

0072816

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

APR 27 2007

07-AMCP-0172

Ms. Jane A. Hedges, Program Manager
Nuclear Waste Program
State of Washington
Department of Ecology
3100 Port of Benton
Richland, Washington 99354

Mr. Nicholas Ceto, Program Manager
Office of Environmental Cleanup
Hanford Project Office
U.S. Environmental Protection Agency
309 Bradley Boulevard, Suite 115
Richland, Washington 99352

RECEIVED
MAY 01 2007
EDMC

Addressees:

CALENDAR YEAR 2006 HANFORD SITE MIXED WASTE LAND DISPOSAL
RESTRICTIONS SUMMARY REPORT, DOE/RL-2007-16, REVISION 0

The purpose of this letter is to transmit the Calendar Year 2006 Hanford Site Mixed Waste Land Disposal Restrictions Summary Report, DOE/RL-2007-16, Revision 0 for review and written approval by the State of Washington Department of Ecology (Ecology). This is in accordance with the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Interim Milestone M-026-01Q, "Submit an Annual Hanford Land Disposal Restrictions (LDR) Summary Report in accordance with agreement requirements to cover the period from January 1 of the previous year through December 31 of the reporting year..."

Transmittal of this report to Ecology and the U.S. Environmental Protection Agency completes the U.S. Department of Energy, Richland Operations Office (RL) and the U.S. Department of Energy, Office of River Protection (ORP) requirement to submit the Calendar Year 2006 LDR Summary Report by April 30, 2007.

The enclosed report is submitted as a primary document under the Tri-Party Agreement Action Plan, Section 9.0 "Documents and Records;" Ecology has 45 days following receipt of the letter to return any comments.

Addressees
07-AMCP-0172

-2-

APR 27 2007

If you have any questions, please contact me, or your staff may contact, Matt McCormick, Assistant Manager for the Central Plateau, on (509) 373-9971.

Sincerely,



Keith A. Klein
Manager

AMCP:GLS

Enclosure

cc w/encl:

G. Bohnee, NPT
M. E. Cole, CH2M HILL
S. Harris, CTUIR
R. Jim, YN
S. L. Leckband, HAB
K. Niles, ODOE
W. E. Remsen, WCH
D. Robertson, BNI
L. Seelatsee, Wanapum
H. T. Tilden, PNNL
E. J. Van Mason, Ecology (3)
Administrative Record (M-26) H-0-13
Environmental Portal

cc w/o encl:

D. Bartus, EPA
L. Cusack, Ecology
G. P. Davis, Ecology
R. H. Engelmann, EFSH
A. G. Miskho, FHI
S. L. Moore, FHI
J. L. Nuzum, FHI
R. E. Piippo, FHI
E. R. Skinnerland, Ecology
J. G. Vance, FFS
R. W. Wilson, Ecology

Calendar Year 2006 Hanford Site Mixed Waste Land Disposal Restrictions Summary Report

Date Published
April 2007

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



**United States
Department of Energy**
P.O. Box 550
Richland, Washington 99352

J. D. Aardel
Release Approval 04/13/2007
Date

Approved for Public Release;
Further Dissemination Unlimited

TRADEMARK DISCLAIMER

Reference herein to any specific commercial product, process, or service by trade name, 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

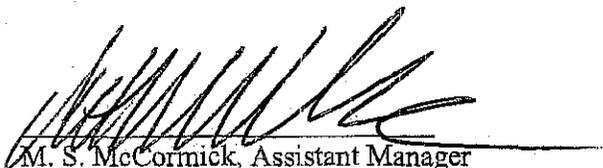
PRIMARY DOCUMENT STATEMENT

CALENDAR YEAR 2006 HANFORD SITE MIXED WASTE LAND DISPOSAL RESTRICTIONS SUMMARY REPORT

Approval of the U.S. Department of Energy's annual land disposal restriction 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.

