUSTs will be dispositioned with their respective cribs as shown. Further information regarding the remediation strategy can be found in the following OU documentation. 240-S-302: 200-CR-1 The following IMUSTs were identified as potentially containing residual liquids and added back to the PMWT in the CY 2021 LDR Summary Report: 241-B-302B: 200-IS-1 241-BX-302B: 200-CB-1 241-BX-302C: 200-IS-1 241-TX-302B: 200-IS-1 241-TX-302BR: 200-IS-1
100-K Area	105-KE and 105-KW	2015	105-KE: Old electrical equipment 105-KW: None	The materials were removed. If additional waste is projected to be generated in the future, it will be accounted for in the ERDF-Treatment waste treatability group.
242-B/BL	242-B/BL	2015	Although no specific matrix can be identified at this time, a possibility exists that matrices could be found that would qualify as PMW.	Facility demolished.

Table 2-5. Historical List of Materials Deleted from Potential Mixed Waste Table. (5 Pages)

Common Name or Description	Facility Number	Last Calendar Year Reported in Table 2-4	"Stuff"/Material Deleted	Reason for Deletion
Plutonium Finishing Plant	236-Z	2015	Pu nitrate reclamation tanks, piping, and control equipment. Miscellaneous treatment tanks, piping, and control equipment. Containment gloveboxes (reclamation and miscellaneous treatment). Chem. prep tanks, piping, and control equipment. Residual contamination within inactive process equipment and gloveboxes (potential for mixed waste during cleanout). Potential for liquids within inactive tanks, vessels, and piping. Miscellaneous tools and maintenance equipment located within canyon cell. Note: Gloveboxes to be maintained and used for containment when conducting facility cleanout/transition activities.	Facility demolished.
Plutonium Finishing Plant	242-Z	2015	Miscellaneous process tanks, first floor and mezzanine level. Process piping. Containment gloveboxes. Potential for liquids within tans, vessels, and piping. Residual contamination within gloveboxes, tanks, and piping (potential for mixed waste during cleanout).	Facility demolished.
Plutonium Finishing Plant	234-5Z	2015	Tanks, piping, lead, control, and processing equipment, including the RMA/RMC lines. Residues and low-grade SNM.	Facility demolished.
Uranium Trioxide Facility	224-U/UA	2015	Potential mixed waste in the underground tank. The UO3 Facility was included in the PMWT because the possibility existed that matrices could be found that would qualify as PMW.	Facility demolished.
WTP Analytical Laboratory	N/A	2015	Hot cell prefilters	Filters are considered mixed waste subject to volume reduction and stabilization. Furthermore, hot cell waste generation is not expected until after the forecasting period.
WTP Analytical Laboratory	N/A	2015	Spent chemical/reagents (liquid lab pack). Eichrom resin columns (hot cell resins, mixed non-debris waste (organic waste stream that will require organic stabilization or thermal treatment). Rad lab miscellaneous compactable debris (lab glassware and other lab consumables, personal protective equipment, rags, and other compactable debris.) Miscellaneous hot cell compactable debris including sample bottles, ASX carriers, Isolok needles and parts, etc. Miscellaneous non-compactable hot cell debris.	Hot cell waste generation is not expected until after the forecasting period. Other lab related waste has been determined to not require a unique treatment process but instead has been allocated to existing treatability groups (MLLW-3).
Radiochemical Processing Laboratory	325	2013	Equipment containing approximately 5 tons of lead in numerous contaminated shipping containers, sample carriers, lead bricks, and other lead items.	This equipment was identified as waste and was disposed of in compliance with WAC 173-303 requirements.
Waste Neutralization Facility (340-Vault Tanks)	340	2013	340 Vault tank heels and clean out residues and associated equipment (valves, piping, pumps, light fixtures).	The 340 Building was shipped on February 16, 2014, for disposal at ERDF.
100 Area Waste/Material Transport Container	100 Area Reactor Facilities (primarily N and K Area)	2011	Containers that were being stored for future shipment of waste to be treated, disposed, or recycled.	Waste/material containers have been dispositioned to ERDF due to facilities D&D.
PFP Facilities	2736-Z	2010	Residues and low-grade SNM solids.	Residues and SNM solids removed.
PFP Facilities	234-5Z[2]	2010	Radioactive Acid Digestion Test Unit Gloveboxes (potential for residual contamination during cleanout).	RADTU glovebox cleanout completed.
Rail Car Staging Area	212-R Rail Spur and PUREX Rail Cut	2010	Rail car and rail car components.	Rail cars were declared waste and disposed in ERDF, with the exception of four railcars which were sent to the B Reactor Museum as "reusable equipment," not waste, as they are being used as displays.

Table 2-5. Historical List of Materials Deleted from Potential Mixed Waste Table. (5 Pages)

Common Name or Description	Facility Number	Last Calendar Year Reported in Table 2-4	"Stuff"/Material Deleted	Reason for Deletion
U Plant	221-U	2010	Tank D-10 (TK-10) in Cell 30.	Tank was removed as part of the CERCLA remediation in 2011 and placed in storage at CWC (DOE/RL-2011-80, Rev. 0). The tank is now tracked in the CWC TRUM-RH location.
100-K Area	105 KE and 105 KW	2009	Lead blankets. Neutron detectors with boron tri-fluoride tubes.[1]	A partial deletion from the PMWT. The lead was sent to ERDF for disposal. The neutron detectors were shipped to CWC as TRUM.
200 North Area	212-N, 212-P, 212-R	2009	212-R contained a burial box with some radiologically contaminated equipment. 212-P used to store PCBs.	The buildings and the burial box have been demolished and the waste was sent to ERDF.
U Plant	211-UA	2009	The 211-UA structure was demolished.	A partial deletion from the PMWT. The 211-UA structure was demolished under RAWP DOE/RL-2004-83.
UO_3 Facility	224-U, 203-UX, 211-U, 224-UA	2009	The above ground structures at the UO3 Facility were demolished.	A partial deletion from the PMWT. The aboveground structures were demolished under RAWP DOE/RL-2004-83; only the underground tank, 270-W, and slab foundations remain.
100-K Area	105-KE	2008	Chemicals in storage cabinets, and lead used as shielding for Ion Exchange Columns and piping.[1]	A partial deletion from the PMWT. Chemicals were redispositioned for use at 105-KW or disposed of as appropriate. Lead was reused or dispositioned as waste.
231-Z	231-Z	2008	Chemicals in gloveboxes.[1]	Activities to remove chemicals from gloveboxes were completed in 2008.
200 Area North	212-N	2007	14 wooden boxes in the transfer bay of suspected TRUM nuclear fuel fabrication equipment from the 308 Building.[1]	A partial deletion from the PMWT. The boxes were transferred to the CWC.
Mixed Waste Storage and Treatment Tanks	241Z	2007	Heels, associated piping, line flushing, and sludge cleanout of Tank D-6. Tank D-6 deactivated in 1972 because of failure. Waste transferred from tank and tank/piping isolated.[1]	The 241-Z tank system has been clean closed, tank D-6 heels were removed, the piping was removed, and the floor was cleaned. The end point criteria requirements were addressed.
U-Plant	2716-U, 2714-U	2007	Section 7.0 of the S&M plan, DOE/RL-98-20, indicated that 2714-U contained eleven 55-gal drums, but is not specific on the type of hazardous materials.	A partial deletion from the PMWT. 2716-U and 2714-U, among others, were dispositioned under a CERCLA AM calling for demolition of the structures.
100-K Area	105-KW	2005	Lead in the back of a utility truck.[1]	The lead in the truck was removed from the vehicle and sent to the ERDF facility for disposal
327 Building	327	2005	Lead bricks.	The building deactivation and demolition was completed in 2010. The lead bricks are included in the forecasted waste volume to be treated at ERDF.
333 Building	333	2005	Miscellaneous equipment, piping, and ductwork.	The building was deactivated and demolished in CY 2006. Equipment, piping, and ductwork disposed at ERDF.
2711-E	2711-E	2004	Radiator from crane-suspect lead solder.	Matrices were disposed of in 2005.
3711 Building	3711[2]	2004	Lead cask, pipe, pipe joints, and metal railing contaminated with lead.	Matrices were disposed of in 2005.
Heavy Equipment Staging Area	4734D	2004	Heavy equipment components.	Equipment is no longer cleaned at this location.
U Plant	2716-U, 275-UR	2004	Any matrices described in the U Plant S&M Plan, DOE/RL-98-20.	2714-U and 275-UR have been demolished as part of the CERCLA Removal Action.
UO_3	203-U, 2715-UA, 272-U	2004	Any matrices described in the UO3 S&M Plan, DOE/RL-98-22, *Surveillance and Maintenance Plan for the Uranium Trioxide (UO3) Facility*.	203-U, 2715-UA, and 272-U have been demolished as part of the CERCLA Removal Action.
100 Areas Facilities	Many	2003	Miscellaneous contaminated material.	Facilities did not contain mixed waste or PMW.
340 Facility Complex	340-A, 340-B, and 300 RLWS	2003	Tanks, process piping, ancillary equipment, and related equipment.	Facilities did not contain mixed waste or PMW.
PFP Facilities	232-Z, 236-Z[2], and portions of 234-5Z[2]	2003	Incinerator and leaching gloveboxes. Inactive process tanks, piping, and control equipment. Reclamation tanks, piping, and control equipment. Miscellaneous tools.[1]	Materials have been dispositioned, did not meet the definition of PMW, or are forecasted to be generated as mixed waste.
100-N Lead Storage Area	1714-N[2]	2002	Lead sheeting and bricks, lead lined containers, and a lead lined survey booth.	Matrix is now included in the LSDS for CERCLA lead under the ERDF – Treatment treatability group.

Table 2-5. Historical List of Materials Deleted from Potential Mixed Waste Table. (5 Pages)

Common Name or Description	Facility Number	Last Calendar Year Reported in Table 2-4	"Stuff"/Material Deleted	Reason for Deletion
242-A Evaporator	242-A	2002	Ion exchange column(s)	The ion exchange column(s) were disposed on-site.
314	314[2]	2002	Large equipment previously used in the facility.	LDR storage method compliance assessment concluded facility contained no mixed waste or PMW.
3708	3708[2]	2002	Solid obsolete laboratory equipment.	LDR storage method compliance assessment concluded facility contained no mixed waste or PMW.
100 C Reactor Facility	105-C, 118-C-4	2001	Reactor core and equipment remaining in the facility.	Reactor core was part of the structure of the building. Mixed waste is removed during the reactor ISS.
100 D/DR Reactor Facility	105-D, 105-DR, 117-DR[2], 190-DR[2]	2001	Reactor core and equipment remaining in the facility.	Reactor core was part of the structure of the building. Mixed waste is removed during the reactor ISS.
100 F Reactor Facility	105-F	2001	Reactor core and equipment remaining in the facility.	Reactor core was part of the structure of the building. Mixed waste is removed during the reactor ISS.
100 H Reactor Facility	105-H, 1720-HA[2], 1713-H	2001	Reactor core and equipment remaining in the facility.	Reactor core is part of the structure of the building. Mixed waste was removed during the reactor ISS.
100 K Basins	105-KW	2001	Lead bricks, sheets.	The lead has been declared CERCLA waste. An LSDS was created.
100-N Reactor Facilities	See Table 1, S&M Plan for the 100-N Deactivated Facilities, DOE/RL-98-64, *Surveillance and Maintenance Plan for the 100-N Area Deactivated Facilities*	2001	Some remaining hazardous materials consisting of activated materials and fission products contained within the reactor block. (Further details are provided in DOE/RL-98-64).	Reactor core is part of the structure of the building. Mixed waste was removed during the reactor decommissioning.
200 ETF	2025E	2001	Thin film dryer rotor.	Rotor was rebuilt for reuse at the 200 ETF.
224-T (includes TRUSAF)	224-T	2001	Liquid in the sumps and the deep cell. Two cardboard boxes in the cells.[1]	Determined to not have a hazardous component, and therefore not a mixed waste. Note: Only the contents noted were removed from Table 2-4. Table 2-4 of this document still contains other potential waste in this location.
2706-T Conex Box	Conex box CC2W0136 and CC2W137	2001	Various decontamination equipment, spill pallets, shipping coolers, carts, hoses, storage cabinets, and sampling equipment.	These conex boxes were opened and the contents visually verified and photographs taken. The photographs clearly demonstrate that the equipment is readily accessible. The equipment will be used in the future as part of the 2706-T Complex operations (e.g., decontamination, sampling). The photographs are maintained in the T Plant Complex operating record.
300-RRLWS	RRLWS	2001	Retired radioactive liquid waste sewer piping and ancillary structures might designate as mixed waste.	Below-ground structure: Does not meet reporting criteria for PMWT.
324	324	2001	Shielded glovebox. PMW residue. Former Silver List Item 11.8 (95-PCA-342).	Glovebox was included in the 4th quarter CY 2002 LDR storage method compliance assessment and determined to contain only floor sweeps (DOE et al. 2003a).
C855 (CAT) Substation	252U	2001	Transformer.	The transformer has been designated and found not to have a dangerous component. Therefore, it is not mixed waste.
Environmental Sciences Laboratory	3720[2]	2001	Laboratory equipment, hoods, and gloveboxes used for radioactive materials and waste analysis and research (reused as needed for new or expanded research activities).	On-site inspection revealed that contaminated equipment is in use. Hoods and gloveboxes listed are part of the structure of the building.
Heavy Equipment Staging Area	2711E	2001	Miscellaneous equipment.	No material left at this location, as it was shipped off-site for reuse.
Mixed Waste Treatment and Storage Tanks	241-Z	2001	Tank D-9, Treatment chemicals.[1]	Tank D9 is in use to mix treatment chemicals. Treatment chemicals are in use in transferring waste from the PFP to DSTs. Note: Only the contents noted were removed from Table 2-4 of this document. Table 2-4 still contains other potential waste in this location.
Plutonium Finishing Plant	234-5Z[2]	2001	E1: Laboratory Reagents E2: Archive Laboratory Samples E3: PR cans that have lead liners. E4: Low-grade SNM solutions not run through the precipitation process, but with potential to become solid waste (e.g., the direct discard process). [1]	E1: These chemicals are in use within the laboratory. E2: Samples are archived in accordance with sample exclusion. E3 and E4: Material is now included on LSDSs. Note: Only the contents noted were removed from Table 2-4. Table 2-4 still contains other potential waste in this location.
Rad. Storage Area	3711[2]	2001	Lead bricks.	Shipped September 26, 2001, to Duratek Inc. in Memphis, TN for decontamination/lead casting

Table 2-5. Historical List of Materials Deleted from Potential Mixed Waste Table. (5 Pages)

Common Name or Description	Facility Number	Last Calendar Year Reported in Table 2-4	"Stuff"/Material Deleted	Reason for Deletion
REDOX	276-S-141/142	2001	Tanks and heel content.	A treatability group was developed to account for the 276-S-141/142 tanks (see Table 2-1).
Semi Works	241-CX-70, 241-CX-71, 241-CX-72, 276-C	2001	Tanks and heel content.	A treatability group was developed to account for the 241-CX tanks (see Table 2-1).
Waste Handling Facility	219-S	2001	Tank 103 and heel content.	Combined with existing LSDS for the 219-S Waste Handling Facility.
Waste Storage Building	2724WB	2001	Radiators (from motor vehicles).	Shipped September 26, 2001, to Duratek Inc. in Memphis, TN for decontamination/metal melt

[1] Additional potential mixed waste is identified in Table 2-4 for this location.
[2] Facility has been demolished subsequent to this entry.

2.4 HANFORD SITE WASTE MINIMIZATION PROGRAM

HNF-46952, *Hanford Site Pollution Prevention and Waste Minimization Program Plan*, provides guidance for Hanford Site contractors to prevent pollution from entering the environment, to conserve resources and energy, and to reduce the quantity and toxicity of hazardous, radioactive, mixed, and sanitary waste from all Hanford Site operations and cleanup activities. The program plan reflects the national and local waste minimization and pollution prevention goals and policies. The plan represents an ongoing effort to ensure pollution prevention/waste minimization (P2/WMin) is part of the Hanford Site operating philosophy and is included in contractor environmental management systems. In accordance with these policies and the Hanford Site Pollution Prevention Program, there will be annual reviews done for generation of mixed wastes under this plan. If changes are required, HNF-46952 will be updated annually. If there are no changes determined from the annual review, it will be documented in the subsequent LDR report. A hierarchical approach to environmental management has been adopted and is applied to all waste-generating activities. Waste minimization through source reduction is the first priority in the plan, followed by environmentally safe recycling. Treatment, which includes some segregation to reduce the quantity, toxicity, and mobility of waste, is considered only when source reduction or recycling/reuse is not possible or practical. The final option is environmentally safe disposal.

The program plan provides guidance to contractor generator groups for developing and maintaining documentation of P2/WMin program activities intended to demonstrate generator compliance with DOE requirements as well as applicable regulations.

The program plan includes the following elements:

- Incorporation of P2/WMin into environmental management systems
- Establishing P2/WMin goals
- Performance measures
- P2/WMin methods
- Incorporation of P2/WMin into the work process
- Waste minimization assessments and evaluations
- Sustainable design
- Pollution prevention awareness programs
- Purchase of environmentally preferable products and services
- Pollution prevention outreach and public involvement
- Pollution prevention tracking systems
- Pollution prevention reporting.

The Hanford Site contractors implement these techniques individually in accordance with their internal waste minimization programs. Waste minimization plans for onsite treatment activities can be found in TGDS Section 4.7. Waste minimization activities for each location-specific waste stream including assessments, current/proposed methods, schedules, volume reductions, and bases and assumptions used for volume estimates can be found in LSDS Sections 3.1 through 3.3.3. See Table 2-2 for the most current TGDS and LSDS.

For CY 2023, the annual review for generation of mixed wastes under the plan has been completed and documented in the Hanford Integrated Document Management System (IDMS), and no issues or changes have been identified. The update to HNF-46952, *Hanford Site Pollution Prevention and Waste Minimization Program Plan*, is not required at this time.

3.0 SUMMARY OF STORAGE INFORMATION

This section provides a summary of storage information for reported LDR waste as of December 31, 2023. Data on waste volumes are reported in Table 3-1, in any new LSDS in Sections 2.3 and 2.6, and aggregated by treatability group in any new TGDS in Sections 2.1 and 2.2. Information on the organization of waste streams within treatability groups can be found in Section 1.2 of this report. The following sections of each LSDS provide storage information specific to each waste stream:

- Current method of storage (LSDS Section 2.1)
- History of how the waste was managed prior to storage (LSDS Sections 2.1.1 and 2.12)
- Dates waste was placed into storage (LSDS Section 2.1.2)
- Current locations for permitted storage (LSDS Section 2.2)
- Planned locations for permitted storage (LSDS Section 2.5)
- General timeframe determination, which serves to categorize when the waste was placed in storage (LSDS Sections 1.3 and 2.1.2).

See Table 2-2 for the most current LSDS. For more information see Appendix B of DOE/RL-2020-09, Rev. 2, *Calendar Year 2019 Hanford Site Mixed Waste Land Disposal Restrictions Full Report*.

Table 3-1 presents the volume of mixed waste currently in storage and the available storage capacity for each Hanford Site location where waste is stored. Location-specific storage capacity, as well as the basis and assumptions used in estimating storage capacity, is reported in LSDS Section 2.4 and detailed in Table 3-2. There have been no substantial changes regarding storage capacity for reported waste streams since the CY 2019 LDR Full Report.

Requests for variances and other exemptions related to storage are addressed in LSDS Section 2.10. There were no updated requests for storage variances or exemptions since the CY 2019 LDR Full Report.

Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers. (9 Pages)

TGDS / Treatability Group Name	LSDS[1]	Waste Stream[1]	Estimated Storage Capacity (m^3)	Current Inventory (m^3)	Storage Building/Room Number **(Number of Containers/Tanks)**[2, 3]	Projected Generation 2024-2028 (m^3)	When Storage Capacity will be Reached	Bases and Assumptions Used
221-T Containment Building	T Plant Complex	221-T Containment Building	8,792.000	58.000	221-T **(Containment building 7L, 9L, 13R, 17R; deck; railroad tunnel)**	0.000	Not expected to be reached during life of the facility.	Storage of this waste is at the 221-T Containment Building. The design capacity from the Part A Permit Application is identified. Storage capacity is not an issue because there is no waste generation projected for the next 5 years.
221-T Tank System	T Plant Complex	RCRA Tank Systems	0.000	1.730	221-T Tanks 5-6, 5-9, 11-R, 5-7, 15-1, and 6-1 **(6t)**	0.000	N/A	The dangerous waste management unit(s) associated with this waste have received their last receipt of waste, will be closing, and will not receive any more waste in the future.
221-T Tank System	T Plant Complex	Tank 11-L	0.000	1.893	Cell 11-L **(1t)**	0.000	N/A	The dangerous waste management unit(s) associated with this waste have received their last receipt of waste, will be closing, and will not receive any more waste in the future.
222-S T8 Tunnel	222-S Laboratory Complex	T8 Tunnel RH-MLLW	0.000	0.200	219-S T8 Tunnel **(N/A)**	0.000	N/A	The dangerous waste management unit(s) associated with this waste have received their last receipt of waste, will be closing, and will not receive any more waste in the future.
241-CX Tank System	241-CX Tank System	CX Tank System	0.000	5.980	241-CX-71 **(1t)**, -72 **(1t)**	0.000	N/A	The dangerous waste management unit(s) associated with this waste have received their last receipt of waste, will be closing, and will not receive any more waste in the future.
324 Building REC Waste	324 Building	Radiochemical Engineering Cells	0.000	43.500	324 REC A-D Cell **(4 rooms)**; 101, 102, 104, 106-108 **(6t)**	0.000	N/A	The dangerous waste management unit(s) associated with this waste have received their last receipt of waste, will be closing, and will not receive any more waste in the future.
400 Area WMU	400 Area WMU	Mixed Waste	75.700	1.900	403 **(2c)**; Interim Storage Area **(15c)**	0.000	N/A	The dangerous waste management unit(s) associated with this waste have received their last receipt of waste, will be closing, and will not receive any more waste in the future.
400 Area WMU	FFTF	Sodium Residuals	0.000	37.800	FFTF **(Residuals in piping and IEM Cell)**	0.000	N/A	FFTF will be decommissioned using the CERCLA process per Section 8.0 of the TPA, so submittal of a RCRA Part A form or Part B Application is not applicable.
B Plant Cell 4	B Plant Complex	Cell 4	0.000	1.400	221-B, Cell 4 **(7c)**	0.000	N/A	The dangerous waste management unit(s) associated with this waste have received their last receipt of waste, will be closing, and will not receive any more waste in the future.
B Plant Containment Building	B Plant Complex	Containment Building Storage	0.000	294,000 kg	221-B **(N/A)**	0.000	N/A	The dangerous waste management unit(s) associated with this waste have received their last receipt of waste, will be closing, and will not receive any more waste in the future.
B Plant Containment Building	221BB and 221BF Tanks	221BB and 221BF Tanks	0.000	0.848	221BB-BCP, BCS **(2t)**, 221BF-A, B **(2t)**	0.000	N/A	The dangerous waste management unit(s) associated with this waste have received their last receipt of waste, will be closing, and will not receive any more waste in the future.
Cesium and Strontium Capsules	WESF	Cesium and Strontium Capsules	2.000	2.000	225B/Pool Cells **(1936 Capsules)**	0.000	Not expected to be reached during life of the facility.	Storage of this waste is at WESF. Capacity is based on the Part A Permit Application. No waste is projected for generation for the next 5 years, so storage capacity is not an issue.
DST Waste	204-AR Waste Unloading Station, TK-1 Catch Tank	Aqueous Mixed Waste	0.000	2.688	204-AR WUS **(1t)**	0.000	N/A	The dangerous waste management unit(s) associated with this waste have received their last receipt of waste, will be closing, and will not receive any more waste in the future.

Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers. (9 Pages)

TGDS / Treatability Group Name	LSDS[1]	Waste Stream[1]	Estimated Storage Capacity (m^3)	Current Inventory (m^3)	Storage Building/Room Number (**Number of Containers/Tanks**)[2, 3]	Projected Generation 2024-2028 (m^3)	When Storage Capacity will be Reached	Bases and Assumptions Used
DST Waste	222-S Laboratory Complex / 219-S Waste Handling Facility	Bulk Aqueous Liquids	43.500	13.442	219S WHF-101-102, 104 **(3t)**	66.250	Not expected to be reached during life of the facility.	Waste can be introduced into the 219-S tank system from sinks, hot cell drains, and piping from analytical instrumentation within the lab. Waste from the 219-S tank system is documented to meet DST waste acceptance requirements prior to transfer to Double-Shell Tank SY-101. Tank waste inventories are maintained in tank waste summary reports. HNF-EP-0182, Rev. 420, lists the available space of SY-101 as 52,000 gallons, which converts to a capacity of 196.84 cubic meters, which is adequate for the anticipated waste generation amounts.
DST Waste	DST System	DST System	120,000.000	99,000.000	241-AN-101-107 **(7t)**; 241-AP-101-108 **(8t)**; 204-AR-TK-1 **(1t)**; 241-AW-101-106 **(6t)**; 241-AY-101-102 **(2t)**; 241-AZ-101-102, 151 **(3t)**; 241-SY-101-103 **(3t)**	0.000	Not expected to be reached during life of the facility.	The 242-A Evaporator receives mixed waste from the DST System. The Evaporator separates the mixed waste, generating a concentrated aqueous waste stream (slurry) and a dilute aqueous waste stream (process condensate). The slurry is routed back to the DST System and the process condensate is transferred to the LERF/ETF permitted facility. This treatment process reduces the volume of liquid waste in the DSTs and is used to free up storage capacity in the DST System. DST supernate will be filtered and passed through ion exchange for cesium removal and then eventually routed back to the DST System for storage and subsequent transfer to the LAW facility for treatment. Operations of the LAW facility are anticipated within the 5-year generation period of this report. Additions are monitored by Tank Farms so storage capacity is not an issue.
DST Waste	WTP Effluent Management Facility	Conditioned Liquid Effluent	120,000.000	0.000	N/A	940.000	N/A	During off-normal operations, the evaporator feed vessel can use its recirculating pumps to deliver the vessel contents to an effluent conditioning pipeline, where the vessel contents are mixed in-line with sodium nitrite solution and sampled. Although the conditioning pipeline includes a mixing tee for adding condensate or demineralized water, further dilution of this stream is normally not needed. The conditioned liquid effluent is then cooled in a heat exchanger and enters the underground pipeline for transfer to DST AP-102. Storage capacity is not an issue, as waste from DST AP-102 can be transferred to other DSTs to create more capacity.
ERDF—Treatment	222-S Laboratory	Hazardous Debris to ERDF	28.500	0.000	N/A	144.000	Not expected to be reached during life of the facility.	There is currently no waste in storage at this location. The storage capacity does not include the CAA or SAAs. Storage capacity is not an issue because the waste is sent to ERDF within 1 year of generation to be treated and disposed.
ERDF—Treatment	325 HWTU	Radioactive Lead and Debris	50.300	0.000	N/A	3.000	Not expected to be reached during life of the facility.	Waste is shipped to ERDF for treatment within 1 year of generation and then disposed. Storage capacity is not an issue.
ERDF—Treatment	CERCLA Waste	CERCLA Waste	N/A	53.650	N/A	1,210.000	Capacity will not be reached due to waste being disposed.	Waste is placed in the Container Transfer Area (CTA) and/or CERCLA staging area to be treated then disposed in the ERDF landfill.
ERDF—Treatment	Closure Services and Infrastructure (CS&I)	Hazardous Debris to ERDF	N/A	0.000	N/A	800.000	N/A	Mixed waste at Hanford is required to be listed in the LDR Report, but the mixed waste at these locations is being accumulated or not being stored. Storage capacities from where this waste will be stored or disposed later are covered in other storage capacity entries.
ERDF -- Treatment	Tank Farms	Long Length Equipment Debris to ERDF	N/A	0.000	N/A	150.000	N/A	Waste is shipped to ERDF for treatment within one year of generation and then disposed. Storage capacity is not an issue.
ERDF—Treatment	Tank Farms	Other MLLW Debris to ERDF	N/A	0.000	N/A	0.000	N/A	Mixed waste at Hanford is required to be listed in the LDR Report, but the mixed waste at these locations is being accumulated or not being stored. Storage capacities from where this waste will be stored or disposed later are covered in other storage capacity entries.
ETF Effluents	ETF	Acetonitrile Distillate	63.595	0.00	2025EJ & 2025 EK Acetonitrile Distillate Storage areas – (0 totes)	447.537	Not expected to be reached during life of the facility.	The design of the new storage areas included the volume needed to ship the waste streams off-site for treatment as the waste is generated. See the LERF/ETF RCRA permit, Process Addendum, Section C.3.10.

Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers. (9 Pages)

TGDS / Treatability Group Name	LSDS[1]	Waste Stream[1]	Estimated Storage Capacity (m^3)	Current Inventory (m^3)	Storage Building/Room Number **(Number of Containers/Tanks)**[2, 3]	Projected Generation 2024-2028 (m^3)	When Storage Capacity will be Reached	Bases and Assumptions Used
ETF Effluents	ETF	Brine Concentrate	302.833	0.000	N/AN/A2025E Outside Container storage area and Container Storage Area - (0 totes)	555.000	Not expected to be reached during life of the facility.	The ETF storage area design will provide the storage capacity needed to ship the waste streams off-site for treatment as the waste is generated. See the LERF/ETF RCRA permit, Process Addendum, Section C.3.10.
ETF Effluents	ETF	Wastewater	4,185.414	3,895.350	20B-TK-1, -2 **(2t)**; 59A-TK-1, -2, -3, -4 **(4t)**; 60A-TK-1 **(1t)**; 60C-TK-1, -2 **(2t)**; 60F-TK-1, -2 **(2t)**; 60H-TK-1, -2, -3 **(3t)**; 60I-TK-1A, -1B **(2t)**; 60J-TK-1A, -1B **(2t)**; 60I-EV-1, -2 **(2c)**; 60N-TK-202, -203 **(2t)**; 60L-TK-001, -002, -003 **(3t)**; 60K-CO-001, -201 **(2c)**; 60K-TK-001, -201 **(2t)**	0.000	Not expected to be reached during life of the facility.	The ETF process units are grouped in either the primary or the secondary treatment train. The primary treatment train provides for the removal or destruction of contaminants. Typically, the secondary treatment train processes the waste by-products from the primary treatment train by reducing the volume of waste. In the secondary treatment train, contaminants are concentrated to a brine, or dried to a powder. The liquid fraction from the secondary treatment train is routed to the primary treatment train. Powder filled containers can be moved to any of the Container Storage and Treatment areas; however, they are normally moved to the 2025E Container Storage Area. The change in tanks reflects the list of tanks in the LERF/ETF RCRA permit, Process Addendum, Table C-6.
ETF Receipts	242-A Evaporator	Evaporator Process Condensate	202.000	32.531	242-A/TK C-100 **(1t)**	23,431.688	Not expected to be reached during life of the facility.	242-A Evaporator receives mixed waste from the DST System. The Evaporator separates the mixed waste, generating a concentrated aqueous waste stream (slurry) and a dilute aqueous waste stream (process condensate). The slurry is routed back to the DST System and the process condensate is transferred to the LERF/ETF permitted facility. The Evaporator runs on batch campaigns.
ETF Receipts	IDF	IDF Leachate	2,839.059	0.000	219A201 **(1t)**; 219E201 **(1t)**	18,454.000	Not expected to be reached during life of the facility.	Each tank has a 375,000-gal capacity. There is sufficient capacity for the projected leachate quantities.
ETF Receipts	LLBG/MW Trench	TR34 and TR31 Leachate	N/A	0.000	Trench 31 Tank **(1t and 2 sumps)**; Trench 34 Tank **(1t and 2 sumps)**	7,250.000	N/A	Mixed waste at Hanford is required to be listed in the LDR Report, but the mixed waste at these locations is being accumulated or not being stored. Storage capacities from where this waste will be stored or disposed later are covered in other storage capacity entries.
ETF Receipts	T Plant Complex/2706-TB Tank System	2706-TB Tank System	79.500	0.270	2706 TB Tank System 220 **(1t)**	0.000	Not expected to be reached during life of the facility.	Storage of this waste is in the 2706-T tank system. Capacity is based on the Part A Permit Application. No waste is projected for generation for the next 5 years, so storage capacity is not an issue. An inspection on June 8, 2023, concluded with Ecology concurrence that Tank T-XX-2706-221 is to be considered empty and was removed from the CY 2023 LDR Summary Report.
ETF Receipts	WTP Effluent Management Facility	WTP DFLAW Condensate	1,272.000	0.000	N/A	75,632.000	Not expected to be reached during life of the facility.	Storage of this waste will be at EMF vessels DEP-VSL-00004A and -4B, DEP-VSL-00005A and -5B. Storage capacity is from the RCRA permit for Waste Treatment & Immobilization Plant Operating Unit Group 10. EMF condensate is held in overhead sampling vessels DEP-VSL-00004A and -4B for characterization, then subsequently transferred to process condensate lag storage vessels DEP-VSL-00005A and -5B for holding prior to transfer to the LERF/ETF. At current projected generation rates, storage capacity is not expected to be reached during operation of this facility, because there is adequate treatment capacity at LERF/ETF. Facility is not in operation and currently no waste is in storage.
Hanford Site Laboratory Complex	222-S	Containerized mixed waste	28.500	7.898	HS-00082 A&B **(23c)**; HS-00083 A&B **(16c)**; Rooms 2B **(7c)**, 2D **(3c)**, 4E **(4c)**	416.600	Not expected to be reached during life of the facility.	222-S has three container storage areas to store containerized Mixed Waste. Waste is sent off-site for treatment within 1 year of generation and sent back to the Low-Level Burial Grounds Trenches 31 and 34 for disposal. There are no storage capacity issues.
HSTF	HSTF	HSTF 276-S-141/142	0.000	0.984	276-S-141 **(1t)**, -142 **(1t)**	0.000	N/A	The dangerous waste management unit(s) associated with this waste have received their last receipt of waste, will be closing, and will not receive any more waste in the future.

Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers. (9 Pages)

TGDS / Treatability Group Name	LSDS[1]	Waste Stream[1]	Estimated Storage Capacity (m^3)	Current Inventory (m^3)	Storage Building/Room Number **(Number of Containers/Tanks)**[2, 3]	Projected Generation 2024-2028 (m^3)	When Storage Capacity will be Reached	Bases and Assumptions Used
LERF/ETF Solid Waste	ETF	Powder Drums	264.900	0.000	N/A	37.059	Not expected to be reached during life of the facility.	Powder filled containers not meeting LDR treatment standards are sent to Perma-Fix Northwest for LDR treatment and then disposed at the Low-Level Burial Grounds Trenches 31/34 or ERDF. Powder filled containers that meet LDR treatment standards are sent to ERDF for disposal within a year of generation. Powder filled containers can be moved to any of the Container Storage and Treatment areas; however, they are normally moved to the 2025E Container Storage Area. Since multiple storage areas are available, storage is not an issue for this waste.
LERF/ETF Solid Waste	LERF/ETF	Operations and Maintenance Waste	264.900	15.803	2025E **(2c)**; ETF Pad **(1c)**	150.000	Not expected to be reached during life of the facility.	Waste is placed in CAA and/or TSDs then sent directly to ERDF for treatment and disposal or off-site for treatment and disposal.
MLLW-01 - LDR Compliant Waste	CWC	LDR Compliant	20,796.000	0.208	CWC 2403WD **(1c)**	0.000	Not expected to be reached during life of the facility.	LDR compliant waste. Storage capacity is not an issue.
MLLW-02 - Inorganic Non-Debris	CWC	Inorganic Non-Debris Solids and Labpacks	20,796.000	0.208	CWC 2403WD **(1c)**	0.000	Not expected to be reached during life of the facility.	Capacity is based on the CWC/WRAP Part A Permit Application for the entire CWC, which includes all storage areas. Projected waste generation rates for the next 5 years are very low, so storage capacity is not an issue. Also, generation and treatment rates allow for waste movement as needed between CWC and WRAP.
MLLW-02 - Inorganic Non-Debris	LLBG	Inorganic Non-Debris	0.000	0.000	N/A	0.000	N/A	Storage capacity is not applicable because no other additional mixed waste is allowed to be stored within the LLBG.
MLLW-02 - Inorganic Non-Debris	T Plant Complex	Inorganic Non-Debris	946.300	0.000	N/A	0.000	Not expected to be reached during life of the facility.	Capacity is based on the Part A Permit Application. Projected waste generation rates for the next 5 years are very low, so storage capacity is not an issue.
MLLW-03 - Organic Non-Debris	CWC	Organic Non-Debris	20,796.000	0.322	CWC 2403WD **(1c)**	0.000	Not expected to be reached during life of the facility.	Capacity is based on the CWC/WRAP Part A Permit Application for the entire CWC, which includes all storage areas. Projected waste generation rates for the next 5 years are very low, so storage capacity is not an issue. Also, generation and treatment rates allow for waste movement as needed between CWC and WRAP.
MLLW-03 - Organic Non-Debris	LLBG	MLLW Retrieval Organic Non- Debris	0.000	0.000	N/A	0.000	N/A	Storage capacity is not applicable because no other additional mixed waste is allowed to be stored within the LLBG.
MLLW-03 - Organic Non-Debris	T Plant Complex	Organic Non-Debris	946.300	0.000	N/A	0.000	Not expected to be reached during life of the facility.	Capacity is based on the T Plant Part A Permit Application. Projected waste generation rates for the next 5 years are very low, so storage capacity is not an issue.
MLLW-04 - Hazardous Debris	CWC	Hazardous Debris	20,796.000	108.269	CWC 2403WA **(21c)**, 2403WB **(9c)**, 2403WD **(44c)**	0.000	Not expected to be reached during life of the facility.	Capacity is based on the CWC/WRAP Part A Permit Application for the entire CWC, which includes all storage areas. Projected waste generation rates for the next 5 years are very low, so storage capacity is not an issue. Also, generation and treatment rates allow for waste movement as needed between CWC and WRAP.
MLLW-04 - Hazardous Debris	LLBG	MLLW Retrieval Hazardous Debris	0.000	0.000	N/A	0.000	N/A	Storage capacity is not applicable because no other additional mixed waste is allowed to be stored within the LLBG.
MLLW-04 - Hazardous Debris	T Plant Complex	Hazardous Debris	946.300	0.000	N/A	0.000	Not expected to be reached during life of the facility.	There is currently no waste in storage at this location and projected generation amounts are well within the storage capacity of T Plant.

Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers. (9 Pages)

TGDS / Treatability Group Name	LSDS[1]	Waste Stream[1]	Estimated Storage Capacity (m^3)	Current Inventory (m^3)	Storage Building/Room Number **(Number of Containers/Tanks)**[2, 3]	Projected Generation 2024-2028 (m^3)	When Storage Capacity will be Reached	Bases and Assumptions Used
MLLW-04 - Hazardous Debris	WRAP	Hazardous Debris	1,987.000	0.000	N/A	0.000	Not expected to be reached during life of the facility.	Capacity is based on the CWC/WRAP Part A Permit Application for the entire WRAP, which includes all storage areas. Projected waste generation rates for the next 5 years are very low, so storage capacity is not an issue. Also, generation and treatment rates allow for waste movement as needed between CWC and WRAP.
MLLW-07 - RH and Large Container	CWC	MLLW-07	20,796.000	3.368	CWC 2402WD **(1c)**, 2402WE **(2c)**; 2403WD **(10c)**; FS-20 **(1c)**	0.000	Not expected to be reached during life of the facility.	Capacity is based on the CWC/WRAP Part A Permit Application for the entire CWC, which includes all storage areas. Projected waste generation rates for the next 5 years are very low, so storage capacity is not an issue. Also, generation and treatment rates allow for waste movement as needed between CWC and WRAP.
MLLW-07 - RH and Large Container	LLBG	MLLW-07	0.000	0.000	N/A	0.000	N/A	Storage capacity is not applicable because no other additional mixed waste is allowed to be stored within the LLBG.
MLLW-07 - RH and Large Container	T Plant Complex	RH and Large Container	946.300	0.322	2706 Pad **(1c)**	0.000	Not expected to be reached during life of the facility.	Storage of this waste is at the outside storage unit. Capacity is based on the T Plant Part A Permit Application. Projected waste generation rates for the next 5 years are very low, so storage capacity is not an issue.
PNNL Low-Level Mixed Waste	325 HWTU	PNNL Low-Level Mixed Waste	50.300	12.109	325/203 **(1c)**, 520 **(63c)**, 524 **(64c)**, 528 **(32c)**; 325/3714 Pad **(4c)**	45.500	Not expected to be reached during life of the facility.	Waste is shipped offsite to Perma-Fix Northwest, Diversified Scientific Services (DSSI) or Perma-Fix Florida for treatment in accordance with 40 CFR 268.50. Treated waste is disposed in the LLBG Trenches 31 and 34 and/or Energy Solutions in Utah.
PUREX Plant	PUREX Plant	PUREX Containment Building	0.000	1.000	202A/F Cell **(1c)**	0.000	N/A	The dangerous waste management unit(s) associated with this waste have received their last receipt of waste, will be closing, and will not receive any more waste in the future.
PUREX Storage Tunnels	PUREX Storage Tunnels	Tunnels 1 and 2	0.000	2,800.000	Tunnel #1 **(8 Rail Cars)**; Tunnel #2 **(28 Rail Cars)**	0.000	N/A	The dangerous waste management unit(s) associated with this waste have received their last receipt of waste, will be closing, and will not receive any more waste in the future.
SST Waste	SST System	SST System	0.000	107,000.000	241-A-101-106 **(6t)**; 241-AX-101-104 **(4t)**; 241-B-101-112, 201-204, 301 **(17t)**; 241-BX-101-112 **(12t)**; 241-BY-101-112 **(12t)**; 241-C-101-112, 201-204, 301 **(17t)**; 241-S-101-112, 302A, 302B **(14t)**; 241-SX-101-115 **(15t)**; 241-T-101-112, 201-204, 301B **(17t)**; 241-TX-101-118, 302A, 302XB **(20t)**; 241-TY-101-106, 302A, 302B **(8t)**; 241-U-101-112, 201-204 **(16t)**; 244-AR-001-004 **(4t)**; 244-BXR-Vault **(4t)**; 244-CR-001-003, 011 **(4t)**; 244-TXR-Vault **(3t)**; 244-UR-Vault **(4t)**; DCRTs **(4t)**; SST System **(Valve Pits, Diversion Boxes, Catch Tanks)**	0.000	N/A	The dangerous waste management unit(s) associated with this waste have received their last receipt of waste, will be closing, and will not receive any more waste in the future.

Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers. (9 Pages)

TGDS / Treatability Group Name	LSDS[1]	Waste Stream[1]	Estimated Storage Capacity (m^3)	Current Inventory (m^3)	Storage Building/Room Number (Number of Containers/Tanks)[2, 3]	Projected Generation 2024-2028 (m^3)	When Storage Capacity will be Reached	Bases and Assumptions Used
TRUM – CH Large Container	CWC	TRUM Boxes	0.000	2,998.776	CWC 2402WE **(1c)**, 2402WK **(1c)**; 2403WA **(2c)**, 2403WB **(133c)**, 2403WC **(17c)**, 2403WD **(28c)**; 2404WA **(6c)**; OSA-A **(38c)**, OSA-B **(2c)**	0.000	Not expected to be reached during life of the facility.	OSA A/B is going through the closure process and waste is no longer being received in that area. Upon retrieval activities, the waste will be stored in the CWC modules.
TRUM – CH Large Container	LLBG	TRUM Retrieval Boxes	0.000	151.000	LLBG **(127c)**	0.000	N/A	The waste in the LLBG will be uncovered and retrieved. Storage capacity is not applicable because no other additional mixed waste is allowed to be stored within the LLBG.
TRUM – CH Large Container	T Plant Complex	TRUM Box	946.300	35.400	2706 TSP **(1c)**	0.000	Not expected to be reached during life of the facility.	Capacity is based on the T Plant Part A Permit Application. Projected waste generation rates for the next 5 years are very low, so storage capacity is not an issue.
TRUM – CH Large Container	WRAP	TRUM Large Container	1,987.000	102.575	2404WB **(6c)**	0.000	Not expected to be reached during life of the facility.	Capacity is based on the CWC/WRAP Part A Permit Application for the entire WRAP, which includes all storage areas. Projected waste generation rates for the next 5 years are very low, so storage capacity is not an issue. Also, generation and treatment rates allow for waste movement as needed between CWC and WRAP.
TRUM – CH Small Container	325 HWTU	TRUM-CH	50.300	0.346	325 Rooms 520 **(2c)**, 524 **(13c)**, 528 **(48c)**	5.000	Not expected to be reached during life of the facility.	Waste is moved directly to CWC for storage, which has adequate storage capacity for this waste.
TRUM – CH Small Container	CWC	CH TRUM	20,796.000	3,093.200	CWC 2402WB **(204c)**, 2402WD **(13c)**, 2402WE **(308c)**, 2402WF **(549c)**, 2402WG **(54c)**, 2402WH **(246c)**, 2402WI **(130c)**, 2402WJ **(268c)**, 2402WK **(15c)**, 2402WL **(1c)**; 2403WA **(1,903c)**, 2403WB **(190c)**, 2403WC **(1,183c)**, 2403WD **(972c)**; 2404WA **(205c)**; FS-01 **(1c)**, FS-02 **(1c)**, FS-03 **(10c)**, FS-09 **(8c)**, FS-11 **(3c)**, FS-14 **(1c)**, FS-17 **(2c)**, FS-20 **(9c)**, FS-21 **(4c)**, FS-27 **(1c)**	0.000	Not expected to be reached during life of the facility.	Capacity is based on the CWC/WRAP Part A Permit Application for the entire CWC, which includes all storage areas. Projected waste generation rates for the next 5 years are very low, so storage capacity is not an issue. Also, generation and treatment rates allow for waste movement as needed between CWC and WRAP.
TRUM – CH Small Container	LLBG	TRUM-CH Retrieval	0.000	2,510.000	LLBG **(11,803c)**	0.000	N/A	The waste in the LLBG will be uncovered and retrieved. Storage capacity is not applicable because no other additional mixed waste is allowed to be stored within the LLBG.
TRUM – CH Small Container	T Plant Complex	TRUM-CH	946.300	2.128	2706T Yard **(8c)**	0.000	Not expected to be reached during life of the facility.	Capacity is based on the T Plant Part A Permit Application. Projected waste generation rates for the next 5 years are very low, so storage capacity is not an issue.
TRUM – CH Small Container	WRAP	TRUM-CH	1,987.000	49.028	WRAP 2404WC **(217c)**	0.000	Not expected to be reached during life of the facility.	Capacity is based on the CWC/WRAP Part A Permit Application for the entire WRAP, which includes all storage areas. Projected waste generation rates for the next 5 years are very low, so storage capacity is not an issue. Also, generation and treatment rates allow for waste movement as needed between CWC and WRAP.

Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers. (9 Pages)

TGDS / Treatability Group Name	LSDS[1]	Waste Stream[1]	Estimated Storage Capacity (m^3)	Current Inventory (m^3)	Storage Building/Room Number (Number of Containers/Tanks)[2, 3]	Projected Generation 2024-2028 (m^3)	When Storage Capacity will be Reached	Bases and Assumptions Used
TRUM - RH	325 HWTU	TRUM-RH	50.300	1.052	325/SAL Hot Cells **(4c)**; 325/3714 Pad **(4c)**	9.600	Not expected to be reached during life of the facility.	Waste is moved directly to CWC for storage, which has adequate storage capacity for this waste.
TRUM - RH	CWC	RH TRUM	20,796.000	196.178	CWC 2402WD **(45c)**, 2402WE **(1c)**; 2403WA **(2c)**, 2403WB **(49c)**, 2403WC **(15c)**, 2403WD **(30c)**; 2404WA **(14c)**; D-10 **(1c)**	0.000	Not expected to be reached during life of the facility.	Capacity is based on the CWC/WRAP Part A Permit Application for the entire CWC, which includes all storage areas. Projected waste generation rates for the next 5 years are very low, so storage capacity is not an issue. Also, generation and treatment rates allow for waste movement as needed between CWC and WRAP.
TRUM - RH	LLBG	RH TRUM	0.000	48.000	LLBG **(5,610c)**	0.000	N/A	The waste in the LLBG will be uncovered and retrieved. Storage capacity is not applicable because no other additional mixed waste is allowed to be stored within the LLBG.
TRUM - RH	T Plant Complex	TRUM-RH	946.300	8.665	221-T Cell 16-R **(1c)**	0.000	Not expected to be reached during life of the facility.	Capacity is based on the T Plant Part A Permit Application. Projected waste generation rates for the next 5 years are very low, so storage capacity is not an issue.
TRUM - RH	WRAP	TRUM-RH	1,987.000	121.900	WRAP 2404WB **(2c),** 2404WC **(1c)**	0.000	Not expected to be reached during life of the facility.	Capacity is based on the CWC/WRAP Part A Permit Application for the entire WRAP, which includes all storage areas. Projected waste generation rates for the next 5 years are very low, so storage capacity is not an issue. Also, generation and treatment rates allow for waste movement as needed between CWC and WRAP.
TSCR IX Column	TSCR Storage Pad	Ion Exchange Columns	92.000	4.880	LAWPS-TSCR Storage Pad **(8 IXC)**	28.060	Not expected to be reached during life of the facility.	Per the Ecology approved LAWPS permit, the IX columns will be stored on the TSCR Storage Pad. Storage capacity is not an issue. Current inventory is based on annual estimate of 18.3 m3 which is estimated two IXC columns per month for a total of 24 per year. 18.3 divided by 24 equals 0.7625 m3 per IXC. There are eight IXC on the pad for a total of 4.880 m^3.
WTP - Hazardous Debris	LAW Facility	LVP HEPA Filters	959.000	0.000	N/A	22.000	Not expected to be reached during life of the facility.	Storage of this waste will be at the WTP Waste Storage Area. Storage capacity is from the RCRA permit for Waste Treatment & Immobilization Plant Operating Unit Group 10. The waste is LAW Facility spent radial-flow HEPA filters from the LAW secondary offgas/vessel vent process system (LVP) offgas abatement equipment. At current projected generation rates, storage capacity is not expected to be reached during operation of this facility because within 1 year of generation this waste will be sent to Perma-Fix Northwest the Integrated Disposal Facility (IDF) for treatment and to IDF for disposal. The facility is not in operation and currently no waste is in storage.
WTP - Hazardous Debris	LAW Facility	LVP Selective Catalytic Reduction Media	959.000	0.000	N/A	5.000	Not expected to be reached during life of the facility.	Storage of this waste will be at the WTP Waste Storage Area. Storage capacity is from the RCRA permit for Waste Treatment & Immobilization Plant Operating Unit Group 10. The waste is spent selective catalytic reduction media (such as BASF NOxCat VNX SCR Catalyst, or the equivalent) used in the LAW facility. The spent media is a catalyst (ceramic module assembly) used in the LAW facility secondary offgas/vessel vent process system (LVP) for NOx removal. At current projected generation rates, storage capacity is not expected to be reached during operation of this facility because within 1 year of generation this waste will be sent to Perma-Fix Northwest or the Integrated Disposal Facility (IDF) for treatment and to the IDF for disposal. The facility is not in operation and currently no waste is in storage.

Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers. (9 Pages)

TGDS / Treatability Group Name	LSDS[1]	Waste Stream[1]	Estimated Storage Capacity (m^3)	Current Inventory (m^3)	Storage Building/Room Number (Number of Containers/Tanks)[2, 3]	Projected Generation 2024-2028 (m^3)	When Storage Capacity will be Reached	Bases and Assumptions Used
WTP - Hazardous Debris	LAW Facility	LVP Thermal Catalytic Oxidizer Media	959.000	0.000	N/A	5.000	Not expected to be reached during life of the facility.	Storage of this waste will be at the WTP Waste Storage Area. Storage capacity is from the RCRA permit for Waste Treatment & Immobilization Plant Operating Unit Group 10. The waste is spent thermal catalytic oxidizer media (such as BASF VOCat 300S catalyst, or the equivalent) used in the LAW facility. The spent media is a catalyst (ceramic honeycomb module) used in the LAW facility secondary offgas/vessel vent process system (LVP) for the destruction of organics. At current projected generation rates, storage capacity is not expected to be reached during operation of this facility because this waste will be sent to the Integrated Disposal Facility (IDF) for treatment and disposal within 1-year of generation. The facility is not in operation and currently no waste is in storage.
WTP - Hazardous Debris	LAW Facility	Miscellaneous Metal Parts	959.000	0.000	N/A	52.000	Not expected to be reached during life of the facility.	Storage of this waste will be at the WTP Waste Storage Area. Storage capacity is from the RCRA permit for Waste Treatment & Immobilization Plant Operating Unit Group 10. The waste is LAW Facility miscellaneous metal parts: jumpers, pumps, valves, and other metal debris, Isolock needles and parts. At current projected generation rates, storage capacity is not expected to be reached during operation of this facility because within 1 year of generation this waste will be sent to Perma-Fix Northwest or the Integrated Disposal Facility (IDF) for treatment and to the IDF for disposal. The facility is not in operation and currently no waste is in storage.
WTP - Hazardous Debris	LAW/EMF/ LAB	Miscellaneous Debris	1,487.000	0.000	N/A	710.000	Not expected to be reached during life of the facility.	Storage of this waste will be at the WTP Waste Storage Area or the Analytical Laboratory rooms A-0139, A-0139A, A-0139B, A-0139D, A-0139D. Storage capacity is from the RCRA permit for Waste Treatment & Immobilization Plant Operating Unit Group 10. The waste is miscellaneous consumables and PPE associated with daily operation of the WTP (wipes, disposable tools, PPE, step off pad waste). At current projected generation rates, storage capacity is not expected to be reached during operation of this facility, because within 1year of generation this waste will be sent to Perma-Fix Northwest or the Integrated Disposal Facility (IDF) for treatment and to the IDF for disposal. The facility is not in operation and currently no waste is in storage.
WTP - LDR Compliant	LAW Facility	Immobilized Low-Activity Waste	959.000	0.000	N/A	16,206.000	Not expected to be reached during life of the facility.	Storage of this waste will be at the WTP Waste Storage Area. Storage capacity is from the RCRA permit for Waste Treatment & Immobilization Plant Operating Unit Group 10. Waste is immobilized LAW in canisters that is stored for up to 1 year and will be transferred to the Integrated Disposal Facility (IDF) for disposal. This is a fluid process and at current projected generation rates, storage capacity is not to be reached during operation of this facility. The facility is not in operation and currently no waste is in storage.
WTP - LDR Compliant	LAW Facility	LMP - Glass Debris from the Bagging Station	959.000	0.000	N/A	0.780	Not expected to be reached during life of the facility.	Storage of this waste will be at the WTP Waste Storage Area. Storage capacity is from the RCRA permit for Waste Treatment & Immobilization Plant Operating Unit Group 10. The waste is immobilized LAW (ILAW) glass shards and fragments collected during the filling of ILAW containers. At current projected generation rates, storage capacity is not expected to be reached during operation of this facility because this waste will be sent to the Integrated Disposal Facility (IDF) for disposal within 1 year of generation. The facility is not in operation and currently no waste is in storage.
WTP - LDR Compliant	LAW Facility	LMP Melter Consumables	959.000	0.000	N/A	507.000	Not expected to be reached during life of the facility.	Storage of this waste will be at the WTP Waste Storage Area. Storage capacity is from the RCRA permit for Waste Treatment & Immobilization Plant Operating Unit Group 10. The waste is LAW melter process system (LMP) melter consumables; melter glass, pool level detectors, film cooler spray nozzles, differential pressure indicators probes, thermocouple melter refractory (packaged together). At current projected generation rates, storage capacity is not expected to be reached during operation of this facility because within 1 year of generation this waste will be sent to the Integrated Disposal Facility (IDF) for disposal. The facility is not in operation and currently no waste is in storage.

Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers. (9 Pages)

TGDS / Treatability Group Name	LSDS[1]	Waste Stream[1]	Estimated Storage Capacity (m^3)	Current Inventory (m^3)	Storage Building/Room Number **(Number of Containers/Tanks)**[2, 3]	Projected Generation 2024-2028 (m^3)	When Storage Capacity will be Reached	Bases and Assumptions Used
WTP - LDR Compliant	LAW Facility	LMP Melter Pool Bubblers/Thermowells	959.000	0.000	N/A	181.000	Not expected to be reached during life of the facility.	Storage of this waste will be at the WTP Waste Storage Area. Storage capacity is from the RCRA permit for Waste Treatment & Immobilization Plant Operating Unit Group 10. The waste is LAW melter process system (LMP) melter bubblers and thermowells (long length debris). At current projected generation rates, storage capacity is not expected to be reached during operation of this facility because within 1 year of generation this waste will be sent to the Integrated Disposal Facility (IDF) for disposal. The facility is not in operation and currently no waste is in storage.
WTP - Organic Non-Debris	LAB	Spent Chemical/Reagents	1,487.000	0.000	N/A	4.000	Not expected to be reached during life of the facility.	Storage of this waste will be at the WTP Waste Storage Area or the Analytical Laboratory rooms A-0139, A-0139A, A-0139B, A-0139D, A-0139D. Storage capacity is from the RCRA permit for Waste Treatment & Immobilization Plant Operating Unit Group 10. The waste is spent chemicals/reagents/radioisotopes (liquid lab pack). At current projected generation rates, storage capacity is not expected to be reached during operation of this facility because this waste will be sent off-site for treatment within 1 year of generation. The facility is not in operation and currently no waste is in storage.
WTP - Organic Non-Debris	LAW Facility	LVP Sulfur Impregnated Carbon Adsorbent Media	959.000	0.000	N/A	25.000	Not expected to be reached during life of the facility.	Storage of this waste will be at the WTP Waste Storage Area. Storage capacity is from the RCRA permit for Waste Treatment & Immobilization Plant Operating Unit Group 10. The waste is spent LAW facility secondary offgas/vessel vent process system (LVP) sulfur impregnated carbon media (granular form). At current projected generation rates, storage capacity is not expected to be reached during operation of this facility because within 1 year of generation this waste will be sent to Perma-Fix Northwest for treatment and to the Integrated Disposal Facility (IDF) for disposal. The facility is not in operation and currently no waste is in storage.

[1] Highlighted fields represent waste stream categories as follows: Closure Units , Pre-Operational Units, Accumulation/Not Storage, and Operating/Misc. Units
[2] Number of Containers/Tanks for each listed Storage Location identified in **(bold parentheses)** following the listed building/room number.
[3] Inventory storage method designated as **(#t)** for storage tanks or catch tanks; **(#c)** for storage containers including, but not limited to boxes, drums, or RO/RO containers; and any miscellaneous storage methods detailed as reported in the corresponding LSDS Section 2.2.

3.1 ASSESSMENTS OF MIXED WASTE STORAGE AREAS AND POTENTIAL MIXED WASTE

The DOE conducts or oversees storage method compliance assessments (SMCA) of mixed waste storage areas and other areas that could, in the future, be the source of generation of other mixed waste. DOE SMCAs include reviewing other independent assessments, inspections, and self-assessments. In addition to the LDR SMCAs, DOE and its contractors conduct daily, weekly, monthly, quarterly, and annual assessments and inspections at Hanford Site mixed waste storage areas in accordance with DOE requirements and applicable state and federal standards. The LDR SMCAs provide an additional level of review to address circumstances associated with mixed waste and PMW. Certain waste storage locations are exempt from the LDR SMCA requirements. These include key facilities in the surveillance and maintenance phase, and locations with only SAAs and/or CAAs. This section describes SMCAs completed during the reporting year and lists SMCAs scheduled for the following 3 years.

SMCA references can be found in LSDS Sections 2.7 and 2.12. DOE Richland Operations Office (DOE-RL) completed the 221-T Tank System SMCA in 2023 (Table 3-2). SMCAs for the 242-T-135 Decontamination Solution Holding Tank and the 242-TA-R1 Receiver Tank are currently ongoing. DOE Office of River Protection (DOE-ORP) completed the 241-S-302B Catch Tank, 241-TX-302C Catch Tank, and 241-UX-302A Catch Tank SMCAs in 2023 (Table 3-4). SMCAs for the 241-A-302B Catch Tank and the 241-SX-302 Catch Tank are currently ongoing.

Table 3-3 lists the locations where DOE-RL plans to complete SMCAs in CYs 2024 through 2026.[1] Table 3-5 lists the locations where DOE-ORP plans to complete SMCAs in CYs 2024 through 2026.

Any additional SMCAs will be negotiated in LDR project manager meetings and documented in related project manager meeting minutes.

Table 3-2. Summary of DOE-RL Assessment Results.

Assessment Location	Assessment Start Dates	Findings and Observations
221-T Tank System	October 2022	No changes to LDR information necessary. (DOE & CPCCo, 2023)
242-T-135 Decontamination Solution Holding Tank	August 2022	Assessment Ongoing
242-TA-R1 Receiver Tank	August 2022	Assessment Ongoing

Table 3-3. DOE-RL Assessments Planned for Calendar Years 2024 through 2026.

Facility/Location	Start Date
221-T Tank 11-L	June 2024

[1] In CY 2011, Ecology determined that inactive miscellaneous underground storage tank (IMUST) SMCAs initiated in CY 2006 must remain on the assessment schedule because of their complex storage conditions (Singleton 2011).

Table 3-4. Summary of DOE-ORP Assessment Results.

Assessment Location	Assessment Start Dates	Findings and Observations
241-S-302B Catch Tank	August 2022	No changes to LDR information necessary. (DOE & WRPS, 2023)
241-TX-302C Catch Tank	August 2022	No changes to LDR information necessary. (DOE & WRPS, 2023)
241-UX-302A Catch Tank	August 2022	No changes to LDR information necessary. (DOE & WRPS, 2023)
241-A-302B Catch Tank	August 2022	Assessment Ongoing
241-SX-302 Catch Tank	August 2022	Assessment Ongoing

Table 3-5. DOE-ORP Assessments for Calendar Years 2024 through 2026.

Facility/Location	Start Date
No Assessments Planned	

3.2 WASTE RELEASES FROM STORAGE UNITS

Section 3.3 of the CY 2019 LDR Full Report and LSDS Section 2.9 detail past releases of hazardous waste or hazardous waste constituents into the environment from the waste storage units. To date, the only reported waste releases from storage to the environment have occurred from the SST System. Estimated leak volumes are updated in HNF-EP-0182, Revision 432, *Waste Tank Summary Report for the Month Ending December 31, 2023*. On June 3, 2023, a release occurred from one 85-gallon mixed-waste container being moved outside of Building 2402-WJ at the Central Waste Complex . Eight containers on the bottom and top pallets were overpacked and all of the release was cleaned up. The contaminated asphalt outside of 2402-WJ was removed, treated, and disposed (Ecology 2023).

4.0 SUMMARY OF CHARACTERIZATION INFORMATION

Generators of mixed waste must take steps necessary to confirm the proper management of any generated waste. This includes identifying the radioactive classification; understanding the physical matrix; properly designating the waste; and, where applicable, identifying the appropriate underlying hazardous constituents of each waste stream.

Waste must be sufficiently characterized to ensure the waste is stored and managed properly, and to ensure that the proper treatment processes are applied so the resultant treated waste meets LDR standards. Information used to characterize waste can include data from analysis of the waste and knowledge of the materials and/or processes used to generate the waste. The information must be sufficient to quantify constituents of regulatory concern, determine waste characteristics, and determine whether unit-specific waste acceptance criteria or requirements are satisfied.

In some cases, characterization is sufficient to meet the LDR treatment standards, but further characterization may be needed to ensure the waste meets the receiving treatment facility's acceptance criteria. For wastes with concentration-based treatment standards, further characterization is always needed before acceptance for disposal to confirm it meets treatment standards.

Table 4-1 summarizes characterization information, planned characterization activities, and schedules for each of the treatability groups. The results of any characterization activities not scheduled by means of a TPA Milestone are to be provided to Ecology as they become available.

Table 5-1 of the CY 2019 LDR Full Report lists all applicable EPA and Washington State waste codes for each treatability group reported in the 2019 reporting year. For newly added treatability groups within summary reporting years, please refer to TGDS Section 3.0 for all characterization information and TGDS Section 3.3.2 for a complete listing of regulated constituents. For the CY 2023 reporting year, the Hanford Site Laboratory Complex TGDS Section 3.1.1 was updated to include transuranic mixed waste (TRUM) as a reportable radiological characteristic. Additionally, waste codes were updated for the 221-T Tank System (D009 and D011) and the Hanford Site Laboratory Complex (U210) TGDS Section 3.3.2 (Appendix B).

As previously described, treatability groups comprise multiple waste streams with different waste codes that can be accommodated/treated through a common treatment process. Treatability group characterization information presents a rollup of characterization information for the associated waste streams. Information relative to individual waste stream characterization and associated schedules are provided in Section 2.11 of each LSDS. Applicable profile numbers and source information for each waste stream are reported in LSDS Sections 1.2 and 1.3, respectively. The CY 2023 reporting year included multiple waste streams with updated profile numbers. A full list of updated profile numbers in CY 2023 can be found in Table 4-2. For the most current TGDS and LSDS, see Table 2-2.

Item IX(b) listed in *Calendar Year 2019 Hanford Land Disposal Restrictions (LDR) Full Report Project Manager Dispute Resolution Agreement Changes* states “DOE agreed to provide or share accessible locations of process information and waste profiles referenced in the LDR Report to Ecology through the M-026 Project Manager Meetings before all LDR Full Reports are issued.” During the May 12, 2022, M-026-01 PMM, it was agreed between DOE and Ecology that the necessary waste designation and process information documents will be collected during inspections of various waste sites between 2022 and the end of 2024 (DOE et al. 2022). DOE may still need to provide additional waste designations and process information for units that are not scheduled to be inspected during this timeframe. There are no reported updates to any characterization information, including source information, for data sheets appended in the CY 2019 LDR Full Report, which are applicable to the CY 2023 reporting year.

Table 4-1. Summary of Characterization Information for each Treatability Group. (4 Pages)

Treatability Group Name	Characterization Information	Additional Characterization Activities	Planned Characterization Schedule	Related TPA Milestone
221-T Containment Building	MLLW; RH; solid; non-wastewater; contains PCBs	Completed	Completed[2]	None
221-T Tank System	MLLW; RH; solid, liquid, semi-solid; non-wastewater; contains PCBs	Tank 11-L waste will be further characterized as required to meet the waste acceptance criteria of the treatment facility.	DOE will submit a notice to Ecology to begin treatment and closure of the 221-T tank systems and 221-T Tank 11L by September 30, 2045.	None
222-S T8 Tunnel	MLLW; RH; debris; non-wastewater; does not contain PCBs	As required to support cleanout of 222-S.	LDR Report DOE/RL-2020-09. DOE will submit a notice to Ecology to begin treatment and closure of the T-8 Tunnel by September 30, 2052.	None
241-CX Tank System	MLLW; RH; other physical form[1]; non-wastewater; does not contain PCBs	Additional characterization will be performed, as necessary, to support 200-IS-1 OU remedial decisions.	Characterization will be performed in accordance with Coordinated Closure Plan.	M-015-00, M-015-92C (In Abeyance), M-15-118, M-037-24
324 Building REC Waste	MLLW; RH; solid, debris; non-wastewater; does not contain PCBs	No further characterization planned for transfer to ERDF.	Completed	M-016-85

Table 4-1. Summary of Characterization Information for each Treatability Group. (4 Pages)

Treatability Group Name	Characterization Information	Additional Characterization Activities	Planned Characterization Schedule	Related TPA Milestone
400 Area WMU	MLLW; CH; solid; non-wastewater, does not contain PCBs	Completed	DOE intends to decommission the FFTF in accordance with the 1995 EPA-DOE "Policy on Decommissioning Department of Energy Facilities Under CERCLA" and HFFACO Action Plan Section 8. Submittal of a RCRA Part A form or Part B application is not applicable for FFTF.	None
B Plant Cell 4	MLLW; RH; solid; non-wastewater; does not contain PCBs	None	Completed	M-085-00
B Plant Containment Building	MLLW; RH; solid; non-wastewater; does not contain PCBs	TBD via TPA Action Plan, Section 8.0.	TBD via TPA Action Plan, Section 8.0.	M-085-00, M-085-70 (In Abeyance), M-085-71, M-085-76
Cesium and Strontium Capsules	HLW; RH; solid; non-wastewater; does not contain PCBs	None	Completed	None
DST Waste	HLW; RH; other physical form[1]; non-wastewater; contains PCBs	Additional information could be required, per TPA milestone.	Ongoing	None
ERDF – Treatment	MLLW; CH; solid, debris, other physical form[1]; non-wastewater; contains PCBs	Characterized as generated. Treatment and disposal are performed under CERCLA decision documents and treatment plans.	Ongoing	None
ETF Effluents	MLLW; CH; liquid; wastewater; does not contain PCBs	Characterization performed as generated.	Ongoing	None
ETF Receipts	MLLW; CH; liquid; wastewater; contains PCBs	Characterization performed as generated.	Ongoing	None
Hanford Site Laboratory Complex	TRUM, MLLW; CH; solid, liquid, debris, semi-solid; wastewater, non-wastewater; contains PCBs	Characterization performed as generated.	Ongoing	None

Table 4-1. Summary of Characterization Information for each Treatability Group. (4 Pages)

Treatability Group Name	Characterization Information	Additional Characterization Activities	Planned Characterization Schedule	Related TPA Milestone
HSTF	MLLW; CH; other physical form[1]; non-wastewater; contains PCBs	Additional characterization will be performed, as necessary, to support removal of the tanks as part of the closure plan.	Completed	None
LERF/ETF Solid Waste	MLLW; CH; solid, debris, other physical form[1]; non-wastewater; does not contain PCBs	Characterization performed as generated.	Not required	None
MLLW-01 – LDR Compliant Waste	MLLW; CH; solid, debris, other physical form[1]; non-wastewater; contains PCBs	No further characterization is planned.	Completed	None
MLLW-02 – Inorganic Non-Debris	MLLW; CH; solid, liquid, semi-solid, other physical form[1]; non-wastewater; does not contain PCBs	As necessary to meet treatment facility waste acceptance criteria.[3]	Ongoing	M-091-00, M-091-61[4]
MLLW-03 – Organic Non-Debris	MLLW; CH; solid, liquid, semi-solid, other physical form[1]; non-wastewater; contains PCBs	As necessary to meet treatment facility waste acceptance criteria.[3]	Ongoing	M-091-00, M-091-61[4]
MLLW-04 – Hazardous Debris	MLLW; CH; debris; non-wastewater; contains PCBs	As necessary to meet treatment facility waste acceptance criteria.[3]	Ongoing	M-091-00, M-091-61[4]
MLLW-07 – RH and Large Container	MLLW; RH; solid, liquid, debris, semi-solid, other physical form[1]; non-wastewater; contains PCBs	As necessary to meet treatment facility waste acceptance criteria.[3]	Ongoing	M-091-00, M-091-47-T04, M-091-49B
PNNL Low-Level Mixed Waste	MLLW; CH; solid, liquid, debris, semi-solid; wastewater, non-wastewater; contains PCBs	Characterization performed as generated.	Ongoing	None
PUREX Plant	MLLW; RH; solid; non-wastewater; does not contain PCBs	TBD in conjunction with PUREX Storage tunnels based on RCRA Permit Closure Plan.	Within 270 days of the last CAD/ROD signature for the 200-CP-1 OU, but no later than 9/30/2034 or in accordance with closure plan due by that date.	M-037-29, M-085-00, M-085-01

Table 4-1. Summary of Characterization Information for each Treatability Group. (4 Pages)

Treatability Group Name	Characterization Information	Additional Characterization Activities	Planned Characterization Schedule	Related TPA Milestone
PUREX Storage Tunnel	MLLW; RH; other physical form[1]; non-wastewater; does not contain PCBs	TBD in conjunction with PUREX Plant based on RCRA Permit Closure Plan.	No later than 9/30/2034 or in accordance with closure plan due by that date.	M-037-29, M-085-01
SST Waste	HLW; RH; other physical form[1]; non-wastewater; contains PCBs	Further information may be required, per TPA milestone.	Ongoing	M-045-00, M-045-086
TRUM-CH Large Container	TRUM; CH; solid, debris; non-wastewater; contains PCBs	As necessary to meet WIPP waste acceptance criteria.	Ongoing	M-091-00, M-091-47-T04, M-091-49, M-091-62
TRUM-CH Small Container	TRUM; CH; solid, debris, other physical form[1]; non-wastewater; contains PCBs	As necessary to meet WIPP waste acceptance criteria.	Ongoing	M-091-00, M-091-47-T04, M-091-49, M-091-61
TRUM-RH	TRUM; RH; solid, debris; non-wastewater; PCBs unknown	As necessary to meet WIPP waste acceptance criteria.	Ongoing	M-091-48, M-091-49B
TSCR IX Column	HLW; CH; solid; non-wastewater; does not contain PCBs	No further characterization is planned.	Completed	M-062-60, M-062-61
WTP – Hazardous Debris	MLLW; CH; debris; non-wastewater; contains PCBs	Characterization performed as generated.	TBD	None
WTP – LDR Compliant	MLLW; CH; solid; non-wastewater; contains PCBs	The waste has already been characterized and meets the LDR treatment standards.	TBD	None
WTP – Organic Non-Debris	MLLW; CH; solid, liquid; non-wastewater; contains PCBs	Characterization performed as generated.	TBD	None

[1] See Section 3.2.2 in Treatability Group Datasheets in Appendix B from DOE/RL-2020-09, Rev. 2 for greater details on other physical form.
[2] Characterization information is contained in the Hanford Facility Operating Record unit-specific file for the TSD unit and is available upon request.
[3] Newly generated waste in these categories is fully characterized as generated. For waste in inventory before 1995, existing TSD record information will be reviewed and a graded approach to characterization will be made as necessary based on existing acceptable knowledge.
[4] Characterization is anticipated to be performed as necessary to meet M-091 milestones.

Table 4-2. Waste Streams with Updated Profile Numbers for CY 2023. (2 Pages)

Treatability Group Name	Physical Location	Waste Stream	Updated Profile Number for CY 2023
ERDF — Treatment	CS&I	Hazardous Debris to ERDF	WPMSAUTILTLPB002, WPMSADBR002, WPMSAEXITSIGN002, WPMSASMOKE001
ETF Receipts	242-A Evaporator	Evaporator Process Condensate	NF-242APC-03-1
TRUM – CH Large Container	CWC	TRUM Boxes	Profile# 324X-20J-0001, BWHC-20J-0001, BWHC-20J-0002, CPRP-250-0002, PFPX-230-0016 WSRd# 201, 230, 250, BWD, WDD, PUD, RB, RM
TRUM – CH Large Container	WRAP	TRUM Large Container	WSRd# 230
TRUM – CH Small Container	CWC	CH TRUM	Profile# 209E-230-0001, 222S-230-0001, 222S-230-0002, 324X-201-0001, BHIX-250-0001, BHIX-250-0002, BHIX-84A-0001, BWHC-201-0002, BWHC-201-0004, BWHC-203-0002, BWHC-204-0001, BWXT-230-0001, CPRP-230-0001, CPRP-250-0001, ETEC-250-0001, GPPX-230-0001, PFNW-230-0001, PFNW-230-0002, PFNW-230-0003, PFNW-230-0004, PFNW-230-0005, PFNW-230-0006, PFNW-230-0007, PFNW-230-0008, PFNW-230-0009, PFNW-230-0010, PFNW-230-0011, PFNW-230-0015, PFNW-230-0016, PFNW-230-0017, PFNW-230-0018, PFPX-201-0001, PFPX-201-0002, PFPX-201-0004, PFPX-204-0002, PFPX-20E-0001, PFPX-20H-0001, PFPX-20L-0004, PFPX-220-0001, PFPX-230-0001, PFPX-230-0004, PFPX-230-0011, PFPX-230-0013, PFPX-230-0016, PFPX-230-0017, PFPX-230-0019, PFPX-230-0022, PFPX-230-00025, PFPX-260-0001, PNNL-201-0001, PNNL-203-0001, PNNL-204-0001, PNNL-20K-0002, PNNL-230-0001, PNNL-230-0002, PNNL-250-0001, SWPO-230-0002, TPLT-201-0002, TPLT-230-0001, TPLT-230-0002, TPLT-230-0003, TPLT-250-0001, WRAP-230-0003, WRAP-230-0004, WRAP-230-0005, WRAP-230-0006 WSRd# 201, 202, 203, 204, 206, 20D, 20E, 20H, 20K, 20L, 230, 250, ESD, LPO, RB, RM, VAL

Table 4-2. Waste Streams with Updated Profile Numbers for CY 2023. (2 Pages)

Treatability Group Name	Physical Location	Waste Stream	Updated Profile Number for CY 2023
TRUM – RH	CWC	RH TRUM	Profile# 100K-270-0001, 222S-270-0001, 222S-270-0002, 324X-270-0001, BOSX-270-0001, BWHC-20J-0002, BWHC-20J-0002-1, ETEC-270-0001, PFNW-270-0001, PFPX-270-0001, PFPX-270-0002, PFPX-270-0004, PNNL-270-0001, PNNL-270-0002, PNNL-270-0003, WCHX-270-0001, WCHX-270-0002 WSRd# 201, 203, 20J, 260, 270

5.0 SUMMARY OF TREATMENT AND DISPOSAL INFORMATION

As treatment technologies and capacities generally do not change substantially year to year, Section 6.0 of the CY 2019 LDR Full Report details treatment technologies and capacities including basis and assumptions used, any applicable TPA Milestones, foreseeable contingencies, and any assessment of alternate technologies that may become available for reported LDR waste. Subsections under TGDS Section 4.0 contain treatment information for individual treatability groups. See TGDS Section 4.3 for the planned treatment method, facility, and extent of treatment capacity available for individual treatability groups. Any updated information regarding treatment technologies and standards will be presented annually within the LDR report while capacities of existing treatment methods will be updated every 5 years in the LDR full report. As of December 31, 2023, there have been no updates to selected treatment technologies or treatment standards since the CY 2019 LDR Full Report.

Waste subject to LDR treatment standards may be land disposed only if it meets the requirements found in 40 CFR 268.40. Specific treatment standards applicable to each treatability group incorporated in this LDR summary report are listed in the corresponding regulated constituents table from TGDS Section 3.3.2. Information for plans to submit requests for LDR variances, case-by-case extensions of the LDR requirements, or other exemptions needed for treatment are addressed in TGDS Sections 4.8 and 5.0. See Table 2-2 for the most current TGDS and LSDS. There were no updated requests for treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions since the CY 2019 LDR Full Report. The treatment approach for certain treatability groups has yet to be determined; these treatability groups are described as follows:

- The **222-S T8 Tunnel** treatability group wastes will be included in the closure plan of the 222-S Operating Unit Group. In accordance with the closure plan, closure of the 222-S Operating Unit Group is anticipated by September 30, 2052, when DOE will submit a notice to Ecology to begin treatment and closure of the T-8 tunnel.

- Treatment options are still being assessed for the **241-CX Tank System** treatability group. Characterization and any required treatment will be determined and performed on a schedule determined with 200-IS-1 in accordance with DOE/RL-2002-14, *Tanks/Lines/Pits/Boxes/Septic Tank and Drain Fields Waste Group Operable Units RI/FS Work Plan and RCRA TSD Unit Sampling Plan*, and the dangerous waste closure plan. Waste will be dispositioned with the TSD unit closure.

- Treatment options have been determined for the ISA waste but are still being assessed for the Core Component Pots (CCP) in the **400 Area WMU**. A treatability study was completed at Perma-Fix Northwest to determine appropriate treatment of reactive sodium-mixed waste in 2020. Due to timing with approval for the permitting process, this path forward was abandoned for the drums on the ISA pad. There is currently no defined path forward for the CCP; however, treatment at PermaFix Northwest is still being considered as an option. The drums on the ISA pad will be sent for offsite treatment at the Diversified Scientific Services. by September 30, 2024. The CCPs will be sent for treatment no later than September 30, 2029.

- Treatment options are still being assessed for the **Cesium/Strontium Capsules** treatability group through a disposition pathway evaluation under the M-092-20 series. The first evaluation disposition pathway was completed on March 24, 2022, providing management with three possible options. Following evaluations are due every 4 years.

- The **Hexone Storage and Treatment Facility** treatability group waste was interim stabilized in fiscal year 2002 (DOE/RL-2009-112, *Hexone Storage and Treatment Facility Closure Plan*). DOE will submit a notice to Ecology to begin treatment and closure by September 30, 2028. Closure will occur in accordance with the Dangerous Waste closure plan requirements (DOE/RL-2009-112).

- The **TSCR IX Column** treatability group waste is being stored while DOE addresses disposition of the waste according to TPA milestone M-062-60. DOE will submit a report to Ecology by June 30, 2026, and every five years thereafter. TPA milestones M-062-61 through M-062-63 also address disposition of the TSCR IX columns.

- Treatment approaches and schedules for the treatability groups associated with two of the five canyons (PUREX Plant and B Plant) are awaiting final decisions under CERCLA in accordance with the CDI. Affected treatability groups include B Plant Cell 4, B Plant Containment Building, PUREX Plant, and PUREX Storage Tunnels.

Similar to waste treatment information, disposal methods for selected waste streams will not change substantially year to year. Section 7.0 of the CY 2019 LDR Full Report summarizes selected disposal methods for mixed low-level waste, transuranic mixed waste, and high-level waste subject to LDR reporting requirements. Any updated information regarding disposal methods will be presented annually within the LDR report. As of December 31, 2023, there have been no updates to selected disposal methods since the CY 2019 LDR Full Report. TGDS Section 5.0 provides detailed disposal information for each treatability group including locations, associated TPA Milestones, technologies, and variances or exemptions. There were no updated requests for disposal variances or exemptions since the CY 2019 LDR Full Report. See Table 2-2 for the most current TGDS.