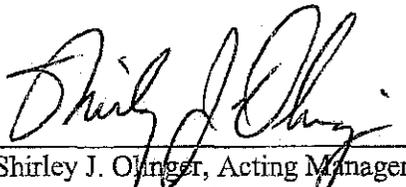
This document has been prepared, submitted, revised, and approved as a primary document in response to the requirements of the *Hanford Federal Facility Agreement and Consent Order* milestone series M-26-01 and related *Resource Conservation and Recovery Act of 1976* land disposal restrictions and *Hanford 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 _____ 2007.



M. S. McCormick, Assistant Manager
for the Central Plateau
U.S. Department of Energy,
Richland Operations Office
RL IAMIT Representative

J. Hedges, Program Manager
Nuclear Waste Program
State of Washington
Department of Ecology
IAMIT Representative



Shirley J. Olinger, Acting Manager
U.S. Department of Energy,
Office of River Protection
ORP SEC Representative

This page intentionally left blank.

CONTENTS

| | |
|--|-----|
| ACRONYMS | iv |
| METRIC CONVERSION CHART | vi |
| 1.0 INTRODUCTION | 1-1 |
| 1.1 CY 2006 LDR SUMMARY REPORT OVERVIEW | 1-2 |
| 1.2 SUMMARY INVENTORY OF WASTE TREATMENT GROUPS AND FORECAST GENERATION RATES | 1-3 |
| 1.3 POTENTIAL MIXED WASTE | 1-3 |
| 2.0 ASSESSMENTS OF MIXED WASTE STORAGE AREAS AND POTENTIAL MIXED WASTE | 2-1 |
| 2.1 INTRODUCTION | 2-1 |
| 2.2 ASSESSMENT SCHEDULES | 2-1 |
| 3.0 SUMMARY OF CHARACTERIZATION INFORMATION | 3-1 |
| 4.0 SUMMARY OF TREATMENT INFORMATION | 4-1 |
| 5.0 STORAGE VOLUME AND CONTAINER NUMBERS FOR SELECTED STORAGE LOCATIONS | 5-1 |
| 6.0 REFERENCES | 6-1 |

TABLES

| | |
|--|------|
| Table 1-1. Stored Volumes of Mixed Waste and Generation Projections | 1-5 |
| Table 1-2. Treatability Group Summary of Storage, Characterization, and Treatment Activities | 1-10 |
| Table 1-3. Explanation of Table 1-4, Potential Mixed Waste | 1-12 |
| Table 1-4. Potential Mixed Waste | 1-13 |
| Table 1-5. Historical List of Materials Deleted from Potential Mixed Waste Table | 1-31 |
| Table 2-1. Summary of DOE-RL Assessment Results | 2-1 |
| Table 2-2. DOE-RL Assessments for CYs 2007 through 2009 | 2-2 |
| Table 2-3. Summary of DOE-ORP Assessment Results | 2-2 |
| Table 3-1. Summary of Characterization Information for Each Treatability Group | 3-1 |
| Table 4-1. Summary of Treatment Information for Each Treatability Group | 4-2 |
| Table 5-1. Storage Volume and Number of Containers for Selected Hanford Locations | 5-1 |

ACRONYMS

| | |
|-----------|--|
| ALARA | As Low As Reasonably Achievable |
| BDAT | best demonstrated available technology |
| CERCLA | <i>Comprehensive Environmental Response, Compensation, and Liability Act of 1980</i> |
| CFR | Code of Federal Regulations |
| CH | contact handled |
| CH2M HILL | CH2M HILL Hanford Group, Inc. |
| CWC | Central Waste Complex |
| CY | calendar year |
| D&D | decontamination and decommissioning |
| 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 |
| Ecology | Washington State Department of Ecology |
| EPA | U.S. Environmental Protection Agency |
| ERDF | Environmental Restoration Disposal Facility |
| ETF | 200 Area Effluent Treatment Facility |
| FH | Fluor Hanford |
| FY | fiscal year |
| HEPA | high-efficiency particulate air (filter) |
| HLV | high-level vault |
| HLW | high-level waste |
| HSTF | Hexone Storage and Treatment Facility |
| HWTU | Hazardous Waste Treatment Unit |
| IMUST | inactive miscellaneous underground storage tank |
| LDR | land disposal restrictions |
| LERF | Liquid Effluent Retention Facility |
| LLBG | Low-Level Burial Grounds |
| MLLW | mixed low-level waste |
| MW | mixed waste |
| NA or N/A | not applicable |
| O/C | organic/carbonaceous |
| ORP | Office of River Protection |
| OU | operable unit |
| PCB | polychlorinated biphenyl |
| PFP | Plutonium Finishing Plant |