Table 5-1 summarizes the treatment and disposal information associated with the treatability groups and the volume of waste that will be treated as identified in Table 2-1. It also identifies, where applicable, the TPA milestones that provide the waste stream treatment schedule information. DOE may treat LDR waste in accordance with applicable law in advance of approved milestone dates.

Table 5-1. Summary of Treatment and Disposal Information for each Treatability Group. (7 Pages)

Treatability Group Name	Treatment Process	Projected Volume to be Treated 2024–2028 (m^3)	Sufficient Treatment Capacity	Disposal	Milestones and Documents Supporting Schedule
221-T Containment Building[1]	Specific treatments in accordance with the dangerous waste permit closure plan requirements.	No treatment expected over the next 5 years.	Treatment capacity is based on treatment process	In accordance with the dangerous waste permit closure plan requirements.	LDR Report DOE/RL-2020-09. In accordance with the dangerous waste permit closure plan requirements. DOE will submit a notice to Ecology to begin treatment and closure of the T Plant by September 30, 2045.
221-T Tank System[1]	Specific treatments in accordance with the dangerous waste permit closure plan requirements.	No treatment expected over the next 5 years.	Treatment capacity is based on treatment process	In accordance with the dangerous waste permit closure plan requirements.	LDR Report DOE/RL-2020-09. In accordance with the dangerous waste permit closure plan requirements. DOE will submit a notice to Ecology to begin treatment and closure of the 221-T tank systems and 221-T Tank 11L by September 30, 2045.
222-S T8 Tunnel	Macroencapsulation and/or stabilization	No treatment expected over the next 5 years.	Yes	In accordance with the dangerous waste permit closure plan requirements.	LDR Report DOE/RL-2020-09. DOE will submit a notice to Ecology to begin treatment and closure of the T-8 Tunnel by September 30, 2052.
241-CX Tank System	Specific treatments in accordance with the dangerous waste permit closure plan requirements and TPA milestones.	No treatment expected over the next 5 years.	Treatment capacity based on treatment process	In accordance with the dangerous waste permit closure plan requirements.	M-015-00, M-015-92C (In Abeyance), M-15-118, and M-037-24; To be determined through development of 200-IS-1 documentation and in accordance with the dangerous waste permit closure plan requirements.
324 Building REC Waste	Stabilization, macroencapsulation, and in accordance with the dangerous waste permit closure plan requirements and TPA Milestones.	0.000	Yes	Waste will be disposed at ERDF.	M-016-85 and M-089-00; DOE/RL-96-73 and in accordance with the dangerous waste permit closure plan requirements. In 2023, there was a proposed scope change for remediating the 300-296 Waste Site and Demolition of the Building. Cell cleanout is suspended pending a decision on the scope change.

Table 5-1. Summary of Treatment and Disposal Information for each Treatability Group. (7 Pages)

Treatability Group Name	Treatment Process	Projected Volume to be Treated 2024–2028 (m^3)	Sufficient Treatment Capacity	Disposal	Milestones and Documents Supporting Schedule
400 Area WMU	Commercial deactivation and may include specific treatments.	The combined volume of the FSF and ISA pad waste is 1.900. The ISA pad waste will be sent offsite for treatment before September 30th, 2024. Assuming that Ecology renews the Perma-Fix Northwest TSD permit to include the GeoMelt treatment system, the treatment of the FSF waste will be completed by September 30, 2029.	A renewal treatment, storage, and disposal facility permit application and operations of the PNFW GeoMelt system to treat the CCPs is anticipated to begin as soon as June 2024, but no later than 2030.	400 Area WMU waste will be disposed at an off-site commercial TSD or an onsite hazardous waste landfill.	In accordance with the dangerous waste permit closure plan requirements, and 400 Area WMU TGDS Section 4.4. FFTF will be dispositioned using the CERCLA process per Section 8.0 of the TPA.
B Plant Cell 4	Specific treatment in accordance with the dangerous waste permit closure plan requirements, Section 8.0 of the TPA, and TPA Milestones.	No treatment expected over the next 5 years.	Based on treatment process.	In accordance with the dangerous waste permit closure plan requirements and Section 8.0 of the TPA.	M-085-00, M-085-70 (In Abeyance), and M-085-76; Tri-Party Agreement Action Plan, Section 8.0 and in accordance with the dangerous waste permit closure plan requirements.

Table 5-1. Summary of Treatment and Disposal Information for each Treatability Group. (7 Pages)

Treatability Group Name	Treatment Process	Projected Volume to be Treated 2024–2028 (m^3)	Sufficient Treatment Capacity	Disposal	Milestones and Documents Supporting Schedule
B Plant Containment Building	Specific treatment in accordance with the dangerous waste permit closure plan requirements, Section 8.0 of the TPA, and TPA Milestones.	No treatment expected over the next 5 years.	Based on treatment process.	In accordance with the dangerous waste permit closure plan requirements and Section 8.0 of the TPA.	M-037-28, M-085-00 and M-085-76; Tri-Party Agreement Action Plan, Section 8.0 and in accordance with the dangerous waste permit closure plan requirements.
Cesium and Strontium Capsules	Specific treatments and TPA Milestones.	No treatment expected over the next 5 years.	Based on treatment process.	The first disposition pathways evaluation was completed March 24, 2022, providing management with three possible options. Following evaluations are due every four years under M-092-20A, due March 2026. Closure will be done in accordance with the dangerous waste permit closure plan requirements.	M-092-00, M-092-20A, M-092-21-T01, M-092-21-T-02, and M-092-21-T03. Outcome of disposition pathway evaluation under the M-092 Series.
DST Waste	Vitrification in accordance with the TPA milestones and subsequent supplemental treatment technologies under M-062-45.	30,377.921	WTP has the planned treatment capacity to process and treat the DST waste.	The vitrified low-activity waste fraction will be disposed onsite in a retrievable form. The vitrified HLW fraction will be stored onsite until a permanent repository is available to receive wastes for disposal.	M-042-00A, M-062-40, M-062-40J, M-062-40K, M-062-45, M-062-45-A, M-062-45-B, M-062-45-XX, M-062-45-ZZ, M-062-56, M-090-00, and M-090-13; In accordance with the dangerous waste permit closure plan requirements.
ERDF – Treatment	Macroencapsulation and stabilization	2,382.000	Yes	Waste stream is disposed of at ERDF.	Treatment and disposal are performed under a CERCLA decision document and treatment plans.
ETF Effluents	LERF and ETF	4,897.887	Yes	The delisted wastewater is disposed to a SALDS under a WAC 173-216 permit. The secondary liquid effluent will be disposed on the Hanford Site at IDF after it is treated at the off-site commercial treatment facility.	Hanford Facility RCRA Permit Revision 8C, Permit Number WA7890008967, Operating Unit 3.

Table 5-1. Summary of Treatment and Disposal Information for each Treatability Group. (7 Pages)

Treatability Group Name	Treatment Process	Projected Volume to be Treated 2024–2028 (m^3)	Sufficient Treatment Capacity	Disposal	Milestones and Documents Supporting Schedule
ETF Receipts	LERF and ETF	106,748.562	Yes	The delisted wastewater is disposed to a SALDS under a WAC 173-216 permit.	Hanford Facility RCRA Permit Revision 8C, Permit Number WA7890008967, Operating Unit 3.
Hanford Site Laboratory Complex	Hanford Site Laboratory Complex treatment, commercial stabilization, commercial thermal	416.600	Yes	Subject waste will ultimately be disposed of in mixed waste trenches located on the Hanford Site or at commercial facilities.	None; however, the lab is expected to be under Part III- Operating Units of the Rev. 9A Hanford Permit.
HSTF	Stabilization and in accordance with the dangerous waste permit closure plan requirements.	0.984	Yes	In accordance with the dangerous waste permit closure plan requirements.	DOE/RL-2020-09 USDOE will submit a notice to Ecology to begin treatment and closure of the HSTF by September 30, 2028.
LERF/ETF Solid Waste	Macroencapsulation and commercial stabilization	202.862	Yes	Secondary process waste (powder drums) generated from the treatment of wastewaters from the ETF as well as water polisher resin beads, filters, RO membranes and other unit and operations and maintenance waste is disposed at ERDF until IDF startup (April 2025). After IDF startup, the secondary process waste will be disposed at IDF. In the event treatment is necessary, mixed waste may be sent to an offsite treatment facility prior to disposal at ERDF or IDF.	Hanford Facility RCRA Permit Revision 8C, Permit Number WA7890008967, Operating Unit 3
MLLW-01 – LDR Compliant Waste	No treatment required.	N/A	Yes	This waste will be disposed of in Mixed Waste Disposal Units located on the Hanford Site.	None
MLLW-02 – Inorganic Non-Debris	Commercial stabilization, commercial deactivation under M-091 Series	No treatment expected over the next 5 years.	Yes	The treated waste is returned to Hanford for disposal into a hazardous waste landfill.	M-091 Milestone Series; HNF-19169

Table 5-1. Summary of Treatment and Disposal Information for each Treatability Group. (7 Pages)

Treatability Group Name	Treatment Process	Projected Volume to be Treated 2024–2028 (m^3)	Sufficient Treatment Capacity	Disposal	Milestones and Documents Supporting Schedule
MLLW-03 – Organic Non-Debris	Commercial thermal, under M-091 Series	No treatment expected over the next 5 years.	Yes	The treated waste is returned to Hanford for disposal into a hazardous waste landfill.	M-091 Milestone Series; HNF-19169
MLLW-04 – Hazardous Debris	Primarily commercial macroencapsulation, under M-091 Series	0.000	Yes	The treated waste is returned to Hanford for disposal into a hazardous waste landfill.	M-091 Milestone Series; HNF-19169
MLLW-07 – RH and Large Container	Commercial macroencapsulation and/or future M-091 capability	No treatment expected over the next 5 years.	Yes	The treated waste will be returned to Hanford for disposal into a hazardous waste landfill.	M-091-00; M-091-03R; M-091-54; M-091-56; M-091-58; M-091-59; M-091-60; M-091-61; and M-091-62; HNF-19169
PNNL Low-Level Mixed Waste	HWTU: neutralization, solidification, stabilization, deactivation, macroencapsulation. Commercial: macroencapsulation, deactivation, stabilization, thermal treatment	45.500	Yes	Waste will be disposed of in Hanford Site waste disposal trenches or commercial facilities.	None.
PUREX Plant	Specific treatment in accordance with the dangerous waste permit closure plan requirements and Section 8.0 of the TPA.	No treatment expected over the next 5 years.	Treatment capacity based on treatment process.	In accordance with the dangerous waste permit closure plan requirements and Section 8.0 of the TPA.	M-037-29, M-085-00, and M-085-84; M-085-85; M-085-86; Tri-Party Agreement Action Plan, Section 8.0 and in accordance with the dangerous waste permit closure plan requirements.
PUREX Storage Tunnel	Specific treatment in accordance with the dangerous waste permit closure plan requirements and Section 8.0 of the TPA.	No treatment expected over the next 5 years.	Treatment capacity based on treatment process.	In accordance with the dangerous waste permit closure plan requirements and Section 8.0 of the TPA.	M-037-29, M-085-00, and M-085-84; Tri-Party Agreement Action Plan, Section 8.0 and in accordance with the dangerous waste permit closure plan requirements.

Table 5-1. Summary of Treatment and Disposal Information for each Treatability Group. (7 Pages)

Treatability Group Name	Treatment Process	Projected Volume to be Treated 2024–2028 (m^3)	Sufficient Treatment Capacity	Disposal	Milestones and Documents Supporting Schedule
SST Waste	Retrieved SST waste will be transferred to the DST Waste and treated with the DST Waste. Residuals remaining in SSTs will be closed insitu.	0.000	Sufficient treatment capacity planned for SST waste.	SST waste will be transferred to the DST Waste and treated with the DST Waste. Residuals remaining in SSTs will be closed insitu.	M-037-24; M-037-25; M-045-00, M-045-13, M-045-13E, M-045-15 (In Abeyance), M-045-56, M-045-62, M-045-70, M-045-85 (In Abeyance), M-045-86 Series, M-045-102, and M-045-103; In accordance with the future dangerous waste permit closure plan requirements.
TRUM-CH Large Container	Waste is planned to be treated at a variety of facilities with M-091 capabilities that may or may not be onsite. The primary objective of treatment is to cut metal debris into smaller pieces so that it can be placed in a smaller box. WIPP can currently accept a box (SLB2) up to an internal volume of approximately 6.95 m^3 and in accordance with TPA Milestones.	280.000	No	TRUM is disposed of at WIPP.	M-091-00, M-091-03R, M-091-47-T04, M-091-48, M-091-49, M-091-54, M-091-55, M-091-56, M-091-57, M-091-59; M-91-60, and M-091-62; HNF-19169
TRUM-CH Small Container	The waste is processed at WRAP, CWC, and T Plant. Future unit operations will include solidification. The unit operations are performed as necessary for the waste to meet the WIPP waste acceptance criteria, and in accordance with TPA Milestones.	No treatment expected over the next 5 years.	No	TRUM is disposed of at WIPP.	M-091-00, M-091-03R, M-091-47-T04, M-091-48, M-091-49, M-091-54, M-091-55, M-091-56, M-091-57, M-91-60, and M-091-61; HNF-19169

Table 5-1. Summary of Treatment and Disposal Information for each Treatability Group. (7 Pages)

Treatability Group Name	Treatment Process	Projected Volume to be Treated 2024–2028 (m^3)	Sufficient Treatment Capacity	Disposal	Milestones and Documents Supporting Schedule
TRUM-RH	Future M-091 capability, and in accordance with TPA Milestones.	No treatment expected over the next 5 years.	No	TRUM is disposed of at WIPP.	M-091-00, M-091-03R, M-091-47-T04, M-091-48, M-091-49, M-091-54; and M-091-58; HNF-19169
TSCR IX Column	WTP HLW vitrification	No treatment expected over the next 5 years.	Yes	In support of determining a final disposition pathway for the IX column media, DOE will meet TPA Milestones. Disposition of other components of the IX column (e.g., casing, shielding) is expected to be managed as MLLW.	M-062-60, M-062-61, M-062-62; M-062-62-T01, M-062-62-T02, and M-062-63
WTP – Hazardous Debris	Not yet determined. Waste volume reduction, repackaging, treatment and disposal to be performed by off-site treatment, storage, and disposal facilities as directed by DOE-ORP.	794.000	Yes	Much of the subject waste will be treated and/or repackaged offsite by off-site treatment, storage, and disposal facilities as directed by DOE-ORP or at the Integrated Disposal Facility (IDF) and disposed at IDF.	None
WTP – LDR Compliant	No treatment required.	N/A	Yes	Disposal at IDF	19-NWP-165
WTP – Organic Non-Debris	Not yet determined. Waste volume reduction, repackaging, treatment and disposal to be performed by off-site treatment, storage, and disposal facilities as directed by DOE-ORP.	29.000	Yes	Much of the subject waste will be treated and/or repackaged by offsite treatment, storage, and disposal facilities as directed by DOE-ORP and disposed at IDF.	None

[1] For planning purposes DOE intends to defer closure of DWMUs within the T Plant complex until its mission is completed. At that time, closure of these DWMUs can be coordinated with dispositioning of the T Plant by adding it to Section 8.0 of the TPA Action Plan.

6.0 REFERENCES

00-ORL-055, 2000, "Submittal of Sixty-Day Notifications Required by Final Determination," (letter to T.C. Fitzsimmons, State of Washington, Department of Ecology) from K.A. Klein and R.T. French, U.S. Department of Energy, Richland Operations Office and U.S. Department of Energy, Office of River Protection, Richland, Washington, May 23. (https://pdw.hanford.gov/document/D8342163)

01-RCA-192, 2001, "Request to Formalize 221-T Tank System Closure Agreement," (letter to F.C. Jamison, State of Washington, Department of Ecology), from J. Hebdon, U.S. Department of Energy, Richland Operations Office, Richland, Washington, March 9. (https://pdw.hanford.gov/document/AR-03160)

02-RCA-022, 2001, "Response to the State of Washington Department of Ecology's (Ecology's) Comments from Review of the U.S. Department of Energy (DOE) Calendar Year (CY) 2000 Land Disposal Restrictions (LDR) Report, Submitted in Accordance with the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Interim Milestone M-026-01K," (letter to L.E. Ruud, State of Washington Department of Ecology), from J.B. Hebdon, U.S. Department of Energy, Richland Operations Office, Richland, Washington, October 29. (https://pdw.hanford.gov/document/D8869241)

05-AMCP-0318, 2005, "Calendar Year 2004 Land Disposal Restrictions Report Comment Reponses," (letter to M.A. Wilson, State of Washington, Department of Ecology), from K.A. Klein, U.S. Department of Energy, Richland Operations Office, Richland, Washington, July 12. (https://pdw.hanford.gov/document/DA506101)

19-PFD-0034, 2019, "Reissue - Conclusion of Comment Resolution Activities for the Calendar Year 2014 Hanford Site Mixed Waste Land Disposal Restrictions (LDR) Full Report, DOE/RL-2015-08, Revision 0," (letter to A.K. Smith, Washington State Department of Ecology), from W.F. Hamel, U.S. Department of Energy, Richland Operations Office, Richland, Washington, July 30. (https://pdw.hanford.gov/document/AR-02779)

40 CFR 268, "Land Disposal Restrictions," Title 40, *Code of Federal Regulations*, Part 268, as amended. (https://ecfr.io/Title-40/cfr268_main)

40 CFR 268.2, "Definitions applicable in this part," Title 40, *Code of Federal Regulations*, Part 268.2, as amended. (https://ecfr.io/Title-40/Section-268.2)

40 CFR 268.40, "Applicability of treatment standards," Title 40, *Code of Federal Regulations*, Part 268.40, as amended. (https://ecfr.io/Title-40/se40.29.268_140)

40 CFR 268.42, "Treatment standards expressed as specified technologies," Title 40, *Code of Federal Regulations*, Part 268.42, as amended. (https://ecfr.io/Title-40/se40.29.268_142)

40 CFR 268.45, "Treatment standards for hazardous debris," Title 40, *Code of Federal Regulations*, Part 268.45, as amended. (https://ecfr.io/Title-40/se40.29.268_145)

40 CFR 268.50, "Prohibitions on storage of restricted wastes," Title 40, *Code of Federal Regulations*, Part 268.50, as amended. (https://ecfr.io/Title-40/se40.29.268_150)

73 FR 55824, 2008, "Amended Record of Decision for the Hanford Comprehensive Land-Use Plan Environmental Impact Statement," *Federal Register*, Vol. 73, pp. 55824-55826 (September 26). (https://www.federalregister.gov/documents/2008/09/26/E8-22676/amended-record-of-decision-for-the-hanford-comprehensive-land-use-plan-environmental-impact)

95-PCA-342, 1995, *Identification of Non-Permitted Treatment, Storage, or Disposal (TSD) Facilities and Potential Environmental Noncompliant Conditions At Hanford Site*, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/D9090775)

99-EAP-055, 1998, "Certification to Allow Land Disposal of Hanford Organic/Carbonaceous Mixed Waste," (letter to M.A. Wilson, Washington State Department of Ecology), from J.E. Rasmussen, U.S. Department of Energy, Richland Operations Office, Richland, Washington, December 1. (https://pdw.hanford.gov/document/AR-03167)

A&E-00-ASS-075, 2001, *B Plant Complex Environmental Compliance Assessment*, U.S. Department of Energy, Richland, Washington. (https://pdw.hanford.gov/document/0069374H)

A&E-DWR-01-011, 2001, *Assessment Report, WRAP Environmental Program*, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-03590)

A&E-DWR-02-004, 2002, *Pacific Northwest National Laboratory, Building 325 Facility*, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/0069366H)

A&E-SEC-02-009, 2002, *Building 224-T Process Cells Environmental Compliance Assessment*, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/D9220349)

A-01-OPD-TANKFARM-011, 2000, *Assessment of River Protection Project Mixed Waste Storage*, U.S. Department of Energy, Office of River Protection, Richland, Washington. (https://pdw.hanford.gov/document/AR-03515)

A-02-EMD-TF-01, 2002, *Land Disposal Restrictions Program Assessment of Potential Mixed Waste at 241-C-801 Cesium Unloading Station*, U.S. Department of Energy, Office of River Protection, Richland, Washington. (https://pdw.hanford.gov/document/AR-03516)

ARQP-04-11, 2004, *Land Disposal Restricted Mixed Waste Storage in the 100 Areas*, Bechtel Hanford, Inc., Richland, Washington. (attached to unit managers' meeting minutes at https://pdw.hanford.gov/document/D7508481)

C-13-01, 2017, "Assignment of Waste Sites to the 200-IS-1 Operable Unit in the Tri-Party Agreement (TPA) Appendix C," U.S. Department of Energy, Richland Operations Office, and Washington State Department of Ecology, Richland, Washington. (https://pdw.hanford.gov/document/0069391H)

Case No: 2:08-CV-5085-FVS, 2010, *State of Washington v. Chu*, U.S. District Court, Eastern District of Washington, October 25. (https://www.hanford.gov/files.cfm/TPA_Final_Entered_Consent_Decree.pdf)

CHPRC-02916, 2016, *M-091 Engineering Alternatives Study*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington. (https://pdw.hanford.gov/document/0074662H)

Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 USC 9601, et seq. (https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title42-section9601&num=0&edition=prelim)

DOE & CPCCo, 2023, *LDR Storage Assessment of the 221-T Tank System*, U.S. Department of Energy, Richland Operations Office, and Central Plateau Cleanup Company, Richland, Washington. (attached to *M-026-01 Project Manager Meeting Minutes for December 12, 2023* - https://pdw.hanford.gov/document/AR-28301)

DOE et al., 1996, *Agreement in Principle (AIP) Canyon Disposition Initiative (CDI)*, U.S. Department of Energy, Richland Operations Office, U.S. Environmental Protection Agency, and State of Washington Department of Ecology, Richland, Washington. (https://pdw.hanford.gov/document/D3940853)

DOE et al., 2003a, *Central Plateau Remediation Project Assessment Report Building 324 and 327 Land Disposal Restrictions Storage Assessment*, Fluor Hanford, Inc., Richland, Washington. (https://pdw.hanford.gov/document/0069368H)

DOE et al., 2003b, *Waste Management Project/PNNL Facilities Project Meeting January 16, 2003*, U.S. Department of Energy, Washington State Department of Ecology, and Pacific Northwest National Laboratory, Richland, Washington. (https://pdw.hanford.gov/document/D1112673)

DOE, Ecology, and EPA, 2007, *U.S. Department of Energy Environmental Restoration Disposal Facility Hanford Site – 200 Area Benton County, Washington Amended Record of Decision, Decision Summary, and Responsiveness Summary*, U.S. Department of Energy, Richland Operations Office, Washington State Department of Ecology, and U.S. Environmental Protection Agency, Richland, Washington. (https://pdw.hanford.gov/document/0086538)

DOE & WRPS, 2023, *LDR Storage Assessment of Treatment Storage and Disposal (TSD) Unit Inactive Miscellaneous Underground Storage Tanks (IMUSTs) 241-S-302B Catch Tank, 241-TX-302C Catch Tank, and 241-UX-302A Catch Tank*, U.S. Department of Energy, Office of River Protection, and Washington River Protection Solutions LLC, Richland, Washington. (attached to *M-026-01 Project Manager Meeting Minutes for October 17, 2023* - https://pdw.hanford.gov/document/AR-28285)

DOE/EA-0983, 1995, *Environmental Assessment Inert/Demolition Waste Landfill (Pit 9), Hanford Site, Richland, Washington*, U.S. Department of Energy, Richland, Washington. (https://pdw.hanford.gov/document/D196018602)

DOE/EA-1211, 1997, *Environmental Assessment for the Relocation and Storage of Isotopic Heat Sources, Hanford Site, Richland, Washington*, U.S. Department of Energy, Richland, Washington. (https://www.energy.gov/sites/prod/files/EA-1211-FEA-1997_0.pdf)

DOE/EIS-0113, 1987, *Final Environmental Impact Statement Disposal of Hanford Defense High-Level Transuranic and Tank Wastes*, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://www.energy.gov/nepa/downloads/eis-0113-final-environmental-impact-statement-0)

DOE/EIS-0286, 2004, *Final Hanford Site Solid (Radioactive and Hazardous) Waste Program Environmental Impact Statement, Richland, Washington*, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://www.energy.gov/nepa/downloads/eis-0286-final-environmental-impact-statement)

DOE/EIS-0391, 2012, *Final Tank Closure and Waste Management Environmental Impact Statement for the Hanford Site, Richland, Washington*, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://www.hanford.gov/page.cfm/FinalTCWMEIS)

DOE/RL-2001-47, 2010, *Remedial Design Report/Remedial Action Work Plan for the 300 Area*, Rev. 3, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/1001260296)

DOE/RL-2002-14, 2003, *Tanks/Lines/Pits/Boxes/Septic Tank and Drain Fields Waste Group Operable Units RI/FS Work Plan and RCRA TSD Unit Sampling Plan*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/D1472461)

DOE/RL-2004-68, 2005, *Action Memorandum for the Non-Time-Critical Removal Action for the 224-T Plutonium Concentration Facility*, Rev. 0, U.S. Department of Energy, Richland, Washington. (https://pdw.hanford.gov/document/DA428391)

DOE/RL-2004-77, 2016, *Removal Action Work Plan for 300 Area Facilities,* Rev. 3, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/1603021286)

DOE/RL-2004-83, 2008, *U Plant Ancillary Facilities Removal Action Work Plan, Phase II*, Rev. 1, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/0812290615)

DOE/RL-2005-26, 2019, *Removal Action Work Plan for 105-KE/105-KW Reactor Facilities and Ancillary Facilities*, Rev. 2, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-02391)

DOE/RL-2006-21, 2008, *Remedial Design/Remedial Action Work Plan for the 221-U Facility*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/0902180737)

DOE/RL 2008-51, 2008, *241-CX Tank System Closure Plan*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/0812290629)

DOE/RL-2008-78, 2008, *200 West Area 200-ZP-1 Pump-and-Treat Remedial Design/Remedial Action Work Plan*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland Washington. (https://pdw.hanford.gov/document/0084101)

DOE/RL-2009-112, 2010, *Hexone Storage and Treatment Facility Closure Plan*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/0084307)

DOE/RL-2010-102, 2011, *Action Memorandum for Decontamination, Deactivation, Decommissioning, and Demolition (D4) Activities for 200 East Tier 2 Buildings/Structures*, Rev. 0, U.S. Department of Energy, Richland, Washington. (https://pdw.hanford.gov/document/0072140H)

DOE/RL-2010-22, 2013, *Action Memorandum for General Hanford Site Decommissioning Activities*, Rev. 1, U.S. Department of Energy, CH2M HILL Plateau Remediation Company, Richland, Washington. (https://pdw.hanford.gov/document/0087977)

DOE/RL-2010-33, 2020, *Removal Action Work Plan for Central Plateau General Decommissioning Activities,* Rev. 1, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-04254)

DOE/RL-2010-49, 2017, *Remedial Investigation/Feasibility Study Work Plan for the 200-WA-1 and 200-BC-1 Operable Unit*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/0072177H)

DOE/RL-2011-80, 2011, *Interim Completion Report for the 221-U Facility,* Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/0088468)

DOE/RL-2014-13-ADD1, 2016, *Remedial Design Report/Remedial Action Work Plan for 300-FF-2 Soils,* Rev. 1, U.S. Department of Energy, Richland Operation Office, Richland, Washington. (https://pdw.hanford.gov/document/0076809H)

DOE/RL-2015-23, 2016, *Remedial Design/Remedial Action Work Plan for the 200-CW-5, 200-PW-1, 200-PW-3, and 200-PW-6 Operable Units*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/0076381H)

DOE/RL-2015-51, 2015, *Action Memorandum for the Time-Critical Removal Action for 207-A South Retention Basin Closure Disposal at the Environmental Restoration Disposal Facility*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/0079983H)

DOE/RL-2016-14, 2017, *Engineering Evaluation/Cost Analysis for the B Plant Complex*, Draft B, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/0065747H)

DOE/RL-2016-15, 2019, *Engineering Evaluation/Cost Analysis for the PUREX Complex*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-02488)

DOE/RL-2016-46, 2018, *Removal Action Work Plan for the B Plant Complex Tier 2 Buildings/Structures*, Rev. 0, U.S. Department of Energy, Richland, Washington. (https://pdw.hanford.gov/document/0063901H)

DOE/RL-2016-47, 2020, *Removal Action Work Plan for the PUREX Complex Tier 2 Buildings/Structures*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-03265)

DOE/RL-2016-52, 2019, *Action Memorandum for the Reduction-Oxidation Facility Complex*, Rev. 1, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-01150)

DOE/RL-2016-53, 2021, *Action Memorandum for the PUREX Complex*, Rev. 1, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-09916)

DOE/RL-2017-06, 2023, *Removal Action Work Plan for the Reduction-Oxidation Complex*, Rev. 2, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-24527)

DOE/RL-2017-33, 2020, *Removal Action Work Plan for the 224B Plutonium Concentration Facility*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-03547)

DOE/RL-2020-09, 2022, *Calendar Year 2019 Hanford Site Mixed Waste Land Disposal Restrictions Full Report*, Rev. 2, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-21036)

DOE/RL-2020-11, 2020, *Action Memorandum for the Interim Stabilization of 216-Z-2 Crib, 216Z9 Trench, and 241Z361 Settling Tank*, Draft A, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-03591)

DOE/RL-2020-56, 2022, *Action Memorandum for the 200 West Area Tier 2 Buildings/Structures*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-18714)

DOE/RL-2021-06, 2022, *Removal Action Work Plan for the 200 West Area Tier 2 Building/Structures*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-19575)

DOE/RL-2021-07, 2022, *Sampling and Analysis Plan for the 200 West Tier 2 Building/Structures*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-19502)

DOE/RL-2021-62, 2023, *Calendar Year 2020 Hanford Site Mixed Waste Land Disposal Restrictions Full Report*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-23321)

DOE/RL-2022-51, 2023, *Calendar Year 2021 Hanford Site Mixed Waste Land Disposal Restrictions Full Report*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-24371)

DOE/RL-2023-51, 2023, *Calendar Year 2022 Hanford Site Mixed Waste Land Disposal Restrictions Full Report*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-26472)

DOE/RL-91-27, 2006, *Hanford Facility Permit Application, 222-S Dangerous and Mixed Waste Treatment, Storage, and Disposal Unit*, Rev. 2, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/DA03540335)

DOE/RL-95-36, 2002, *Hanford Facility Dangerous Waste Permit Application, T Plant Complex*, Rev. 1, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/D9159677)

DOE/RL-96-73, 2016, *324 Building Radiochemical Engineering Cells, High-Level Vault, Low-Level Vault, and Associated Area Closure Plan*, Rev. 4, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-03608)

DOE/RL-98-12, 1999, *B-Plant Complex Preclosure Work Plan*, Rev. 1, U.S. Department of Energy, Richland Operations Office, Richland Washington. (https://pdw.hanford.gov/document/D199096884)

DOE/RL-98-19, 2008, *Surveillance and Maintenance Plan for the 202-S Reduction Oxidation (REDOX) Facility*, Rev. 3, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/DA06814175)

DOE/RL-98-20, 2000, *Surveillance and Maintenance Plan for the 221-U Facility (U Plant)*, Rev. 1, U.S. Department of Energy, Richland, Washington. (https://pdw.hanford.gov/document/D8244039)

DOE/RL-98-22, 1999, *Surveillance and Maintenance Plan for the Uranium Trioxide (UO3) Facility*, Rev. 0, U.S. Department of Energy, Richland, Washington. (https://pdw.hanford.gov/document/D199061220)

DOE/RL-98-35, 2008, *Surveillance and Maintenance Plan for the Plutonium-Uranium Extraction (PUREX) Facility*, Rev. 3, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/0091654)

DOE/RL-98-64, 1998, *Surveillance and Maintenance Plan for the 100-N Area Deactivated Facilities*, Rev. 0, U.S. Department of Energy, Richland, Washington. (https://pdw.hanford.gov/document/D199061219)

DOE/RL-99-24, 2008, *Surveillance and Maintenance Plan for 221-B Facility (B Plant)*, Rev. 3, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/DA06814117)

Eberlein, 2015, "RE: LDR PMM MINUTES 12-04-2014.docx," (email to M. J. Voogd, U.S. Department of Energy, Richland Operations Office), Washington State Department of Ecology, Richland, Washington, November 3. (https://pdw.hanford.gov/document/AR-03625)

Ecology et al., 1989, *Hanford Federal Facility Agreement and Consent Order*, Washington State Department of Ecology, U.S. Environmental Protection Agency, U.S. Department of Energy, Olympia, Washington, as amended. (https://www.hanford.gov/files.cfm/HFFACO.pdf)

Ecology et al., 1990, *Requirements for Hanford LDR Plan*, State of Washington Department of Ecology and U.S. Environmental Protection Agency, Richland, Washington, April 10. (https://pdw.hanford.gov/document/E0008632)

Ecology et al., 2002, *Resolution of Dispute Pertaining to Hanford Federal Facility Agreement and Consent Order Calendar Year 2000 Hanford Site Mixed Waste Land Disposal Restrictions Report*, U.S. Department of Energy, Richland Operations Office; U.S. Department of Energy, Office of River Protection; and State of Washington, Department of Ecology, Richland, Washington, March 14. (https://pdw.hanford.gov/document/D9035430)

Ecology et al., 2003, "M-026 LDR Report Project Manager Meeting Minutes," Washington State Department of Ecology; U.S. Department of Energy, Office of River Protection; and U.S. Department of Energy, Richland Operations Office, February 6. (https://pdw.hanford.gov/document/D0996909)

Ecology et al., 2004, "M-026 LDR Report Project Manager Meeting Minutes," Washington State Department of Ecology; U.S. Department of Energy, Office of River Protection; and U.S. Department of Energy, Richland Operations Office, January 20. (https://pdw.hanford.gov/document/D4097058)

Ecology et al., 2008, *Record of Decision: Hanford 200 Area 200-ZP-1 Superfund Site Benton County, Washington*, Washington State Department of Ecology, U.S. Environmental Protection Agency, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/00098825)

Ecology et al., 2009, *M-026 LDR Report Project Manager Meeting Minutes for April 23, 2009*, U.S. Department of Energy and Washington State Department of Ecology, Richland, Washington. (https://pdw.hanford.gov/document/0096287)

Ecology et al., 2012, *Record of Decision for Interim Remedial Action: Hanford 200 Area Superfund Site 200-UP-1 Operable Unit*, Washington State Department of Ecology, U.S. Environmental Protection Agency, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/0091413)

Ecology et al., 2022, *Calendar Year 2019 Hanford Land Disposal Restrictions (LDR) Full Report Project Manager Dispute Resolution Agreement Changes*, Washington State Department of Ecology, U.S. Department of Energy, Richland Operations Office, Richland, Washington, April 20. (https://pdw.hanford.gov/document/AR-19559)

Ecology, 2023, Dangerous Waste Compliance Inspection on May 30, 2023, and June 5, 2023, at the Central Waste Complex, RCRA/State Site ID: WA7890008967, Nuclear Waste Program (NWP) Compliance Index No.: 23.800, 23-NWP-129, Washington State Department of Ecology, (https://pdw.hanford.gov/document/AR-26491)

EPA, 1990, *Guidance on the Land Disposal Restrictions' Effects on Storage and Disposal of Commercial Mixed Waste*, Directive 9555.00-01, U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, D.C. (https://nepis.epa.gov/Exe/ZyPDF.cgi/9101Z2OA.PDF?Dockey=9101Z2OA.PDF)

EPA, 1997, *U.S. Department of Energy Environmental Restoration Disposal Facility, Hanford Site – 200 Area, Benton County, Washington, Amended Record of Decision, Decision Summary and Responsiveness Summary*, U.S. Environmental Protection Agency, Region 10, Seattle, Washington. (https://pdw.hanford.gov/document/D197286764)

EPA, 2002, *U.S. Department of Energy Environmental Restoration Disposal Facility, Hanford Site – 200 Area, Benton County, Washington, Amended Record of Decision, Decision Summary and Responsiveness Summary*, U.S. Environmental Protection Agency, Region 10, Seattle, Washington. (https://pdw.hanford.gov/document/D9066891)

EPA, 2011, *Record of Decision, Hanford 200 Area, Superfund Site, 200-CW-5 and 200-PW-1, 200-PW-3 and 200-PW-6 Operable Units,* U.S. Environmental Protection Agency, Region 10, Seattle, Washington. (https://pdw.hanford.gov/document/0093644)

EPA, 2013, *Hanford Site 300 Area Record of Decision for 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1,* U.S. Environmental Protection Agency, Region 10, Seattle, Washington, and U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/0087180)

EPA, 2018, "Superfund: CERCLA Overview," U.S. Environmental Protection Agency, Washington, D.C., accessed January 3, 2020. (https://www.epa.gov/superfund/superfund-cercla-overview)

Federal Facilities Compliance Act of 1992, Public Law 102-386, et seq. (https://www.govinfo.gov/content/pkg/STATUTE-106/pdf/STATUTE-106-Pg1505.pdf#page=3)

Fitzsimmons, T., 2000, "Final Determination pursuant to the Hanford Federal Facility Agreement and Consent Order (HFFACO) regarding the U.S. Department of Energy's (DOE) compliance with Land Disposal Restriction (LDR) requirements of Washington State's Hazardous Waste Management Act (HWMA) and the federal Resource Conservation and Recovery Act (RCRA), DOE's annual Land Disposal Restrictions Report, and HFFACO milestone M-26-01," (letter to R.T. French, U.S. Department of Energy, Office of River Protection, and K.A. Klein, U.S. Department of Energy, Richland Field Office), State of Washington Department of Ecology, Olympia, Washington, March 29. (https://pdw.hanford.gov/document/D8479421)

FY2005-SPMA-S-0317, 2005, *Calendar Year 2004 Land Disposal Restrictions Assessment: 241-A-702 Ventilation Building and Double-Shell Tank Farms*, CH2M HILL Hanford Group, Inc., Richland, Washington. (https://pdw.hanford.gov/document/AR-03520)

FY 2006-POPD-S-0313, 2006, *Calendar Year 2005 Land Disposal Restrictions Assessment: 242-S and 242-T Evaporators*, U.S. Department of Energy, Office of River Protection, Richland, Washington. (https://pdw.hanford.gov/document/DA01892497)

Hanford Facility Resource Conservation and Recovery Act Permit, WA789008967, as amended, Washington State Department of Ecology. (https://fortress.wa.gov/ecy/nwp/permitting/hdwp/rev/8c/index.html)

Hazardous and Solid Waste Amendments of 1984, Public Law 98-616, et seq. (https://www.govinfo.gov/content/pkg/STATUTE-98/pdf/STATUTE-98-Pg3221.pdf)

HNF-19169, 2021, *M-091 Transuranic Mixed/Mixed Low-Level Waste Project Management Plan*, Rev. 23, Central Plateau Cleanup Company, Richland, Washington. (https://pdw.hanford.gov/document/AR-16755)

HNF-46952, 2022, *Hanford Site Pollution Prevention and Waste Minimization Program Plan*, Rev. 3, Hanford Mission Integration Solutions, LLC, Richland Washington. (https://pdw.hanford.gov/document/AR-22272)

HNF-8735, 2002, *241-Z-361 Tank Characterization Report*, Rev. 0A, Fluor Hanford, Inc., Richland, Washington. (https://pdw.hanford.gov/document/AR-03592)

HNF-EP-0063, 2019, *Hanford Site Solid Waste Acceptance Criteria*, Rev. 18, CH2M HILL Plateau Remediation Company, Richland, Washington. (https://pdw.hanford.gov/document/AR-03163)

HNF-EP-0182, 2023, *Waste Tank Summary Report for the Month Ending December 31, 2023*. Rev. 432, Washington River Protection Solutions LLC, Richland, Washington. (https://pdw.hanford.gov/document/AR-28320)

HNF-EP-0918, 2019, *Solid Waste Integrated Forecast Technical (SWIFT) Report, FY2020 – FY2050, 2020.0*, Rev. 30, CH2M HILL Plateau Remediation Company, Richland, Washington. (https://pdw.hanford.gov/document/AR-20468)

M-26-06-01, 2006, "Modify Interim Milestone M-26-01 series to address submittal of the Hanford Land Disposal Restrictions (LDR) Summary Report and full LDR Report," U.S. Department of Energy, Richland Operations Office, and Washington State Department of Ecology, Richland, Washington. (https://pdw.hanford.gov/document/DA04193094)

M-85-10-01, 2010, "Modify Tri-Party Agreement to add M-85 series milestones for Central Plateau facilities and associated waste sites," U.S. Department of Energy, U.S. Environmental Protection Agency, and Washington State Department of Ecology, Richland, Washington. (https://pdw.hanford.gov/document/1011021003)

M-93-01-02, 2002, *Modification of TPA M-93 Series Milestones, Complete Final Disposition of All 100 Area Surplus Production Reactor Buildings*, U.S. Department of Energy, Richland Operations Office, U.S. Environmental Protection Agency, and Washington State Department of Ecology, Richland Washington. (https://pdw.hanford.gov/document/D9085067)

OSWER, 1990, OSWER Directive 9555.00-01, "Guidance on the Land Disposal Restrictions' Effects on Storage and Disposal of Commercial Mixed Waste," Office of Solid Waste and Emergency Response, Washington, D.C. (https://nepis.epa.gov/Exe/ZyPDF.cgi/9101Z2OA.PDF?Dockey=9101Z2OA.PDF)

RCW 70.105, "Hazardous Waste Management," *Revised Code of Washington*, Olympia, Washington. (https://apps.leg.wa.gov/RCW/default.aspx?cite=70.105)

Resource Conservation and Recovery Act of 1976, Public Law 94-580, et seq. (https://uscode.house.gov/statutes/pl/94/580.pdf)

RPP-ASMT-64349, 2021, *Leak Assessment Report for Tank 241-B-109*, Rev. 0, Washington River Protection Solutions LLC, Richland, Washington. (https://pdw.hanford.gov/document/AR-22024)

RPP-RPT-61279, 2019, *Single-Shell Tank Farm Leak Inventory Assessments Summary*, Rev. 0, Washington River Protection Solutions LLC, Richland, Washington. (https://pdw.hanford.gov/document/AR-03595)

S-08-ESQ-TANKFARM-003, 2008, *Double-Shell Tank System Evaluation Report*, U.S. Department of Energy, Office of River Protection, Richland, Washington. (https://pdw.hanford.gov/document/DA06814338)

S-08-ESQ-TANKFARM-009, 2008, *Single-Shell Tank System Evaluation Report*, U.S. Department of Energy, Office of River Protection, Richland, Washington. (https://pdw.hanford.gov/document/0804160135)

19-NWP-165, 2019, "Re: Approval of Land Disposal Restriction Treatability Variance Petition for Hanford Tank Waste," (letter to B.T. Vance, U.S. Department of Energy, Office of River Protection) from S. Schleif, Washington State Department of Ecology, Richland, Washington, October 21. (https://pdw.hanford.gov/document/AR-03170)

Singleton, D., 2011, "Waste Storage Assessment of 224-B, 242-B/BL, 270-W, and IMUSTs Not Associated with a Building," (letter to M. S. Collins, U.S. Department of Energy, Richland Operations Office), State of Washington, Department of Ecology, January 13. (https://pdw.hanford.gov/document/1201240744)

SNFP-ENV-04-MA-0101a, 2005, *Management Assessment: 105-K East Facility Land Disposal Restrictions (LDR) Storage Assessment*, Fluor Hanford, Inc., Richland, Washington. (https://pdw.hanford.gov/document/D7847428)

SNFP-ENV-04-MA-0101c, 2005, *Management Assessment: 105-K West Facility Land Disposal Restrictions (LDR) Storage Assessment*, Fluor Hanford, Inc., Richland, Washington. (https://pdw.hanford.gov/document/DA096739)

Stanley, R., 2000, "Response to DOE Request for Clarifications," (letter to G.H. Sanders, U.S. Department of Energy, Office of Regulatory Liaison), State of Washington Department of Ecology, Kennewick, Washington, January 25. (https://pdw.hanford.gov/document/0071423H)

Toxic Substances Control Act of 1976, 15 USC 2601, et seq. (https://uscode.house.gov/view.xhtml?req=(title%3A15%20section%3A2601%20edition%3Aprelim))

WAC 173-216, "State Waste Discharge Permit Program," *Washington Administrative Code*, Olympia, Washington. (https://apps.leg.wa.gov/WAC/default.aspx?cite=173-216&full=true)

WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, Olympia, Washington. (https://apps.leg.wa.gov/WAC/default.aspx?cite=173-303)

WAC 173-303-040, "Definitions," *Washington Administrative Code*, Olympia, Washington. (https://apps.leg.wa.gov/WAC/default.aspx?cite=173-303-040)

WAC 173-303-140, "Land Disposal Restrictions," *Washington Administrative Code*, Olympia, Washington. (https://apps.leg.wa.gov/WAC/default.aspx?cite=173-303-140)

WSD-TP-EP-06-MA-37, 2006, *LDR Assessment of T Plant*, Fluor Hanford, Inc., Richland, Washington. (https://pdw.hanford.gov/document/0069369H)

This page intentionally left blank.

APPENDIX A

LAND DISPOSAL RESTRICTIONS REPORTING REQUIREMENTS

This page intentionally left blank.

APPENDIX A

LAND DISPOSAL RESTRICTIONS REPORTING REQUIREMENTS

Hanford Site land disposal restriction (LDR) reporting requirements stem from several primary sources, including:

- *Requirements for Hanford LDR Plan* (Ecology and EPA 1990)
- *Federal Facilities Compliance Act of 1992*
- "Response to DOE Request for Clarifications" (Stanley 2000)
- "Final Determination pursuant to the Hanford Federal Facility Agreement and Consent Order (HFFACO) regarding the U.S. Department of Energy's (DOE) compliance with Land Disposal Restriction (LDR) requirements of Washington State's Hazardous Waste Management Act (HWMA) and the federal Resource Conservation and Recovery Act (RCRA), DOE's annual Land Disposal Restrictions Report, and HFFACO milestone M- 26-01" (Fitzsimmons 2000)
- *Resolution of Dispute Pertaining to Hanford Federal Facility Agreement and Consent Order Calendar Year 2000 Hanford Site Mixed Waste Land Disposal Restrictions Report* (Ecology et al. 2002)
- *Calendar Year 2019 Hanford Land Disposal Restrictions (LDR) Full Report Project Manager Dispute Resolution Agreement Changes* (Ecology and DOE-RL 2022)

Additional LDR reporting requirements are established through Tri-Party Agreement Milestone M-026-01 project manager meetings and documented in meeting minutes in the Hanford Site Administrative Record.

Table A-1 crosswalks current LDR reporting requirements to the location in this *Calendar Year 2023 Hanford Site Mixed Waste Land Disposal Restrictions Summary Report* where the requirements are addressed. Some of the items identified in the table were one-time requirements that have since been fulfilled. For those items, the table indicates how the one-time requirements were satisfied.

Table A-1. Land Disposal Restrictions Requirements. (7 Pages)

Item[1]	Section ID[2]	Requirement[3]	Location of Information[4]
1	1.a (1990) IV.3.A. 1, pg. 16 (FD) IV.3.A.1. a, pg. 16 (FD) IV.3.B.a, pg. 19 (FD) 23 items (Ltr)	Identification of mixed waste	Section 2.2 Tables 2-2, 2-4, and 3-1 TGDS 1.1, 1.2, and 3.0 LSDS 1.1, 1.2, and 1.3
2	1.a (1990) IV.3.A. 1, pg. 16 (FD) IV.3.A.1. a, pg. 16 (FD) IV.3.B.a, pg. 19 (FD) 23 items (Ltr)	Description of mixed waste	Section 2.2 Tables 2-2, 2-4, and 3-1 TGDS 1.1, 1.2 and 3.0 LSDS 1.1, 1.2, and 1.3
3	1.a (1990) IV.3.A.1.b, pg. 16 (FD)	RCRA hazardous waste code(s) and state-only waste designations	Section 4.0 Table 2-2 TGDS 3.3.2
4	IV.3.A.1.c, pg. 16 (FD)	Applicable LDR treatment standard(s) and underlying hazardous constituents	Section 4.0 Table 2-2 TGDS 3.3.2
5	1.a (1990) IV.3.A. 1, pg. 16 (FD) IV.3.A.1. a, pg. 16 (FD) IV.3.A.1. c, pg. 16 (FD) IX.b, pg. 19 (2019)	Process information necessary for waste identification and LDR determinations	Section 4.0 Table 2-2 LSDS 1.2 and 1.3
6	1.a (1990) IV.3.A.1.c, pg. 16 (FD)	History of how the waste was generated	Sections 2.2 and 3.0 Table 2-2 LSDS 1.3 and 2.12
7	1.a (1990) IV.3.A.1.c, pg. 16 (FD)	Source of the hazardous constituents	Section 4.0 Table 2-2 LSDS 1.3
8	1.a (1990) IV.3.A.1.c, pg. 16 (FD)	How the waste was managed before storage	Section 3.0 Table 2-2 LSDS 2.1.1 and 2.12

Table A-1. Land Disposal Restrictions Requirements. (7 Pages)

Item[1]	Section ID[2]	Requirement[3]	Location of Information[4]
9	1.a (1990) IV.3.A.1.c, pg. 16 (FD)	General timeframe determination that serves to categorize when the waste was placed in storage	Section 3.0 Table 2-2 LSDS 1.3 and 2.1.2
10	1.a (1990) IV.3.A.1.d, pg. 16 (FD)	Radioactivity type	Table 2-1 TGDS 3.1.1 and 3.1.2
11	1.a (1990) IV.3.A.1.e, pg. 16 (FD)	Physical form of the waste	Tables 2-1 and 4-1 TGDS 3.2.1 and 3.3.2
12	1.b (1990) IV.3.A.1.f, pg. 16 (FD)	Quantity of waste	Tables 2-1 and 3-1 TGDS 2.1 LSDS 2.3
13	1.c (1990) IV.3.A.1.g, pg. 16 (FD) IV.3.A.1, pg. 17 (FD)	Physical location	Table 3-1 LSDS 2.1 and 2.2
14	1.c (1990) IV.3.A.1.g, pg. 16 (FD)	Method of storage	Table 3-1 LSDS 2.1 and 2.2
15	1.c (1990) IV.3.A.1.g, pg. 16 (FD)	List of areas permitted for storage	Table 3-1 LSDS 2.5
16	1.d (1990) IV.3.A.1.h, pg. 16 (FD) IV.3.A.2, pg. 17 (FD)	DOE assessment of the compliance status of storage methods	Section 3.1 Table 2-4 LSDS 2.7 and 2.12
17	IV.3.A.2, pg. 17 (FD)	Notification of which DOE organization is responsible for assessment within 60 days of final determination issuance	DOE provided timely notification in letter 00-ORL-055.
18	IV.3.A.2, pg. 17 (FD)	Procedure used for storage method compliance assessments must meet minimum regulatory requirements (WAC 173-303 and 40 CFR 265)	DOE provided timely notification in letter 00-ORL-055. See 2002 Resolution of Dispute for clarity on this requirement (Ecology et al. 2002).
19	IV.3.A.2, pg. 17 (FD)	Opportunity for Ecology review and comment must be provided while developing storage method compliance assessment schedules and procedures	DOE provided timely notification in letter 00-ORL-055.
20	1.e (1990) IV.3.A.1.i, pg. 17 (FD)	Identification of any releases of hazardous waste or hazardous constituents to the environment from these storage units	Section 3.2 LSDS 2.9
21	1.f (1990) IV.3.A.1.j, pg. 17 (FD)	LDR waste generation rates	Tables 2-1 and 3-1 TGDS 2.2 LSDS 2.6

Table A-1. Land Disposal Restrictions Requirements. (7 Pages)

Item[1]	Section ID[2]	Requirement[3]	Location of Information[4]
22	1.f (1990) IV.3.A.1.j, pg. 17 (FD)	Estimate of the storage capacity	Table 3-1 LSDS 2.4
23	1.f (1990) IV.3.A.1.j, pg. 17 (FD)	When storage capacity will be reached	Table 3-1 LSDS 2.4
24	1.f (1990) IV.3.A.1.j, pg. 17 (FD)	Identification of the bases and assumptions used in estimating storage capacity and when storage capacity will be reached	Table 3-1 LSDS 2.4 and 2.12
25	1.g (1990) IV.3.A.1.k, pg. 17 (FD)	Plans to submit requests for variances, case-by-case extensions of the LDR requirements, or other exemptions	Sections 3.0 and 5.0 TGDS 4.8 and 5.0 LSDS 2.10
26	2 (1990) IV.3.A.1.k, pg. 17 (FD)	Provide for the submittal of requests for case-by-case extensions, variances, and other exemptions of the LDR requirements in accordance with Section 3004 of RCRA	Sections 3.0 and 5.0 TGDS 4.8 and 5.0 LSDS 2.10
27	3 (1990) IV.3.A.3.a, pg. 19 (FD)	Plan and schedule to characterize all waste	Section 4.0 Table 4-1 LSDS 2.11
28	IV.3.A.3, pg. 19 (FD)	Reporting of waste characterization plan must delineate steps necessary to confirm which streams are subject to LDR	Section 4.0 Table 4-1 LSDS 2.11
29	3 (1990) IV.3.A.3, pg. 19 (FD)	Report characterization results to EPA and Ecology	Section 4.0 Tables 2-1 and 4-1 TGDS 3.0 LSDS 2.11
30	3 (1990)	Steps necessary to confirm which waste and which waste streams are subject to the LDR	Section 4.0 Table 4-1 TGDS 3.0 LSDS 2.11
31	4.a (1990)	Treatment and disposal technologies	Section 5.0 TGDS 3.3.2 and 5.0
32	4.a (1990)	Treatment capacity	Section 5.0 TGDS 4.3
33	4.b (1990)	Commercial treatment technologies	Section 5.0
34	4.b (1990)	Commercial treatment capacity currently available	Section 5.0 TGDS 4.3

Table A-1. Land Disposal Restrictions Requirements. (7 Pages)