| | |
|---------------------|---|
| PMW | potential mixed waste |
| PMWT | potential mixed waste table |
| PNNL | Pacific Northwest National Laboratory |
| PSTF | Purgewater Storage and Treatment Facility |
| PUREX | plutonium-uranium extraction (process) |
| | |
| RADTU | Radioactive Acid Digestion Test Unit |
| RCRA | <i>Resource Conservation and Recovery Act of 1976</i> |
| REC | radiochemical engineering cell |
| REDOX | reduction-oxidation (process) |
| RH | remote handled |
| RLWS | Radioactive Liquid Waste System |
| ROD | record of decision |
| | |
| S&M | surveillance & maintenance |
| SNF | Spent Nuclear Fuel |
| SNM | Special Nuclear Material |
| SST | single-shell tank |
| | |
| Tri-Party Agreement | <i>Hanford Federal Facility Agreement and Consent Order (TPA)</i> |
| TRU | transuranic (waste) |
| TRUM | transuranic mixed (waste) |
| TRUSAF | 224-T Transuranic Waste Storage and Assay Facility |
| TSCA | <i>Toxic Substances Control Act of 1976</i> |
| TSD | treatment, storage, and/or disposal |
| | |
| WAC | <i>Washington Administrative Code</i> |
| WESF | Waste Encapsulation and Storage Facility |
| WHF | waste handling facility |
| WIDS | Waste Information Data System |
| WIPP | Waste Isolation Pilot Plant |
| WRAP | Waste Receiving and Processing Facility |
| WSCF | Waste Sampling and Characterization Facility |
| WSRd | waste specification record |
| WTP | Waste Treatment Plant |

METRIC CONVERSION CHART

Into metric units

Out of metric units

| If you know | Multiply by | To get | If you know | Multiply by | To get |
|--------------------------------|--|---------------------------------|---------------------------------|---------------------------------------|------------------------|
| Length | | | Length | | |
| inches | 25.40 | millimeters | millimeters | 0.03937 | inches |
| inches | 2.54 | centimeters | centimeters | 0.393701 | inches |
| feet | 0.3048 | meters | meters | 3.28084 | feet |
| yards | 0.9144 | meters | meters | 1.0936 | yards |
| miles (statute) | 1.60934 | kilometers | kilometers | 0.62137 | miles (statute) |
| Area | | | Area | | |
| square inches | 6.4516 | square centimeters | square centimeters | 0.155 | square inches |
| square feet | 0.09290304 | square meters | square meters | 10.7639 | square feet |
| square yards | 0.8361274 | square meters | square meters | 1.19599 | square yards |
| square miles | 2.59 | square kilometers | square kilometers | 0.386102 | square miles |
| acres | 0.404687 | hectares | hectares | 2.47104 | acres |
| Mass (weight) | | | Mass (weight) | | |
| ounces (avoir) | 28.34952 | grams | grams | 0.035274 | ounces (avoir) |
| pounds | 0.45359237 | kilograms | kilograms | 2.204623 | pounds (avoir) |
| tons (short) | 0.9071847 | tons (metric) | tons (metric) | 1.1023 | tons (short) |
| Volume | | | Volume | | |
| ounces (U.S., liquid) | 29.57353 | milliliters | milliliters | 0.033814 | ounces (U.S., liquid) |
| quarts (U.S., liquid) | 0.9463529 | liters | liters | 1.0567 | quarts (U.S., liquid) |
| gallons (U.S., liquid) | 3.7854 | liters | liters | 0.26417 | gallons (U.S., liquid) |
| cubic feet | 0.02831685 | cubic meters | cubic meters | 35.3147 | cubic feet |
| cubic yards | 0.7645549 | cubic meters | cubic meters | 1.308 | cubic yards |
| Temperature | | | Temperature | | |
| Fahrenheit | subtract 32 then multiply by 5/9ths | Celsius | Celsius | multiply by 9/5ths, then add 32 | Fahrenheit |
| Energy | | | Energy | | |
| kilowatt hour | 3.412 | British thermal unit | British thermal unit | 0.000293 | kilowatt hour |
| kilowatt | 0.94782 | British thermal unit per second | British thermal unit per second | 1.055 | kilowatt |
| Force/Pressure | | | Force/Pressure | | |
| pounds (force) per square inch | 6.894757 | kilopascals | kilopascals | 0.14504 | pounds per square inch |

06/2001

Source: *Engineering Unit Conversions*, M. R. Lindeburg, PE., Third Ed., 1993, Professional Publications, Inc., Belmont, California.

CALENDAR YEAR 2006 HANFORD SITE MIXED WASTE LAND DISPOSAL RESTRICTIONS SUMMARY REPORT

1.0 INTRODUCTION

The information in the *Calendar Year 2006 Hanford Site Mixed Waste Land Disposal Restrictions Summary Report* (CY 2006 LDR Summary Report) is prepared in accordance with *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) (Ecology et al. 2003a) Milestone M-26-01Q. The CY 2006 LDR Summary Report reports on the status of Hanford Site land disposal restricted mixed waste, other mixed waste, and other waste the U.S. Department of Energy (DOE), Washington State Department of Ecology (Ecology), and U.S. Environmental Protection Agency (EPA) have agreed to include in this report. The reporting period for this document is from January 1, 2006, to December 31, 2006.

The content and format for the CY 2006 LDR Summary Report was established in Tri-Party Agreement change request M-26-06-01 following a pilot activity for the CY 2005 reporting period. The following text has been reproduced from the change request for meeting Milestone M-26-01Q:

“Submit an annual Hanford Land Disposal Restrictions (LDR) Summary Report in accordance with the agreement requirements to cover the period from 1/1 through 12/31 of the reporting year. The Hanford Land Disposal Restrictions Summary Report will contain the following elements:

- Section 1.0: Introduction
- Section 1.1: CY 20xx LDR Summary Report Overview (where xx will be the reporting year)
- Section 1.2: Summary Inventory of Waste Treatment Groups and Forecast Generation Rates
- Section 1.3: Potential Mixed Waste
- Section 2.0: Assessments of Mixed Waste Storage Areas and Potential Mixed Waste
- Section 2.1: Introduction
- Section 2.2: Assessment Schedules
- Section 3.0: Summary of Characterization Information
- Section 4.0: Summary of Treatment Information
- Section 5.0: Storage Volume and Container Numbers for Selected Storage Locations
- Section 6.0: References
- Table 1-1: Stored Volumes of Mixed Waste and Generation Projections
- Table 1-2: Treatability Group Summary of Storage, Characterization, and Treatment Activities
- Table 1-3: Explanation of Table 1-4, Potential Mixed Waste
- Table 1-4: Potential Mixed Waste
- Table 1-5: Historical List of Materials Deleted From Potential Mixed Waste Table
- Table 2-1: Summary of DOE-RL Assessment Results
- Table 2-2: DOE-RL Assessments for Calendar Years 2005 Through 2007 (updated for next three years until no assessments are scheduled)
- Table 2-3: Summary of DOE-ORP Assessment Results
- Table 3-1: Summary of Characterization Information for Each Treatability Group
- Table 4-1: Summary of Treatment Information for Each Treatability Group
- Table 5-1: Storage Volume and Number of Containers for Selected Hanford Locations

Table 5-1 will contain the storage volume and the number of containers reported for the following Hanford Site locations: CWC, LLBG, WRAP, PFP, T Plant Complex, WSCF, 325 HWTU, 324, 327, 200 ETF, and 222-S.

NOTE: The list for Table 5-1 may change periodically. The change will be made via approval of the applicable Project Managers Meeting minutes documented and approved on or before 11/30 of each year. If no changes to the list are indicated, the list will remain unchanged.”