Item[1]	Section ID[2]	Requirement[3]	Location of Information[4]
35	4.c (1990)	DOE treatment technologies	Section 5.0
36	4.c (1990)	DOE treatment capacity currently available	Section 5.0 TGDS 4.3
37	4.d (1990)	Whether any new commercial or DOE treatment capacity is scheduled to be available	Section 5.0
38	4.d (1990)	Assessment of when new commercial or DOE treatment capacity will be available	Section 5.0
39	4.e (1990)	Alternate treatment and disposal technologies that are in development, and may be used to manage these LDR wastes	Section 5.0
40	4.e (1990)	Assessment of when such alternate treatment and disposal technologies may become available	Section 5.0
41	4.f (1990)	Basis and assumptions used to assess new commercial or DOE treatment capacity and alternate treatment and disposal technologies	Section 5.0 TGDS 4.9
42	4.f (1990)	Foreseeable contingencies that may affect the basis and assumptions used to assess new commercial or DOE treatment capacity and alternate treatment and disposal technologies	Section 5.0
43	5 (1990) IV.3.A.3, pg. 18 (FD)	Milestones and schedules for the development and implementation of treatment technologies	Section 5.0 Table 5-1 TGDS 4.4, 4.5, and 4.6
44	5 (1990) IV.3.A.3, pg. 18 (FD) IV.3.A.3.a, pg. 18 (FD)	All applicable milestones and associated schedules for developing and implementing treatment or management technologies	Section 5.0 Table 5-1 TGDS 4.4, 4.5, and 4.6
45	IV.3.A.3.a, pg. 18 (FD)	Schedules for submitting applicable permit applications, initiating construction, conducting systems testing, commencing operations, and processing backlogged and currently generated waste, for those waste types for which treatment technologies exist	Section 5.0 Table 5-1 TGDS 4.4, 4.5, and 4.6

Table A-1. Land Disposal Restrictions Requirements. (7 Pages)

Item[1]	Section ID[2]	Requirement[3]	Location of Information[4]
46	IV.3.A.3.b, pg. 18 (FD)	Schedules for identifying and developing treatment technologies for those waste types for which no treatment technologies currently exist, to include identification of funding requirements for the identification and development of such technologies, submitting treatability study exemptions, and submitting research and development permit applications	Section 5.0 Table 5-1 TGDS 4.4, 4.5, and 4.6
47	IV.3.A.3.c, pg. 18 (FD)	Requirements for all cases where DOE proposes radionuclide separation of mixed waste or materials derived from mixed waste	Section 5.0
48	6 (1990)	Provide that DOE may treat LDR waste in accordance with applicable law in advance of approved milestone dates	Section 5.0
49	IV.3.A.3, pg. 18 (FD)	Propose milestones and associated schedules for known waste not covered by the report to be incorporated and established in accordance with the TPA Action Plan (Section 12)	Currently not applicable.[5]
50	7 (1990)	Identified methods for minimizing the generation of LDR waste	Section 2.4 LSDS 3.2
51	7 (1990)	Process changes that can be made to reduce or eliminate LDR waste	Section 2.4 LSDS 3.2
52	7 (1990)	Methods to minimize the volume of regulated and restricted waste through segregation and avoidance of commingling	Section 2.4 LSDS 3.2 and 3.3.3
53	7 (1990)	Substitution of less toxic materials for materials currently used at the Hanford Site	Section 2.4 LSDS 3.2 and 3.3.3
54	7 (1990)	Schedule for implementing waste minimization procedures	LSDS 3.3.2 and 3.3.3
55	7 (1990)	Projections for reducing newly generated waste	LSDS 3.3.2
56	7 (1990)	Basis for developing reduction projections of newly generated waste	LSDS 3.3.3
57	7 (1990)	Assumptions used in developing reduction projections of newly generated waste	LSDS 3.3.3
58	7 (1990)	Annually revise and submit as part of the annual report that portion of the storage report associated with Item 1 of the 1990 Requirements for Hanford LDR Plan, to conform with the generation projections contained in the Waste Minimization Report	Section 2.4 TGDS 4.7 LSDS 3.0

Table A-1. Land Disposal Restrictions Requirements. (7 Pages)

Item[1]	Section ID[2]	Requirement[3]	Location of Information[4]
59	7 (1990)	As part of the annual report, DOE shall submit an amendment to the Waste Minimization Plan	Section 2.4 TGDS 4.7 LSDS 3.0
60	7 (1990)	Annually, DOE shall revise and submit that portion of the Storage Report associated with Item 1 of the 1990 Requirements for Hanford LDR Plan, to conform with generation projections contained in the update to the Waste Minimization Plan	Section 2.4 LSDS 3.0
61	IV.3.A.3, pg. 18 (FD) IV.3.A.3, pg. 18-19 (FD)	The Annual LDR Report must include a waste characterization plan and associated schedules based on the waste identified in accordance with the final determination	Section 4.0 Table 4-1 LSDS 2.11
62	8 (1990)	Describe how information, plans, and schedules contained in the LDR Plan will be updated as part of the annual report	Sections 1.0 and 1.2 Tables 1-1 and 2-2
63	8 (1990)	Describe how and when the LDR Plan will be revised and reissued	Section 1.0
64	IV.3.B.c, pg. 19 (FD)	Each waste stream has an associated statement by DOE documenting whether sufficient work has been performed for continued compliance	Not applicable based on Pollution Control Hearings Board stipulations.
65	IV.3.B.d, pg. 19 (FD)	The Annual LDR Report will serve as a vehicle to propose schedules for newly discovered or to be generated mixed waste not yet covered by the report or the TPA	Continuous [5]
66	IV.3.B.e, pg. 19 (FD)	Annual LDR report will serve as a vehicle to propose modified TPA schedules as necessary to achieve compliance with LDR treatment requirements in a manner equivalent to STPs as required by FFCA	Continuous [5]
67	IV.3.A.3.a, pg. 19 (FD)	Proposed plans and schedules to sufficiently characterize mixed waste, including an inventory of mixed waste not sufficiently characterized by sampling and analysis	Continuous [5]
68	IV.3.B.b, pg. 19 (FD) IV.3.B.f, pg. 20 (FD)	LDR report will be published as a primary document and will propose new waste streams as necessary	Signature page Section 1.2
69	IV.3.B.b, pg. 19 (FD)	LDR report will support equivalency to FFCA STPs	M-026-01 milestone description. While not identical to an STP, the LDR report is equivalent to an STP.
70	IV.3.B.c, pg. 19 (FD)	LDR report will serve as unified site-wide document detailing requirements of LDR Requirements Document [2]	Table A-1. Refer to all items in second column of this table.

Table A-1. Land Disposal Restrictions Requirements. (7 Pages)

Item[1]	Section ID[2]	Requirement[3]	Location of Information[4]
71	IV.3.B.c, pg. 19 (FD)	LDR report will report DOE actions planned and taken to achieve and maintain full compliance with LDR and associated TPA requirements in effect as of LDR report submittal date	Table A-1
72	IV.3.B.f, pg. 20 (FD)	Inclusion of specific statement regarding the LDR report being a primary document, and regarding binding and enforceable nature of contents: "This document has been prepared, submitted, revised and approved as a primary document in response to the requirements of Tri-Party Agreement Milestone Series M-026-01 and related RCRA LDR and Tri-Party Agreement requirements. As such, this document serves as a binding and enforceable document under the Tri-Party Agreement."	Signature page
73	IV.3.B.f, pg. 20 (FD)	Inclusion of specific statement regarding approval by DOE and Ecology: "Approval of DOE's annual LDR Report as a Tri-Party Agreement primary document shall be by written approval of DOE and Ecology IAMIT representatives." Signature blocks are to follow the above statement.	Signature page
74	IV.3.C, pg. 20 (FD)	The LDR report submitted in 2000 is an interim report documenting known information, and detailing actions planned to fully comply with the final determination.	DOE/RL-2000-39

[1] Item number supplied for the convenience of the reader.
[2] The notation "(1990)" refers to the "Requirements for Hanford LDR Plan" (Ecology and EPA 1990). The notation "(FD)" refers to the "Director's Final Determination" issued by Ecology on March 29, 2000 (Fitzsimmons 2000). The notation "(Ltr)" refers to the January 25, 2000, clarification letter from Ecology delineating the wastes required to be reported (Stanley 2000). The notation "(2019)" refers to the "Calendar Year 2019 Hanford Land Disposal Restrictions (LDR) Full Report Project Manager Dispute Resolution Agreement Changes" (Ecology and DOE-RL 2022).
[3] The text in this column is a brief summary of the requirement(s).
[4] The information in this column refers to the location of the information within this report.
[5] In accordance with the DOE/RL-2015-08 review comment record (item 16), the agencies agree that proposed TPA milestones (i.e., schedules) or changes to TPA milestones (i.e., schedules) are identified and processed using existing processes contained in the TPA Action Plan section 12.0, and not as a part of the annual LDR report review and approval process. Modifications to TPA milestones listed in the LDR report are incorporated into the next year's report. Commitments other than TPA milestones can be proposed in the LDR Report when required.

REFERENCES

00-ORL-055, 2000, "Submittal of Sixty-Day Notifications Required by Final Determination," (letter to T.C. Fitzsimmons, State of Washington Department of Ecology, and C.C. Clarke, U.S. Environmental Protection Agency) from K.A. Klein, U.S. Department of Energy, Richland Operations Office, and R.T. French, U.S. Department of Energy, Office of River Protection, Richland, Washington. (https://pdw.hanford.gov/document/D8342163)

40 CFR 265, "Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," Title 40, *Code of Federal Regulations*, Part 265, as amended. (https://ecfr.io/Title-40/pt40.28.265)

DOE/RL-2000-39, 2000, *Interim Report on Hanford Site Land Disposal Restrictions for Mixed Waste*, Volumes 1-3, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/D8407343, https://pdw.hanford.gov/document/D8407568, https://pdw.hanford.gov/document/D8407632)

Ecology et al., 2002, *Resolution of Dispute Pertaining to Hanford Federal Facility Agreement and Consent Order Calendar Year 2000 Hanford Site Mixed Waste Land Disposal Restrictions Report*, U.S. Department of Energy, Richland Operations Office; U.S. Department of Energy, Office of River Protection; and State of Washington, Department of Ecology, Richland, Washington, March 14. (https://pdw.hanford.gov/document/D9035430)

Ecology et al., 2022, *Calendar Year 2019 Hanford Land Disposal Restrictions (LDR) Full Report Project Manager Dispute Resolution Agreement Changes*, U.S. Department of Energy, Richland Operations Office; Department of Ecology, Richland, Washington, April 20. (https://pdw.hanford.gov/document/AR-19559)

Ecology et al., 1990, *Requirements for Hanford LDR Plan*, State of Washington Department of Ecology and U.S. Environmental Protection Agency, Richland, Washington, April 10. (https://pdw.hanford.gov/document/E0008632)

Ecology et al., 1989, *Hanford Federal Facility Agreement and Consent Order*, Washington State Department of Ecology, U.S. Environmental Protection Agency, U.S. Department of Energy, Olympia, Washington, as amended. (https://www.hanford.gov/files.cfm/HFFACO.pdf)

Federal Facilities Compliance Act of 1992, Public Law 102-386, et seq. (https://www.govinfo.gov/content/pkg/STATUTE-106/pdf/STATUTE-106-Pg1505.pdf#page=3)

Fitzsimmons, T., 2000, "Final Determination pursuant to the Hanford Federal Facility Agreement and Consent Order (HFFACO) regarding the U.S. Department of Energy's (DOE) compliance with Land Disposal Restriction (LDR) requirements of Washington State's Hazardous Waste Management Act (HWMA) and the federal Resource Conservation and Recovery Act (RCRA), DOE's annual Land Disposal Restrictions Report, and HFFACO milestone M-26-01," (letter to R.T. French, U.S. Department of Energy, Office of River Protection, and K.A. Klein, U.S. Department of Energy, Richland Field Office), State of Washington Department of Ecology, Olympia, Washington, March 29. (https://pdw.hanford.gov/document/D8479421)

Stanley, R., 2000, "Response to DOE Request for Clarifications," (letter to G.H. Sanders, U.S. Department of Energy, Office of Regulatory Liaison), State of Washington Department of Ecology, Kennewick, Washington, January 25. (https://pdw.hanford.gov/document/0071423H)

Resource Conservation and Recovery Act of 1976, Public Law 94-580, et seq. (https://uscode.house.gov/statutes/pl/94/580.pdf)

WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, Olympia, Washington. (https://apps.leg.wa.gov/WAC/default.aspx?cite=173-303)

This page intentionally left blank.

APPENDIX B

UPDATED TREATABILITY GROUP AND LOCATION SPECIFIC DATA SHEETS

This page intentionally left blank.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability Group Name: 221-T Tank System

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

Liquid mixed waste with settled solids/sludge. Cell 11-L tank contains liquid and saltcake mixture. Waste also contains polychlorinated biphenyls at Toxic Substances Control Act of 1976 regulated concentrations.

2.0 WASTE INVENTORY AND GENERATION

2.1 Current total inventory for this waste stream (stored waste only, not accumulation areas). [Equals sum of location-specific data sheets for this treatability group.]

Total volume (cubic meters): 3.623

2.2 Estimated generation projection by calendar year: [equals annual sums of location-specific data sheets for this treatability group].

Year	m^3	and/or	kg
2024	0.000		0.000
2025	0.000		0.000
2026	0.000		0.000
2027	0.000		0.000
2028	0.000		0.000
Total	0.000		0.000

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological Characteristics

3.1.1 Mixed waste type: ☐ High-level ☐ Transuranic ☒ Low-level

3.1.2 Handling (as package contents would need to be handled during treatment):

☐ Contact-handled ☒ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific information on content, treatment concerns caused by radiation, confidence level):

The contents of the 221-T Tank System are evaporating so that the concentration of radionuclides will be increasing over time. Tank 11-L waste will be further characterized as required to meet the waste acceptance criteria of the treatment facility. According to best information, at least one tank could be considered transuranic waste. Because a majority of the tanks are still considered to contain low-level waste, question 3.1.1 is answered as low-level waste.

3.2 Physical Form

3.2.1 Physical form of the waste:

☒ Solid ☒ Liquid ☒ Semi-solid ☐ Debris

☐ Other (Describe in comments.)

LDR REPORT TREATABILITY GROUP DATA SHEET

3.2.2 Comments on physical form:

The confidence level is high because of existing analytical data on the liquid and sludge fractions from representative tanks.

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

☐ Wastewater ☒ Non-wastewater ☐ Unknown ☐ N/A: state-only dangerous waste

If unknown, describe:

3.3.2 Regulated constituents table including treatment requirements and UHCs, if applicable.

EPA/State Number	Waste Description	LDR Sub-Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D002	Corrosive	Corrosive Charac.	**	Analytical Data	DEACT, meet 268.48
D005	TC-Barium	N/A	>100 ppm	Analytical data	1.2 mg/L, meet 268.48
D006	TC-Cadmium	N/A	>1 ppm	"	0.69 mg/L, meet 268.48
D007	TC-Chromium	N/A	> 5 ppm	"	2.77 mg/L, meet 268.48
D008	TC-Lead	Lead Charac.	>5 ppm	"	0.69 mg/L, meet 268.48
D009	Mercury	N/A	**	Analytical Data	0.15 mg/L, meet 268.48
D010	Selenium	N/A	**	Analytical Data	5.7 mg/l TCLP, meet 268.48
D011	Silver	N/A	**	Analytical Data	0.43 mg/L, meet 268.48
F001	1,1,1-Trichloroethane	Spent Solvent	Unknown	Process knowledge	6.0 mg/kg
F002	Methylene chloride	Spent Solvent	**	"	30.0 mg/kg
F003	Acetone, MIK	Spent Solvent	**	"	160 & 33 mg/kg
F004	Cresols	Spent Solvent	**	"	5.6 mg/kg
F005	MEK	Spent Solvent	**	"	36 mg/kg

* LDR Subcategory marked N/A if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).

** If waste is not consistent in concentration, this may not apply. Described in Section 3.3.6.

UHCs have not been determined for this waste stream. Not all the codes apply to all of the tanks.

3.3.3 List any waste numbers from Section 3.3.2 for which the waste stream already meets established LDR treatment standards.

☐ List: N/A
☐ No LDR treatment required (e.g. TRUM waste destined for WIPP, exclusion, etc.)
☒ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☒ Yes ☐ No ☐ Unknown

If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

LDR REPORT TREATABILITY GROUP DATA SHEET

☒ Yes ☐ No ☐ Unknown

3.3.4.2 Indicate the PCB concentration range.

☐ < 50 ppm ☒ >= 50 ppm ☐ Unknown

3.3.5 What is the confidence level for the regulated constituents?

☐ Low ☒ Medium ☐ High

3.3.6 Comments on regulated constituents and wastewater/non-wastewater category:

There is a potential for additional sampling to evaluate waste for long-term storage and underlying hazardous constituents. Characterization and any required treatment will be determined at the time of dispositioning in accordance with the closure plan and associated sampling and analysis plan.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

☐ Yes ☒ No

If yes, provide details: N/A

4.2 Planned treatment: Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☐ No treatment required (skip to section 5.0)
☐ Treating or plan to treat on site
☐ Treating or plan to treat off site
☒ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

Treatment will occur in accordance with the dangerous waste permit closure plan requirements.

4.4 Treatment schedule information:

By September 30, 2045, USDOE will submit a notice to Ecology to begin treatment and closure of the 221-T Tank Systems and 221-T Tank 11L in accordance with the dangerous waste permit closure plan requirements. Closure of these DWMUs can be performed in conjunction with dispositioning of the T Plant by adding it to Section 8 of the TPA Action Plan.

4.5 Applicable Tri-party Agreement treatment milestone numbers (including permitting):

Milestone Number	Due Date
N/A	N/A

4.6 Proposed new Tri-Party Agreement treatment milestones:

None.

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☐ Yes ☐ No ☐ N/A ☒ Unknown

If yes, describe:

LDR REPORT TREATABILITY GROUP DATA SHEET

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment already in place.

None.

4.9 Key Assumptions:

None.

5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include locations, milestone numbers, variances required, technology, etc., as applicable)?

Disposal will occur in accordance with the dangerous waste permit closure plan requirements.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant Name: T Plant Complex **Waste Stream:** RCRA Tank System

Treatability Group Name: 221-T Tank System

1.2 Applicable profile number(s) for this waste stream:

None.

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Liquid mixed waste with settled solids. See Section 1.3.2 for additional description. NOTE: The contents of the 221-T Tank System were addressed in the 221-T Tank System Closure Plan included in the 2013 CAFO submittal (14-ESQ-0003). Additional language modifications to the CAFO closure plan will be negotiated with Ecology at a future date.

1.3.2 History of how and where the waste was/is generated:

Waste resulting from decontamination activities at the 221-T and 2706-T, including precipitation run-on and direct additions from other onsite and offsite generators (e.g., FFTF condensate, laboratory returns). These canyon tanks were permanently removed from service in June of 1999. Engineering and administrative measures have been taken to ensure that no additional liquids are placed into this tank system.

1.3.3 Source of the regulated constituents:

Waste treatment process, decontamination, facility or equipment operation and maintenance waste, and analytical laboratory waste.

1.3.4 Source of the information (e.g., analytical data, process knowledge, document number, etc.)

Process knowledge, analytical data, 221T-99-013.

1.3.5 Additional notes:

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

(NOTE: For waste in satellite accumulation areas and 90-day accumulation areas, skip to Section 2.6)

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☒ Tank ☐ DST ☐ SST

☐ Other (explain): N/A

2.1.1 How was the waste managed prior to storage?

The waste was generated and placed into the 221-T RCRA Tank System.

2.1.2 Timeframe when waste was placed into storage?

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Waste was received in these tanks throughout the history of the 221-T Building until June 1999 when the tanks were removed from service.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
221-T Building Tanks 5-6, 5-9, 11-R, 5-7,15-1, and 6-1	Tank System, 6 tanks

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 1.730

Date of inventory values: 12/31/2023

Comments on waste inventory:

The volume of waste contained in the tanks has fallen below that which can be detected by the tank level indicators. The detection limit for level indication is approximately 1 inch of depth according to the best available drawings and documents. The 1.7 cubic meter estimate is for a deminimus amount of residual waste (1-inch heel) in the 221-T tanks.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☒ No

If yes, what is the total estimated storage capacity? N/A

When is this capacity expected to be reached? N/A

Bases and assumptions used:

The 221-T RCRA Tank System waste is stored in tanks that do not have secondary containment and do not have an integrity assessment. As such, this tank system has been removed from service and will no longer accept additional waste.

See Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers.

2.5 Planned storage areas for this waste:

☒ Current Location ☐ CWC ☐ DST

☒ Other Area(s) (list): The contents of the 221-T Tank System were addressed in the 221-T Tank System Closure Plan included in the 2013 CAFO submittal (14-ESQ-0003) and the 221-T Tank Storage Assessment. Additional language modifications to the CAFO closure plans are being negotiated with Ecology. These language modifications will likely include waste management activities associated with the 221-T Tank System.

☐ None

2.6 Estimated generation projection by calendar year (includes waste in satellite accumulation areas, central accumulation areas, or CERCLA areas of contamination):

Year	m^3	and/or	kg
2024	0.000		0.000
2025	0.000		0.000
2026	0.000		0.000
2027	0.000		0.000

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Year	m^3	and/or	kg
2028	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
WSD-TP-EP-06-MA-37	07/08/2008
M-026-01 PMM Minutes https://pdw.hanford.gov/document/AR-28301	12/12/2023

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

Milestone Number	Due Date
N/A	

2.9 Has there ever been any non-permitted, unauthorized release of this waste stream from this storage unit to the environment?

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

2.11.1 Is further characterization needed about the waste prior to acceptance for storage?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

2.11.2 Is further characterization needed about the waste prior to acceptance for treatment?

☐ Yes ☒ No ☐ Unknown at this time

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

2.11.3 Is further characterization needed about the waste prior to acceptance for disposal?

☒ Yes ☐ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

To meet concentration-based treatment standards applicable for the residues, sampling will be required after treatment.

2.12 Other key assumptions related to storage, inventory, and generation information:

Disposition of the 221-T RCRA Tank System was identified in the 201 CAFO submittal (14-ESQ-0003). However, additional detailed language for the CAFO closure plans is currently being negotiated with Ecology. According to engineering and also identified in the CAFO, there is no liquid waste remaining in the 221-T Tank System. Reported tank inventory assumes a 1-inch residual waste heel in the 221-T tanks. This was included in the CAFO closure plan. Administrative and engineering controls have been put in place to prevent additional liquids from entering this tank system. SMCA available online at https://pdw.hanford.gov/document/0069369H.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

If no, provide date assessment will be completed, or if waste stream is no longer generated, then indicate N/A:

N/A

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling substitution of less-toxic materials):

N/A

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2023 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Year	m^3	and/or	kg
2024	0.000		0.000
2025	0.000		0.000
2026	0.000		0.000
2027	0.000		0.000
2028	0.000		0.000
Total	0.000		0.000

3.3.3 Bases and assumptions used in above estimates:

N/A

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability Group Name: ETF Effluents

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

There is no WSRd applicable to this waste stream.
Wastewaters are sent to the Liquid Effluent Retention Facility (LERF) for treatment and Effluent Treatment Facility (ETF) for treatment. The ETF manages effluents and will generate secondary liquid effluents from completing ETF campaigns. Secondary liquid effluents will be generated only when ETF processes the WTP effluent from DFLAW operations.

2.0 WASTE INVENTORY AND GENERATION

2.1 Current total inventory for this waste stream (stored waste only, not accumulation areas). [Equals sum of location-specific data sheets for this treatability group.]

Total volume (cubic meters): 3,895.350

2.2 Estimated generation projection by calendar year: [equals annual sums of location-specific data sheets for this treatability group].

Year	m^3	and/or	kg
2024	0.000		0.000
2025	0.000		0.000
2026	334.179		0.000
2027	334.179		0.000
2028	334.179		0.000
Total	1,002.537		0.000

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological Characteristics

3.1.1 Mixed waste type: ☐ High-level ☐ Transuranic ☒ Low-level

3.1.2 Handling (as package contents would need to be handled during treatment):

☒ Contact-handled ☐ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific information on content, treatment concerns caused by radiation, confidence level):

None.

3.2 Physical Form

3.2.1 Physical form of the waste:

☐ Solid ☒ Liquid ☐ Semi-solid ☐ Debris

☐ Other (Describe in comments.)

3.2.2 Comments on physical form:

LDR REPORT TREATABILITY GROUP DATA SHEET

N/A

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

☒ Wastewater ☐ Non-wastewater ☐ Unknown ☐ N/A: state-only dangerous waste

If unknown, describe:

3.3.2 Regulated constituents table including treatment requirements and UHCs, if applicable.

EPA/State Number	Waste Description	LDR Sub-Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
F001	1,1,1-trichloroethane, carbon tetrachloride	F001-F005	***	knowledge/analysis	0.054 mg/L; 0.057 mg/L
F002	methylene chloride	F001-F005	***	knowledge/analysis	0.089 mg/L
F003	acetone, methyl isobutyl ketone	F001-F005	***	knowledge/analysis	0.28 mg/L; 0.14 mg/L
F004	cresols	F001-F005	***	knowledge/analysis	0.11 mg/L
F005	methyl ethyl ketone	F001-F005	***	knowledge/analysis	0.28 mg/L
F039	multi-source leachate	N/A	***	knowledge/analysis	See 40 CFR 268.40
U210	Tetrachloroethylene	N/A	***	knowledge/analysis	6.0

* LDR Subcategory marked N/A if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).

** If waste is not consistent in concentration, this may not apply. Described in Section 3.3.6.

***The concentration varies.

(1) UHC's determinations do not apply based on LERF/ETF Waste Analysis Plan.
(2) Mixed extremely hazardous wastes can be land disposed in Washington State in DOE facilities in accordance with RCW 70A.300.070(2). The LERF/ETF receives many different liquid waste types from many different generators. The generators are required to thoroughly characterize the waste per the ETF/LERF waste analysis plan. Information on actual constituent concentrations and ranges can be found in the regulatory file for each of the generator wastes located at the ETF.

3.3.3 List any waste numbers from Section 3.3.2 for which the waste stream already meets established LDR treatment standards.

☒ List: Some wastewaters received at ETF meet treatment standards for F001-F005 and F039 on receipt. Effluents discharged from ETF to the State Approved Land Disposal Site are delisted and also meet LDR treatment standards. Secondary liquid effluents generated from ETF may or may not meet treatment standards upon generation but require solidification at an off-site commercial treatment facility prior to disposal on-site at IDF.

☐ No LDR treatment required (e.g. TRUM waste destined for WIPP, exclusion, etc.)

☐ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☐ Yes ☒ No ☐ Unknown

If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

LDR REPORT TREATABILITY GROUP DATA SHEET

☐ Yes ☐ No ☐ Unknown

3.3.4.2 Indicate the PCB concentration range.

☐ < 50 ppm ☐ >= 50 ppm ☐ Unknown

3.3.5 What is the confidence level for the regulated constituents?

☐ Low ☐ Medium ☒ High

3.3.6 Comments on regulated constituents and wastewater/non-wastewater category:

None.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

☒ Yes ☐ No

If yes, provide details: The 200 Area ETF is a final status RCRA TSD unit and treats aqueous wastewaters generated from various locations on the Hanford Site. The contaminants are destroyed or removed from the wastewaters. Secondary liquid effluents will be treated within one-year of generation.

4.2 Planned treatment: Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☐ No treatment required (skip to section 5.0)
☒ Treating or plan to treat on site
☒ Treating or plan to treat off site
☐ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

Effluents received at ETF are treatment at ETF on-site and disposed as a liquid to the State Approved Land Disposal Site. Secondary liquid effluents will be stabilized/solidified at an off-site commercial treatment facility.

4.4 Treatment schedule information:

Treated effluents and secondary liquid wastes are treated/disposed as generated within 1 year.

4.5 Applicable Tri-party Agreement treatment milestone numbers (including permitting):

Milestone Number	Due Date
N/A	N/A

4.6 Proposed new Tri-Party Agreement treatment milestones:

None.

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☐ Yes ☒ No ☐ N/A ☐ Unknown

If yes, describe:

LDR REPORT TREATABILITY GROUP DATA SHEET

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment already in place.

N/A

4.9 Key Assumptions:

None.

5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include locations, milestone numbers, variances required, technology, etc., as applicable)?

The delisted wastewater is disposed to a State Approved Land Disposal Site under a WAC 173-216 permit. The secondary liquid effluent will be disposed on the Hanford Site at IDF after it is treated at the off-site commercial treatment facility.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant Name: ETF **Waste Stream:** Acetonitrile Distillate

Treatability Group Name: ETF Effluents

1.2 Applicable profile number(s) for this waste stream:

To be developed.

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Aqueous waste generated during condensation from operating the steam stripper.

1.3.2 History of how and where the waste was/is generated:

The acetonitrile distillate waste stream will be generated from operations of the primary treatment train steam stripper.

1.3.3 Source of the regulated constituents:

ETF primary treatment train effluent.

1.3.4 Source of the information (e.g., analytical data, process knowledge, document number, etc.)

ETF mass balance engineering estimates.

1.3.5 Additional notes:

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

(NOTE: For waste in satellite accumulation areas and 90-day accumulation areas, skip to Section 2.6)

2.1 Current storage method

☒ Container (pad)	☐ Container (covered)	☐ Container (retrievably buried)
☐ Tank	☐ DST	☐ SST
☐ Other (explain):		

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed into storage?

Waste will be stored at ETF prior to shipment off-site for treatment.

2.2 Storage inventory locations:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Building/Room Number	Number of Containers/Tanks
2025EJ Acetonitrile Distillate Tote Storage Area	0
2025EK Acetonitrile Distillate Tote Storage Area	0

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2023

Comments on waste inventory:

Waste has not been generated. The steam stripper will operate when processing WTP effluents through ETF.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☒ No

If yes, what is the total estimated storage capacity? N/A

When is this capacity expected to be reached? N/A

Bases and assumptions used:

See Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers.

2.5 Planned storage areas for this waste:

☒ Current Location ☐ CWC ☐ DST

☐ Other Area(s) (list):

☐ None

2.6 Estimated generation projection by calendar year (includes waste in satellite accumulation areas, central accumulation areas, or CERCLA areas of contamination):

Year	m^3	and/or	kg
2024	0.000		0.000
2025	0.000		0.000
2026	149.179		0.000
2027	149.179		0.000
2028	149.179		0.000
Total	447.537		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number Date

☐ Assessment has been scheduled. Scheduled date:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☒ Other. Explain: Assessment not required.

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

Milestone Number	Due Date
N/A	

2.9 Has there ever been any non-permitted, unauthorized release of this waste stream from this storage unit to the environment?

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☒ No

If yes, explain:

2.11 Characterization

2.11.1 Is further characterization needed about the waste prior to acceptance for storage?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

2.11.2 Is further characterization needed about the waste prior to acceptance for treatment?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

2.11.3 Is further characterization needed about the waste prior to acceptance for disposal?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

N/A

2.12 Other key assumptions related to storage, inventory, and generation information:

None.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

If no, provide date assessment will be completed, or if waste stream is no longer generated, then indicate N/A:

N/A

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling substitution of less-toxic materials):

None.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2023 (volume or mass)

0.000

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2024	0.000		0.000
2025	0.000		0.000
2026	0.000		0.000
2027	0.000		0.000
2028	0.000		0.000
Total	0.000		0.000

3.3.3 Bases and assumptions used in above estimates:

None.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant Name: ETF **Waste Stream:** Brine Concentrate

Treatability Group Name: ETF Effluents

1.2 Applicable profile number(s) for this waste stream:

To be developed.

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Aqueous waste generated from secondary treatment train.

1.3.2 History of how and where the waste was/is generated:

The secondary liquid waste will be generated in lieu of operating the thin film dryer.

1.3.3 Source of the regulated constituents:

ETF primary treatment train effluent.

1.3.4 Source of the information (e.g., analytical data, process knowledge, document number, etc.)

ETF mass balance estimates.

1.3.5 Additional notes:

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

(NOTE: For waste in satellite accumulation areas and 90-day accumulation areas, skip to Section 2.6)

2.1 Current storage method

☒ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)
☐ Tank ☐ DST ☐ SST
☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed into storage?

Waste will be stored at ETF prior to shipment off-site for treatment.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
2025E Outside Container Storage Area	0 (totes)

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Building/Room Number	Number of Containers/Tanks
2025E Container Storage Area	0 (totes)

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2023

Comments on waste inventory:

Waste has not been generated. The brine concentrate will be generated when processing WTP effluents through ETF.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☒ No

If yes, what is the total estimated storage capacity? N/A

When is this capacity expected to be reached? N/A

Bases and assumptions used:

See Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers.

2.5 Planned storage areas for this waste:

☒ Current Location ☐ CWC ☐ DST

☐ Other Area(s) (list):

☐ None

2.6 Estimated generation projection by calendar year (includes waste in satellite accumulation areas, central accumulation areas, or CERCLA areas of contamination):

Year	m^3	and/or	kg
2024	0.000		0.000
2025	0.000		0.000
2026	185.000		0.000
2027	185.000		0.000
2028	185.000		0.000
Total	555.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number Date

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain: Assessment not required.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

Milestone Number	Due Date
N/A	

2.9 Has there ever been any non-permitted, unauthorized release of this waste stream from this storage unit to the environment?

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☒ No

If yes, explain:

2.11 Characterization

2.11.1 Is further characterization needed about the waste prior to acceptance for storage?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

2.11.2 Is further characterization needed about the waste prior to acceptance for treatment?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

2.11.3 Is further characterization needed about the waste prior to acceptance for disposal?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

2.12 Other key assumptions related to storage, inventory, and generation information:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET
3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A
If no, provide date assessment will be completed, or if waste stream is no longer generated, then indicate N/A:

N/A

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling substitution of less-toxic materials):

None.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2023 (volume or mass)

0.000

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2024	0.000		0.000
2025	0.000		0.000
2026	0.000		0.000
2027	0.000		0.000
2028	0.000		0.000
Total	0.000		0.000

3.3.3 Bases and assumptions used in above estimates:

None.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant Name: ETF **Waste Stream:** Wastewater

Treatability Group Name: ETF Effluents

1.2 Applicable profile number(s) for this waste stream:

242-A Process Condensate – NF-242APC-03-1. Trench 31/34 Leachate (MWBT) – NF-MWBT-00-2. WTP EMF Wastewater – NF-WTP-18-1

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Wastewaters generated during cleanup activities on the Hanford Site are transferred to LERF for interim treatment prior to treatment through the ETF. Containerized wastewater generated during cleanup activities on the Hanford Site are received at the Load-In Facility and then are transferred to LERF for interim treatment prior to treatment through the ETF.

1.3.2 History of how and where the waste was/is generated:

Wastewaters generated on the Hanford Site. Refer to specific generator source wastewater information.

1.3.3 Source of the regulated constituents:

Refer to specific generator information.

1.3.4 Source of the information (e.g., analytical data, process knowledge, document number, etc.)

Process knowledge and analytical information - per the RCRA waste analysis plan for LERF/ETF.

1.3.5 Additional notes:

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

(NOTE: For waste in satellite accumulation areas and 90-day accumulation areas, skip to Section 2.6)

2.1 Current storage method

☐ Container (pad)	☐ Container (covered)	☐ Container (retrievably buried)
☒ Tank	☐ DST	☐ SST
☐ Other (explain):		

2.1.1 How was the waste managed prior to storage?

At the generator site on the Hanford Site.

2.1.2 Timeframe when waste was placed into storage?

Wastewater may be received at any time depending on generator needs.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
59A-TK-1 (load in)	1
59A-TK-2 (filter drain)	1
59A-TK-3 (filter drain)	1
59A-TK-4 (filter drain)	1
60A-TK-1 (surge)	1
60C-TK-1 (pH adjustment)	1
60C-TK-2 (effluent pH adjustment)	1
60F-TK-1 (1st RO feed)	1
60F-TK-2 (2nd RO feed)	1
60H-TK-1 (verification tank)	1
60H-TK-2 (verification tank)	1
60H-TK-3 (verification tank)	1
60I-TK-1A (secondary waste receiving tank)	1
60I-TK-1B (secondary waste receiving tank)	1
60J-TK-1A (concentrate)	1
60J-TK-1B (concentrate)	1
60I-EV-1 (evaporator body)	1
60N-TK-202 (ACN distillate 1)	1
60L-TK-003 (brine storage 3)	1
60L-TK-002 (brine storage 2)	1
60L-TK-001 (brine storage 1)	1
60K-TK-201 (concentrator condensate)	1
60K-TK-001 (stripper concentrate)	1
60K-CO-201 (concentrator column)	1
60K-CO-001 (Stripper column)	1
20B-TK-2 (Sump 2)	1
20B-TK-1 (Sump 1)	1
60I-EV-2 (distillate flash)	1
60N-TK-203 (ACN distillate 2)	1

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 3,895.350

Date of inventory values: 12/31/2023

Comments on waste inventory:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Total volume includes ETF tanks in Section 2.2 including the volume in the verification tanks. The stored volume was obtained from PI Vision software.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☒ No

If yes, what is the total estimated storage capacity? N/A

When is this capacity expected to be reached? N/A

Bases and assumptions used:

See Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers.

2.5 Planned storage areas for this waste:

☒ Current Location ☐ CWC ☐ DST

☐ Other Area(s) (list): Wastewater is treated through the ETF.

☐ None

2.6 Estimated generation projection by calendar year (includes waste in satellite accumulation areas, central accumulation areas, or CERCLA areas of contamination):

Year	m^3	and/or	kg
2024	0.000		0.000
2025	0.000		0.000
2026	0.000		0.000
2027	0.000		0.000
2028	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-00-ASS-071	11/15/2000

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

Milestone Number	Due Date
N/A	

2.9 Has there ever been any non-permitted, unauthorized release of this waste stream from this storage unit to the environment?

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

2.11.1 Is further characterization needed about the waste prior to acceptance for storage?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

2.11.2 Is further characterization needed about the waste prior to acceptance for treatment?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

2.11.3 Is further characterization needed about the waste prior to acceptance for disposal?

☒ Yes ☐ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

Waste is sampled after treatment in the 200 ETF verification tanks according to Ecology and EPA approved documents prior to discharge to the soil column.

2.12 Other key assumptions related to storage, inventory, and generation information:

None.

DOE Storage Method Compliance Assessment link:
https://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0069354H

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET
3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A
If no, provide date assessment will be completed, or if waste stream is no longer generated, then indicate N/A:

N/A

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling substitution of less-toxic materials):

Generators will address waste minimization for their particular waste streams.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2023 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2024	0.000		0.000
2025	0.000		0.000
2026	0.000		0.000
2027	0.000		0.000
2028	0.000		0.000
Total	0.000		0.000

3.3.3 Bases and assumptions used in above estimates:

None.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability Group Name: ETF Receipts

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

There is no WSRd applicable to this waste stream.
Wastewaters are sent to the Liquid Effluent Retention Facility (LERF) for treatment and Effluent Treatment Facility (ETF) for storage and treatment.

2.0 WASTE INVENTORY AND GENERATION

2.1 Current total inventory for this waste stream (stored waste only, not accumulation areas). [Equals sum of location-specific data sheets for this treatability group.]

Total volume (cubic meters): 32.801

2.2 Estimated generation projection by calendar year: [equals annual sums of location-specific data sheets for this treatability group].

Year	m^3	and/or	kg
2024	5,576.097		0.000
2025	24,143.908		0.000
2026	31,013.805		0.000
2027	30,597.410		0.000
2028	33,436.468		0.000
Total	124,767.688		0.000

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological Characteristics

3.1.1 Mixed waste type: ☐ High-level ☐ Transuranic ☒ Low-level

3.1.2 Handling (as package contents would need to be handled during treatment):

☒ Contact-handled ☐ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific information on content, treatment concerns caused by radiation, confidence level):

None.

3.2 Physical Form

3.2.1 Physical form of the waste:

☐ Solid ☒ Liquid ☐ Semi-solid ☐ Debris

☐ Other (Describe in comments.)

3.2.2 Comments on physical form:

N/A

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

☒ Wastewater ☐ Non-wastewater ☐ Unknown ☐ N/A: state-only dangerous waste

If unknown, describe:

3.3.2 Regulated constituents table including treatment requirements and UHCs, if applicable.

EPA/State Number	Waste Description	LDR Sub-Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
F001	1,1,1-trichloroethane, carbon tetrachloride	F001-F005	***	knowledge/analysis	0.054 mg/L; 0.057 mg/L
F002	methylene chloride	F001-F005	***	knowledge/analysis	0.089 mg/L
F003	acetone, methyl isobutyl ketone	F001-F005	***	knowledge/analysis	0.28 mg/L; 0.14 mg/L
F004	cresols	F001-F005	***	knowledge/analysis	0.11 mg/L
F005	methyl ethyl ketone	F001-F005	***	knowledge/analysis	0.28 mg/L
F039	multi-source leachate	N/A	***	knowledge/analysis	See 40 CFR 268.40
U210	Tetrachloroethylene	n/a	***	knowledge/analysis	6.0

* LDR Subcategory marked N/A if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).

** If waste is not consistent in concentration, this may not apply. Described in Section 3.3.6.

*** The concentration varies.

(1) UHC's determinations do not apply based on LERF/ETF Waste Analysis Plan.
(2) Mixed extremely hazardous wastes can be land disposed in Washington State in DOE facilities in accordance with RCW 70A.300.070(2). The LERF/ETF receives many different liquid waste types from many different generators. The generators are required to thoroughly characterize the waste per the ETF/LERF waste analysis plan. Information on actual constituent concentrations and ranges can be found in the regulatory file for each of the generator wastes located at the ETF.

3.3.3 List any waste numbers from Section 3.3.2 for which the waste stream already meets established LDR treatment standards.

☒ List: Some wastewaters meet treatment standards for F001-F005 and F039 on receipt.
☐ No LDR treatment required (e.g. TRUM waste destined for WIPP, exclusion, etc.)
☐ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☒ Yes ☐ No ☐ Unknown

If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

☒ Yes ☐ No ☐ Unknown

3.3.4.2 Indicate the PCB concentration range.

☒ < 50 ppm ☐ >= 50 ppm ☐ Unknown

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3.5 What is the confidence level for the regulated constituents?

☐ Low ☐ Medium ☒ High

3.3.6 Comments on regulated constituents and wastewater/non-wastewater category:

None.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

☒ Yes ☐ No

If yes, provide details: The 200 Area ETF is a final status RCRA TSD unit and treats aqueous wastewaters generated from various locations on the Hanford Site. The contaminants are destroyed or removed from the wastewaters and dried to a powder.

4.2 Planned treatment: Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☐ No treatment required (skip to section 5.0)
☒ Treating or plan to treat on site
☐ Treating or plan to treat off site
☐ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

The ETF has pH adjustment, ultraviolet/oxidation, filtration, reverse osmosis, degasification, ion exchange, and steam stripping unit operations to remove the contaminants from the wastewaters.

4.4 Treatment schedule information:

LERF/ETF liquid wastes are treated within a year if the waste in the LERF basin exceeds LDR treatment standards.

4.5 Applicable Tri-party Agreement treatment milestone numbers (including permitting):

Milestone Number	Due Date
N/A	N/A

4.6 Proposed new Tri-Party Agreement treatment milestones:

None.

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☒ Yes ☐ No ☐ N/A ☐ Unknown

If yes, describe: Wastewaters are segregated and processed to minimize the generation of waste requiring further treatment.

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment already in place.

N/A

4.9 Key Assumptions:

LDR REPORT TREATABILITY GROUP DATA SHEET

None.

5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include locations, milestone numbers, variances required, technology, etc., as applicable)?

The delisted wastewater is disposed to a State Approved Land Disposal Site under a WAC 173-216 permit.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant Name: IDF **Waste Stream:** IDF Leachate

Treatability Group Name: ETF Receipts

1.2 Applicable profile number(s) for this waste stream:

N/A

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

This waste is leachate from precipitation passing through disposed mixed waste from Cells 1 and 2 in the 219 Facility miscellaneous units.

1.3.2 History of how and where the waste was/is generated:

The IDF is in pre-Active Life. Cells 1 and 2 are expected to receive mixed waste for disposal in April 2025. Leachate generation will begin when waste is disposed.

1.3.3 Source of the regulated constituents:

The leachate is generated from lined mixed waste disposal cells that have dangerous listed waste disposed in it. Therefore, by 40 CFR 261.31 the leachate receives the listed waste code F039 for multisource leachate.

1.3.4 Source of the information (e.g., analytical data, process knowledge, document number, etc.)

Process knowledge (hazardous waste from non-specific source).

1.3.5 Additional notes:

IDF Cell 1 and 2 leachate is managed in Leachate Collection Unit tanks prior to transfer to LERF/ETF or another TSD.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

(NOTE: For waste in satellite accumulation areas and 90-day accumulation areas, skip to Section 2.6)

2.1 Current storage method

☐ Container (pad)	☐ Container (covered)	☐ Container (retrievably buried)
☐ Tank	☐ DST	☐ SST
☒ Other (explain):	Miscellaneous Storage Units	

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed into storage?

N/A

2.2 Storage inventory locations:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Building/Room Number	Number of Containers/Tanks
219A201	1 tank
219E201	1 tank

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2023

Comments on waste inventory:

When in Active Life, IDF Cell 1 and 2 F039 Listed Waste leachate is pumped from the primary and secondary sumps to Miscellaneous Storage Unit tanks (1 for each cell) prior to transfer to LERF/ETF or another TSD. The volume in the tanks vary with the time of year and pumping frequency. Reported volume is the volume in each Miscellaneous Storage Unit tank on the date of the inventory value.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☒ No

If yes, what is the total estimated storage capacity? N/A

When is this capacity expected to be reached? N/A

Bases and assumptions used:

Each tank has a 375,000-gal capacity. There is sufficient capacity for the projected leachate quantities.

See Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers.

2.5 Planned storage areas for this waste:

☒ Current Location ☐ CWC ☐ DST

☒ Other Area(s) (list): ETF or another TSD.

☐ None

2.6 Estimated generation projection by calendar year (includes waste in satellite accumulation areas, central accumulation areas, or CERCLA areas of contamination):

Year	m^3	and/or	kg
2024	0.000		0.000
2025	3,691.000		0.000
2026	4,921.000		0.000
2027	4,921.000		0.000
2028	4,921.000		0.000
Total	18,454.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Document Number Date

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: An assessment is not needed. The TSD unit is a new unit managed in compliance with WAC 173-303.

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

Milestone Number	Due Date
N/A	

2.9 Has there ever been any non-permitted, unauthorized release of this waste stream from this storage unit to the environment?

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☒ No

If yes, explain:

2.11 Characterization

2.11.1 Is further characterization needed about the waste prior to acceptance for storage?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

2.11.2 Is further characterization needed about the waste prior to acceptance for treatment?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

2.11.3 Is further characterization needed about the waste prior to acceptance for disposal?

☐ Yes ☒ No ☐ Unknown at this time

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

2.12 Other key assumptions related to storage, inventory, and generation information:

Actual generation is dependent upon the amount of precipitation received each year. The 200 ETF facility can readily process this waste.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A
If no, provide date assessment will be completed, or if waste stream is no longer generated, then indicate N/A:

N/A

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling substitution of less-toxic materials):

None - generation is based on amount of precipitation received each year and how much of that precipitation percolates through the unit and is eventually collected in the leachate collection system.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2023 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2024	0.000		0.000
2025	0.000		0.000
2026	0.000		0.000
2027	0.000		0.000
2028	0.000		0.000
Total	0.000		0.000

3.3.3 Bases and assumptions used in above estimates:

No feasible waste reduction.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability Group Name: Hanford Site Laboratory Complex

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

This waste stream consists of many different inorganic and organic solids and liquids that are RCRA regulated or have been contaminated with inorganic and organic regulated dangerous waste constituents, including PCBs. This waste stream also includes hazardous debris.

2.0 WASTE INVENTORY AND GENERATION

2.1 Current total inventory for this waste stream (stored waste only, not accumulation areas). [Equals sum of location-specific data sheets for this treatability group.]

Total volume (cubic meters): 7.898

2.2 Estimated generation projection by calendar year: [equals annual sums of location-specific data sheets for this treatability group].

Year	m^3	and/or	kg
2024	63.600		0.000
2025	79.000		0.000
2026	94.000		0.000
2027	90.000		0.000
2028	90.000		0.000
Total	416.600		0.000

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological Characteristics

3.1.1 Mixed waste type: ☐ High-level ☒ Transuranic ☒ Low-level

3.1.2 Handling (as package contents would need to be handled during treatment):

☒ Contact-handled ☐ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific information on content, treatment concerns caused by radiation, confidence level):

Due to process improvements (debris treatment/decon) in the hot cell, it is unlikely that RH waste will be generated.

3.2 Physical Form

3.2.1 Physical form of the waste:

☒ Solid ☒ Liquid ☒ Semi-solid ☒ Debris

☐ Other (Describe in comments.)

3.2.2 Comments on physical form:

LDR REPORT TREATABILITY GROUP DATA SHEET

There is high confidence that the subject waste stream will not contain physical matrix characteristics that do not meet the waste stream description.

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

☒ Wastewater ☒ Non-wastewater ☐ Unknown ☐ N/A: state-only dangerous waste

If unknown, describe:

3.3.2 Regulated constituents table including treatment requirements and UHCs, if applicable.

EPA/State Number	Waste Description	LDR Sub-Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D001	Ignitable	High TOC	***	***	RORGS; CMBST; POLYM
D001	Ignitable	Low TOC	***	***	DEACT & meet 268.48
D002	Corrosive	Corrosive Charac.	***	***	DEACT & meet 268.48
D003	Reactive	multiple	***	***	DEACT & meet 268.48
D004	TC-Arsenic	N/A	***	***	5.0 mg/L TCLP & meet 268.48
D005	TC-Barium	N/A	***	***	100 mg/L TCLP & meet 268.48
D006	TC-Cadmium	Cadmium Charac.	***	***	1.0 mg/L TCLP & meet 268.48
D007	TC-Chromium	N/A	***	***	5.0 mg/L TCLP & meet 268.48
D008	TC-Lead	Lead Charac.	***	***	5.0 mg/L TCLP & meet 268.48
D009	TC-Mercury	Low Mercury	<260 mg/kg	***	0.2 mg/L TCLP & meet 268.48
D010	TC-Selenium	N/A	***	***	5.7 mg/L TCLP & meet 268.48
D011	TC-Silver	N/A	***	***	5.0 mg/L TCLP & meet 268.48
D018	Benzene	N/A	***	***	10 mg/kg & meet 268.48
D019	Carbon Tetrachloride	N/A	***	***	6.0 mg/kg & meet 268.48
D021	Chlorobenzene	N/A	***	***	6.0 mg/kg & meet 268.48
D022	Chloroform	N/A	***	***	6.0 mg/kg & meet 268.48
D027	p-Dichlorobenzene	N/A	***	***	6.0 mg/kg & meet 268.48
D028	1,2-Dichlorethane	N/A	***	***	6.0 mg/kg & meet 268.48
D029	1,1-Dichloroethylene	N/A	***	***	6.0 mg/kg & meet 268.48
D030	2,4-Dinitrotoluene	N/A	***	***	140.0 mg/kg & meet 268.48
D033	Hexachlorobutadiene	N/A	***	***	5.6 mg/kg & meet 268.48
D035	Methyl Ethyl Ketone	N/A	***	***	36 mg/kg & meet 268.48
D038	Pyridine	N/A	***	***	16 mg/kg & meet 268.48
D039	Tetrachloroethane	N/A	***	***	6.0 mg/kg & meet 268.48
D040	Trichloroethylene	N/A	***	***	6.0 mg/kg & meet 268.48
D043	Vinyl Chloride	N/A	***	***	6.0 mg/kg & meet 268.48
F001	1,1,1-Trichloroethane	Spent Solvent	***	***	6.0 mg/kg
F002	Methylene Chloride	Spent Solvent	***	***	30 mg/kg
F003	Acetone & Hexone	Spent Solvent	***	***	160 mg/kg
F004	o-Cresol & p-Cresol	Spent Solvent	***	***	5.6 mg/kg
F005	Methyl Ethyl Ketone	Spent Solvent	***	***	36 mg/kg
F027	Unused Formulations containing Pentchlorophenol	N/A	***	***	0.001 mg/kg and 7.4 mg/kg

LDR REPORT TREATABILITY GROUP DATA SHEET

EPA/State Number	Waste Description	LDR Sub-Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
F039	Leachate (F001-F005)	N/A	***	***	See 40 CFR 268.40****
P106	Cyanide	Total	***	***	1.2
U133	Hydrazine	N/A	***	***	CHOXD; CHRED OR CMBST
U210	Tetrachloroethylene	N/A	***	***	6 mg/kg
WP01	Persistent, EHW	N/A	***	***	None (1)
WP02	Persistent, DW	N/A	***	***	N/A
WP03	Persistent, EHW	N/A	***	***	None (1)
WSC2	Solid Corrosive	N/A	***	***	Remove solid-acid characteristic
WT01	Toxic, EHW	N/A	***	***	N/A
WT02	Toxic, DW	N/A	***	***	N/A

* LDR Subcategory marked N/A if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).

** If waste is not consistent in concentration, this may not apply. Described in Section 3.3.6.

*** The concentration varies and is based on process knowledge and/or analytical data.
****For LDR concentrations of more than 3 references then reference 268.40 for F039.

(1) Mixed extremely hazardous wastes may be land disposed in Washington State in DOE facilities in accordance with RCW 70.105.050(2).

3.3.3 List any waste numbers from Section 3.3.2 for which the waste stream already meets established LDR treatment standards.

☒ List: F001, F004, F005, F039, U210
☐ No LDR treatment required (e.g. TRUM waste destined for WIPP, exclusion, etc.)
☐ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☒ Yes ☐ No ☐ Unknown

If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

☒ Yes ☐ No ☐ Unknown

3.3.4.2 Indicate the PCB concentration range.

☒ < 50 ppm ☒ >= 50 ppm ☐ Unknown

3.3.5 What is the confidence level for the regulated constituents?

☐ Low ☐ Medium ☒ High

3.3.6 Comments on regulated constituents and wastewater/non-wastewater category:

Regulated constituents are based assigned based on acceptable knowledge. Some of the waste does contain PCBs subject to TSCA regulation. If a waste package is regulated by TSCA, it is identified as such on the storage records. In Section 3.3.4.2 of this data sheet, the PCB concentration range is marked as both "<50" and ">=50" because concentrations occur below and above 50 ppm in individual waste packages. In Section 3.3.1 of this data sheet,

LDR REPORT TREATABILITY GROUP DATA SHEET

waste may be either wastewater or non-wastewater at the point of generation but is most likely to be non-wastewater at the time of shipment.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

☐ Yes ☒ No

If yes, provide details: N/A

4.2 Planned treatment: Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☐ No treatment required (skip to section 5.0)
☒ Treating or plan to treat on site
☒ Treating or plan to treat off site
☐ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

Waste requiring treatment will be treated using offsite commercial treatment facilities; facilities planned to be used are Perma-Fix Northwest in Richland and Perma-Fix/DSSI in Kingston, Tennessee. For wastes that cannot be treated by either of the above means to meet LDR standards, the waste will be shipped to Central Waste Complex under an exception to current requirements to only receive LDR-compliant waste from CH2M HILL.

4.4 Treatment schedule information:

The goal of the Hanford Site Laboratory Complex is to treat waste offsite at commercial treatment facilities generally within one year. Waste shipped to ERDF that does not meet LDR requirements is treated onsite.

4.5 Applicable Tri-party Agreement treatment milestone numbers (including permitting):

Milestone Number	Due Date
N/A	N/A

4.6 Proposed new Tri-Party Agreement treatment milestones:

None.

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☐ Yes ☒ No ☐ N/A ☐ Unknown

If yes, describe:

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment already in place.

N/A

4.9 Key Assumptions:

Waste that is treated at PFNW is returned onsite for disposal at the LLBG Trenches 31 and 34. Waste treated at DSSI is disposed by the TSDF at an approved facility or returned for onsite disposal at the LLBG.

5.0 WASTE STREAM DISPOSAL

LDR REPORT TREATABILITY GROUP DATA SHEET

After treatment, how will the waste stream be disposed of (include locations, milestone numbers, variances required, technology, etc., as applicable)?

Subject waste will ultimately be disposed of in the LLBG Trenches 31 and 34 or ERDF located on the Hanford Site or at commercial facilities.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant Name: 222-S **Waste Stream:** Containerized mixed waste

Treatability Group Name: Hanford Site Laboratory Complex

1.2 Applicable profile number(s) for this waste stream:

2021-HLMI-0002 MW Heterogenous debris with lead solids, PCBs >50 ppm, offsite.
2021-HLMI-0004 MW Inorganic Liquid Acids, no PCBs, offsite
2021-HLMI-0005 MW debris with lead solids/RCRA metals no PCBs, offsite
2022-HLMI-0006 MW non-debris solids, no PCBs, offsite
2022-HLMI-0007 MW Inorganic Liquid Bases, no PCBs, offsite
23-01-001 Mercury contaminated debris, no PCBs, offsite
22-03-006 Organic liquids >50 ppm PCBs - offsite
22-03-007 Organic liquids <50 ppm PCBs - offsite
TBD - TRUM waste profile is in the process of being developed. 2023 TRUM waste total in storage is 0.9 m3

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Waste is generated from analytical methods, unused or expired standards and reagents, tank farm and other various Hanford samples, discarded equipment, facility operations and maintenance activities.

1.3.2 History of how and where the waste was/is generated:

The facility will generate waste throughout the 222-S Laboratory Complex (analytical procedures, operations and maintenance, hot cells).

1.3.3 Source of the regulated constituents:

Liquids and solids generated from analytical procedures, hazardous, reagents, samples, products used, discarded equipment with RCRA metals.

1.3.4 Source of the information (e.g., analytical data, process knowledge, document number, etc.)

Waste Stream Fact Sheets (WSFS), SWITS, Inventory sheets, MSDSs, Sample Analysis, Waste Planning Checklists, generator knowledge.

1.3.5 Additional notes:

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

(NOTE: For waste in satellite accumulation areas and 90-day accumulation areas, skip to Section 2.6)

2.1 Current storage method

☒ Container (pad)	☒ Container (covered)	☐ Container (retrievably buried)
☐ Tank	☐ DST	☐ SST
☐ Other (explain):		

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.1 How was the waste managed prior to storage?

Per the Hanford Facility Dangerous Waste Permit Application, 222-S Laboratory Complex (DOE/RL-91-27 Rev. 2). Mixed waste is moved from SAAs and CAAs to permitted storage locations.

2.1.2 Timeframe when waste was placed into storage?

For 2023, January 1 through December 31, waste is placed into storage throughout the year, same for all years. Inventory may change on a daily basis.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
HS-00082 A&B	23 total containers (4.3004 m3)
HS-00083 A&B	16 total containers (1.2335 m3)
Room 4E	4 total containers (0.7376 m3)
Room 2B	7 total containers (1.1915 m3)
Room 2D	3 total containers (0.4349 m3)

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 7.898

Date of inventory values: 12/31/2023

Comments on waste inventory:

RCRA weekly inspection inventory utilized to determine number of mixed waste and hazardous waste containers in current storage areas.

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☒ No

If yes, what is the total estimated storage capacity? N/A

When is this capacity expected to be reached? N/A

Bases and assumptions used:

The values provided are based on TSDF/CAA container storage area inventory and does not include SAA totals. See Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers.

2.5 Planned storage areas for this waste:

☒ Current Location ☐ CWC ☐ DST

☐ Other Area(s) (list):

☐ None

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.6 Estimated generation projection by calendar year (includes waste in satellite accumulation areas, central accumulation areas, or CERCLA areas of contamination):

Year	m^3	and/or kg
2024	63.600	0.000
2025	79.000	0.000
2026	94.000	0.000
2027	90.000	0.000
2028	90.000	0.000
Total	416.600	0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-SEC-01-018	12/30/2001

☐ Assessment has been scheduled. Scheduled date: unknown

☐ Other. Explain: unaware of other DOE Storage Compliance Assessments performed after A&E-SEC-01-018

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

Milestone Number	Due Date
N/A	

2.9 Has there ever been any non-permitted, unauthorized release of this waste stream from this storage unit to the environment?

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

2.11.1 Is further characterization needed about the waste prior to acceptance for storage?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If yes or unknown, comment on characterization for storage.

N/A

2.11.2 Is further characterization needed about the waste prior to acceptance for treatment?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A
Not tied to any TPA milestones

2.11.3 Is further characterization needed about the waste prior to acceptance for disposal?

☒ Yes ☐ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

Sampling is needed for demonstrating concentration based LDR Treatment Standards have been met prior to disposal.

2.12 Other key assumptions related to storage, inventory, and generation information:

The estimates in Section 2.6 include CAA ERDF Roll On/Roll Off MW containers that will be sent to ERDF for treatment (~8 m3 each), 150 SAAs with estimated 5 gallon per SAA applied (13.35 m3) This also includes TSD waste storage areas based on 2023 generated wastes (229 drums (.208) 2 ERDF RO containers (16 m3) assumed increases based on forecasted increase in analytical and construction activities.

DOE Storage Method Compliance Assessment link:
https://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0069370H

This waste will be generated and stored under current operational procedures. The inventory changes on a daily basis based on production. Waste is predesignated prior to generation, any characterization needed is performed prior to submittal for waste acceptance to TSDF.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☒ Yes ☐ No

If yes, provide date assessment conducted: 10/13/2023

If yes, provide document number or other identification:

HLMI-ASMT-2023-0029
If no, provide date assessment will be completed, or if waste stream is no longer generated, then indicate N/A:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

N/A

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling substitution of less-toxic materials):

Additional waste segregation techniques are being implemented to reduce the total volume of MW requiring treatment to meet LDR for ERDF disposal. Broken/unused equipment segregation of circuit boards to reduce total waste volume. Planning is used prior to waste generation through work planning, pre-job meetings and consistent review of routine operations and analytical procedures to minimize waste generation where possible. The Laboratory constantly seeks innovative opportunities to reduce waste by being aware of current waste minimizing technology.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2023 (volume or mass)

11.320 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2024	12.000		0.000
2025	12.000		0.000
2026	14.000		0.000
2027	14.000		0.000
2028	15.000		0.000
Total	67.000		0.000

3.3.3 Bases and assumptions used in above estimates:

The projected volumes assume the forecasted increase in work and total waste generated, as well as assumptions on waste volume reductions utilizing continued application of waste minimization methods. The analytical process generating this stream are continuously evaluated for waste minimization opportunities.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 **Unit/Plant Name:** LAW/EMF/LAB **Waste Stream:** Miscellaneous Debris

Treatability Group Name: WTP - Hazardous Debris

1.2 **Applicable profile number(s) for this waste stream:**

IDF WSRd I04

1.3 **Waste stream source information**

1.3.1 **General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):**

Miscellaneous consumables and PPE associated with daily operation of the WTP (wipes, spent/replaced equipment; pumps, valves, disposable tools, PPE, step off pad waste).

1.3.2 **History of how and where the waste was/is generated:**

Waste generated from routine operation and maintenance of WTP facilities.

1.3.3 **Source of the regulated constituents:**

DST waste.

1.3.4 **Source of the information (e.g., analytical data, process knowledge, document number, etc.)**

Process knowledge and analytical data.

1.3.5 **Additional notes:**

Waste has yet to be generated. When generated, the waste will be stored in a permitted storage area and transferred to a permitted TSD for volume reduction, repackaging, shipment, and disposal.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

(NOTE: For waste in satellite accumulation areas and 90-day accumulation areas, skip to Section 2.6)

2.1 **Current storage method**

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☒ Other (explain): N/A

2.1.1 **How was the waste managed prior to storage?**

N/A

2.1.2 **Timeframe when waste was placed into storage?**

N/A

2.2 **Storage inventory locations:**

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Building/Room Number	Number of Containers/Tanks
N/A	N/A

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2023

Comments on waste inventory:

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☒ No

If yes, what is the total estimated storage capacity? N/A

When is this capacity expected to be reached? N/A

Bases and assumptions used:

See Table 3-1. Summary of Storage Volumes, Capacities, and Number of Containers.

2.5 Planned storage areas for this waste:

☐ Current Location ☐ CWC ☐ DST

☒ Other Area(s) (list): WTP Permitted Storage Area

☐ None

2.6 Estimated generation projection by calendar year (includes waste in satellite accumulation areas, central accumulation areas, or CERCLA areas of contamination):

Year	m^3	and/or	kg
2024	0.000		0.000
2025	134.000		0.000
2026	192.000		0.000
2027	192.000		0.000
2028	192.000		0.000
Total	710.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number Date

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: N/A: Storage method compliance assessment not identified for this location-specific waste stream.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

Milestone Number	Due Date
N/A	

2.9 Has there ever been any non-permitted, unauthorized release of this waste stream from this storage unit to the environment?

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

2.11.1 Is further characterization needed about the waste prior to acceptance for storage?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

2.11.2 Is further characterization needed about the waste prior to acceptance for treatment?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

2.11.3 Is further characterization needed about the waste prior to acceptance for disposal?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.12 Other key assumptions related to storage, inventory, and generation information:

Waste has yet to be generated. When generated, the waste will be stored in a permitted storage area and transferred to a permitted TSD for volume reduction, repackaging, shipment, and disposal.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

If no, provide date assessment will be completed, or if waste stream is no longer generated, then indicate N/A:

N/A

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling substitution of less-toxic materials):

Segregation of LLW from mixed waste.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2023 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2024	0.000		0.000
2025	0.000		0.000
2026	0.000		0.000
2027	0.000		0.000
2028	0.000		0.000
Total	0.000		0.000

3.3.3 Bases and assumptions used in above estimates:

Waste has yet to be generated. Assumed to be solid, drummed waste, and oversized equipment packaged in a 6'x4'x4' box. Waste volume reduction, repackaging, shipment, and disposal to be performed by off-site treatment, storage, and disposal facilities as directed by DOE.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability Group Name: WTP - LDR Compliant

1.2 Description of waste (list WSRd numbers for this waste stream, as applicable):

Waste is the immobilized DST low activity waste that has been treated by vitrification in the Waste Immobilization and Treatment Plant (WTP) along with spent melter equipment containing vitrified low activity waste.

Waste disposed at IDF is done so under WSRd number I01.

This waste is projected to be generated in the future (refer to Section 2.2).

2.0 WASTE INVENTORY AND GENERATION

2.1 Current total inventory for this waste stream (stored waste only, not accumulation areas). [Equals sum of location-specific data sheets for this treatability group.]

Total volume (cubic meters): 0.000

2.2 Estimated generation projection by calendar year: [equals annual sums of location-specific data sheets for this treatability group].

Year	m^3	and/or	kg
2024	0.000		0.000
2025	3,196.150		0.000
2026	4,566.210		0.000
2027	4,566.210		0.000
2028	4,566.210		0.000
Total	16,894.780		0.000

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological Characteristics

3.1.1 Mixed waste type: ☐ High-level ☐ Transuranic ☒ Low-level

3.1.2 Handling (as package contents would need to be handled during treatment):

☒ Contact-handled ☐ Remote-handled

3.1.3 Comments on radiological characteristics (e.g., more specific information on content, treatment concerns caused by radiation, confidence level):

Secondary waste generated as a result of treatment of low activity tank waste. Due to the radiological source term for the waste fed to the WTP it is extremely unlikely that any waste would be remote handled.

3.2 Physical Form

3.2.1 Physical form of the waste:

☒ Solid ☐ Liquid ☐ Semi-solid ☐ Debris

☐ Other (Describe in comments.)

LDR REPORT TREATABILITY GROUP DATA SHEET

3.2.2 Comments on physical form:

Waste form is compactible and non-compactible debris.

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

☐ Wastewater ☒ Non-wastewater ☐ Unknown ☐ N/A: state-only dangerous waste

If unknown, describe:

3.3.2 Regulated constituents table including treatment requirements and UHCs, if applicable.

EPA/State Number	Waste Description	LDR Sub-Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
	See Footnote (1)				

* LDR Subcategory marked N/A if no existing subcategory adequately describes this waste, or if there are no defined subcategories for the waste number (40 CFR 268.40).

** If waste is not consistent in concentration, this may not apply. Described in Section 3.3.6.

(1) The waste meets (or will meet) the treatment standards listed in 40 CFR 268.40 and WAC 173-303-140. See letter 19-NWP-165 for details.

3.3.3 List any waste numbers from Section 3.3.2 for which the waste stream already meets established LDR treatment standards.

☐ List:
☒ No LDR treatment required (e.g. TRUM waste destined for WIPP, exclusion, etc.)
☐ None (i.e., all constituents/waste numbers of this waste stream still require treatment)

3.3.4 Does this waste stream contain PCBs?

☒ Yes ☐ No ☐ Unknown

If no or unknown, skip to Section 3.3.5

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

☒ Yes ☐ No ☐ Unknown

3.3.4.2 Indicate the PCB concentration range.

☒ < 50 ppm ☐ >= 50 ppm ☐ Unknown

3.3.5 What is the confidence level for the regulated constituents?

☐ Low ☒ Medium ☐ High

3.3.6 Comments on regulated constituents and wastewater/non-wastewater category:

Waste numbers and concentrations will be based on tank waste feed campaigns. This waste will be generated in the future (refer to Section 2.2). The waste codes assigned to DST system waste are based on process knowledge and analysis. Dangerous waste constituents in individual tanks will vary based upon process knowledge. Since 1995, LDR requirements have been documented on waste profile sheets for waste sent to the DST System. On September 25, 1995, waste acceptance criteria for waste entering the DST System specifically required the identification of

LDR REPORT TREATABILITY GROUP DATA SHEET

UHCs. There is no documentation of LDR requirements for waste placed in the SST System and for waste sent to the DST System prior to 1995. A list is kept of the UHCs that have been documented since 1995. At this time, UHCs relevant to DOE activities at Hanford are considered or can reasonably be expected to be present in the waste per references PNNL-11927, PNNL-11943, and PNNL-12039. It has been determined per the "Framework Agreement for Management of Polychlorinated Biphenyls (PCBs) in Hanford Tank Waste," dated August 31, 2000, that some DSTs contain PCB remediation waste. The risk-based disposal approval process will address the disposal of PCB remediation waste through the waste treatment plant where it is being addressed as a constituent of concern.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

☐ Yes ☒ No

If yes, provide details:

4.2 Planned treatment: Check the appropriate box indicating future plans for treating this waste stream to meet applicable regulations, including LDR treatment standards.

☒ No treatment required (skip to section 5.0)
☐ Treating or plan to treat on site
☐ Treating or plan to treat off site
☐ Treatment options still being assessed

4.3 Planned treatment method, facility, extent of treatment capacity available:

4.4 Treatment schedule information:

4.5 Applicable Tri-party Agreement treatment milestone numbers (including permitting):

Milestone Number	Due Date
N/A	N/A

4.6 Proposed new Tri-Party Agreement treatment milestones:

4.7 If treating or planning to treat on site, was or will waste minimization be addressed in developing and/or selecting the treatment method?

☐ Yes ☐ No ☐ N/A ☐ Unknown

If yes, describe:

4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment already in place.

LAW was authorized for Immobilization by vitrification under a LDR treatment variance.
Ref: Ecology, 2019, Letter from S. Schleif, State of Washington Department of Ecology, to B. Vance, US Department of Energy, “Re: Approval of Land Disposal Restriction Treatability Variance Petition for Hanford Tank Waste,” 19-NWP-165, Richland, Washington, October 21. (https://pdw.hanford.gov/document/AR-03170). Applicability of the LDR treatment variance includes several secondary waste streams per permit modification form 24590-WTP-PCN-ENV-23-005 (https://pdw.hanford.gov/document/AR-27613).

EPA Approval Pursuant to 40 Code of Federal Regulations (C.F.R.) § 761.61(c) of the Application for Risk-Based Disposal Approval for the Hanford Site, Direct Feed Low Activity Waste System.

4.9 Key Assumptions:

None

LDR REPORT TREATABILITY GROUP DATA SHEET
5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include locations, milestone numbers, variances required, technology, etc., as applicable)?

Disposal at IDF.

LDR REPORT WASTE LOCATION SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant Name: LAW Facility **Waste Stream:** LMP Glass Debris from the Bagging Station

Treatability Group Name: WTP - LDR Compliant

1.2 Applicable profile number(s) for this waste stream:

IDF WSRd I04

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

Immobilized LAW (ILAW) glass shards and fragments collected during the filling of ILAW containers.

1.3.2 History of how and where the waste was/is generated:

Waste is a byproduct of collecting shards and/or removing inadvertent uncontainerized ILAW from container exteriors or fill station equipment/surfaces.

1.3.3 Source of the regulated constituents:

DST waste.

1.3.4 Source of the information (e.g., analytical data, process knowledge, document number, etc.)

Process knowledge and analytical data.

1.3.5 Additional notes:

Waste has yet to be generated. When generated, the waste will be stored in a SAA or CAA and sent to the Integrated Disposal Facility (IDF) for disposal.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

(NOTE: For waste in satellite accumulation areas and 90-day accumulation areas, skip to Section 2.6)

2.1 Current storage method

☐ Container (pad) ☐ Container (covered) ☐ Container (retrievably buried)

☐ Tank ☐ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

2.1.2 Timeframe when waste was placed into storage?

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
N/A	N/A

LDR REPORT WASTE LOCATION SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2023

Comments on waste inventory:

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☒ No

If yes, what is the total estimated storage capacity? N/A

When is this capacity expected to be reached? N/A

Bases and assumptions used:

See Table 3-1. Summary of Storage Capacity by Waste Stream.

2.5 Planned storage areas for this waste:

☐ Current Location ☐ CWC ☐ DST

☐ Other Area(s) (list):

☒ None

2.6 Estimated generation projection by calendar year (includes waste in satellite accumulation areas, central accumulation areas, or CERCLA areas of contamination):

Year	m^3	and/or	kg
2024	0.000		0.000
2025	0.150		0.000
2026	0.210		0.000
2027	0.210		0.000
2028	0.210		0.000
Total	0.780		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number Date

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: N/A: Storage method compliance assessment not required for this location-specific waste stream because it only includes wastes from a CAA.

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

LDR REPORT WASTE LOCATION SPECIFIC DATA SHEET

Milestone Number	Due Date
N/A	

2.9 Has there ever been any non-permitted, unauthorized release of this waste stream from this storage unit to the environment?

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

2.11.1 Is further characterization needed about the waste prior to acceptance for storage?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

2.11.2 Is further characterization needed about the waste prior to acceptance for treatment?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

2.11.3 Is further characterization needed about the waste prior to acceptance for disposal?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

2.12 Other key assumptions related to storage, inventory, and generation information:

LDR REPORT WASTE LOCATION SPECIFIC DATA SHEET

Waste has yet to be generated. When generated, the waste will be stored in a SAA or CAA and sent to the Integrated Disposal Facility (IDF) for disposal. See TGDS Section 1.2 and 4.8.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

If no, provide date assessment will be completed, or if waste stream is no longer generated, then indicate N/A:

N/A

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling substitution of less-toxic materials):

N/A

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2023 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2024	0.000		0.000
2025	0.000		0.000
2026	0.000		0.000
2027	0.000		0.000
2028	0.000		0.000
Total	0.000		0.000

3.3.3 Bases and assumptions used in above estimates:

N/A

LDR REPORT WASTE LOCATION SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant Name: LAW Facility **Waste Stream:** LMP Melter Consumables

Treatability Group Name: WTP - LDR Compliant

1.2 Applicable profile number(s) for this waste stream:

IDF WSRd I04

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

LAW melter process system (LMP) melter consumables; melter glass, pool level detectors, film cooler spray nozzles, differential pressure indicators probes, thermocouple melter refractory (packaged together).

1.3.2 History of how and where the waste was/is generated:

Melter consumables generated from the operation of the LAW melter(s).

1.3.3 Source of the regulated constituents:

DST waste.

1.3.4 Source of the information (e.g., analytical data, process knowledge, document number, etc.)

Process knowledge and analytical data.

1.3.5 Additional notes:

Waste has yet to be generated. When generated, the waste will be stored in a permitted storage area and may be transferred to a permitted TSD for repackaging prior to disposal at the Integrated Disposal Facility (IDF). Melter components will have vitrified glass remaining on or within them, therefore the LDR treatment variance, approved by Ecology, will also apply to this secondary waste stream (https://pdw.hanford.gov/document/AR-27613).

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

(NOTE: For waste in satellite accumulation areas and 90-day accumulation areas, skip to Section 2.6)

2.1 Current storage method

☐ Container (pad)	☐ Container (covered)	☐ Container (retrievably buried)
☐ Tank	☐ DST	☐ SST
☒ Other (explain):	N/A	

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed into storage?

N/A

2.2 Storage inventory locations:

LDR REPORT WASTE LOCATION SPECIFIC DATA SHEET

Building/Room Number	Number of Containers/Tanks
N/A	N/A

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2023

Comments on waste inventory:

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☒ No

If yes, what is the total estimated storage capacity? N/A

When is this capacity expected to be reached? N/A

Bases and assumptions used:

See Table 3-2. Summary of Storage Capacity by Waste Stream.

2.5 Planned storage areas for this waste:

☐ Current Location ☐ CWC ☐ DST

☒ Other Area(s) (list): WTP Permitted Storage Area

☐ None

2.6 Estimated generation projection by calendar year (includes waste in satellite accumulation areas, central accumulation areas, or CERCLA areas of contamination):

Year	m^3	and/or	kg
2024	0.000		0.000
2025	96.000		0.000
2026	137.000		0.000
2027	137.000		0.000
2028	137.000		0.000
Total	507.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number Date

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: N/A: Storage method compliance assessment not identified for this location-specific waste stream.

LDR REPORT WASTE LOCATION SPECIFIC DATA SHEET

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

Milestone Number	Due Date
N/A	

2.9 Has there ever been any non-permitted, unauthorized release of this waste stream from this storage unit to the environment?

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

2.11.1 Is further characterization needed about the waste prior to acceptance for storage?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

2.11.2 Is further characterization needed about the waste prior to acceptance for treatment?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

2.11.3 Is further characterization needed about the waste prior to acceptance for disposal?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

LDR REPORT WASTE LOCATION SPECIFIC DATA SHEET

2.12 Other key assumptions related to storage, inventory, and generation information:

Waste has yet to be generated. When generated, the waste will be stored in a permitted storage area and may be transferred to a permitted TSD for repackaging prior to disposal at the IDF. See TGDS Section 1.2 and 4.8.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

If no, provide date assessment will be completed, or if waste stream is no longer generated, then indicate N/A:

N/A

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling substitution of less-toxic materials):

Segregation of LLW from mixed waste.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2023 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2024	0.000		0.000
2025	0.000		0.000
2026	0.000		0.000
2027	0.000		0.000
2028	0.000		0.000
Total	0.000		0.000

3.3.3 Bases and assumptions used in above estimates:

N/A

LDR REPORT WASTE LOCATION SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant Name: LAW Facility **Waste Stream:** LMP Melter Pool Bubblers/Thermowells

Treatability Group Name: WTP - LDR Compliant

1.2 Applicable profile number(s) for this waste stream:

IDF WSRd I04

1.3 Waste stream source information

1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):

LAW melter process system (LMP) melter bubblers and thermowells (long length debris).

1.3.2 History of how and where the waste was/is generated:

Melter consumables generated from the operation of LAW melter(s).

1.3.3 Source of the regulated constituents:

DST waste.

1.3.4 Source of the information (e.g., analytical data, process knowledge, document number, etc.)

Process knowledge and analytical data.

1.3.5 Additional notes:

Waste has yet to be generated. When generated, the waste will be stored in a permitted storage area and may be transferred to a permitted TSD for repackaging prior to disposal at the Integrated Disposal Facility (IDF). Bubblers/thermowells will have vitrified glass remaining on or within them, therefore the LDR treatment variance, approved by Ecology, will also apply to this secondary waste stream (https://pdw.hanford.gov/document/AR-27613).

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

(NOTE: For waste in satellite accumulation areas and 90-day accumulation areas, skip to Section 2.6)

2.1 Current storage method

- ☐ Container (pad)
- ☐ Container (covered)
- ☐ Container (retrievably buried)
- ☐ Tank
- ☐ DST
- ☐ SST
- ☒ Other (explain): N/A

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed into storage?

N/A

2.2 Storage inventory locations:

LDR REPORT WASTE LOCATION SPECIFIC DATA SHEET

Building/Room Number	Number of Containers/Tanks
N/A	N/A

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2023

Comments on waste inventory:

2.4 Is storage capacity at this location potentially an issue for this waste stream?

☐ Yes ☒ No

If yes, what is the total estimated storage capacity? N/A

When is this capacity expected to be reached? N/A

Bases and assumptions used:

See Table 3-2. Summary of Storage Capacity by Waste Stream.

2.5 Planned storage areas for this waste:

☐ Current Location ☐ CWC ☐ DST

☒ Other Area(s) (list): WTP Permitted Storage Area

☐ None

2.6 Estimated generation projection by calendar year (includes waste in satellite accumulation areas, central accumulation areas, or CERCLA areas of contamination):

Year	m^3	and/or	kg
2024	0.000		0.000
2025	34.000		0.000
2026	49.000		0.000
2027	49.000		0.000
2028	49.000		0.000
Total	181.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number Date

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: N/A: Storage method compliance assessment not identified for this location-specific waste stream.

LDR REPORT WASTE LOCATION SPECIFIC DATA SHEET

2.8 Applicable Tri-Party Agreement milestones related to storage at this location:

Milestone Number	Due Date
N/A	

2.9 Has there ever been any non-permitted, unauthorized release of this waste stream from this storage unit to the environment?

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

2.10 Are there any plans to submit requests for variances or other exemptions related to storage?

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

2.11.1 Is further characterization needed about the waste prior to acceptance for storage?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

2.11.2 Is further characterization needed about the waste prior to acceptance for treatment?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

2.11.3 Is further characterization needed about the waste prior to acceptance for disposal?

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

LDR REPORT WASTE LOCATION SPECIFIC DATA SHEET

2.12 Other key assumptions related to storage, inventory, and generation information:

Waste has yet to be generated. When generated, the waste will be stored in a permitted storage area and may be transferred to a permitted TSD for volume reduction prior to disposal at the IDF. See TGDS Section 1.2 and 4.8.

3.0 WASTE MINIMIZATION

3.1 Has a waste minimization assessment been completed for this stream?

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

If no, provide date assessment will be completed, or if waste stream is no longer generated, then indicate N/A:

N/A

3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling substitution of less-toxic materials):

Segregation of LLW from mixed waste.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2023 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2024	0.000		0.000
2025	0.000		0.000
2026	0.000		0.000
2027	0.000		0.000
2028	0.000		0.000
Total	0.000		0.000

3.3.3 Bases and assumptions used in above estimates:

N/A

This page intentionally left blank.