For the CY 2006 LDR Summary Report, no reporting location changes were approved through the Project Manager Meetings for Table 5-1.

1.1 CY 2006 LDR SUMMARY REPORT OVERVIEW

This report presents waste stream information provided in accordance with Section 6.1 of the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Action Plan and supporting milestones and documentation. The waste streams reported under the Tri-Party Agreement include those described in the requirements of the *Federal Facility Compliance Act of 1992* for U.S. Department of Energy sites that prepare a Site Treatment Plan along with other waste streams required under Tri-Party Agreement documentation. Although the Hanford Site is exempt from the requirements to prepare a Site Treatment Plan, the LDR Summary Report is considered equivalent to a Site Treatment Plan. The *Federal Facility Compliance Act of 1992* was enacted, in part, to address the inability of some mixed waste to meet requirements of the storage prohibition in Title 40 *Code of Federal Regulations* (CFR) Part 268.50. *Washington Administrative Code* (WAC) 173-303-140, incorporates the federal storage prohibition by reference. EPA guidance (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 90-day accumulation area or a treatment, storage, and/or disposal (TSD) unit, or the waste is managed at a Hanford Site location managing mixed waste pursuant to the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) of 1980 offsite rule (40 CFR 300.440). Although mixed waste managed in a 90-day accumulation area is not considered stored, the EPA has indicated that the storage prohibition clock begins when mixed waste is managed in the 90-day accumulation area. Mixed waste is reported here as projected waste when the waste meets either of the following criteria.

- The waste has not been generated and therefore is not subject to the storage prohibition.
- The waste is managed in either a satellite accumulation area, a 90-day accumulation area, or is CERCLA mixed waste destined for treatment at the Environmental Restoration Disposal Facility (ERDF).

The CY 2006 LDR Summary Report provides aggregate waste stream data based on a set of waste treatability groups and also provides selected data on location-specific sources of waste as stated in the M-026-01Q Milestone description. The waste from location-specific sources is included in the appropriate treatability groups. 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 (Ecology et al. 2003b). If any storage of the mixed waste occurs, the mixed waste must be reported. Mixed waste currently in satellite accumulation areas or in 90-day accumulation areas is not considered current stored inventory, but is included as forecast waste generation.

Other materials, items, etc., currently on the Hanford Site that might be designated as mixed waste in the future, are described in Section 1.3, and are identified as potential mixed waste.

1.2 SUMMARY INVENTORY OF WASTE TREATMENT GROUPS AND FORECAST GENERATION RATES

The volume of mixed waste currently in storage and the volume projected to be generated and subsequently stored at Hanford during the next 5 calendar years are presented in Table 1-1. Mixed waste managed only in Hanford Site generator locations (satellite accumulation areas and 90-day accumulation areas), and then sent directly offsite for treatment is not reported. Table 1-2 presents an overall summary of the storage, characterization, treatment, and disposal activities for the treatability groups. Table 1-2 is a collection of information from the following three tables: Table 1-1; Table 3-1; and Table 4-1. Data on waste volumes in these tables are rounded to two significant figures. Stored waste volumes are reported either by the actual waste volume or by the waste container volume. In general, stored waste volumes are reported by actual waste volume unless the data is obtained from the solid waste information tracking system.

The Waste Treatment Plant (WTP) is a new TSD unit being constructed to treat double-shell tank (DST) waste and single-shell tank (SST) waste. The WTP Project Management schedule projects that mixed waste will not be generated at the Waste Treatment Plant until after CY 2017, outside of the five-year forecasting window for this report.

1.3 POTENTIAL MIXED WASTE

The potential mixed waste table (PMWT) (Tables 1-3 through 1-5) includes materials that have not been generated as mixed waste and waste that has not been actively managed as mixed waste. The materials included are those that reasonably could be expected to be generated as mixed waste at some future time. The materials included in the PMWT (equipment, piping, etc.) are those that currently are 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, at *Resource Conservation and Recovery Act (RCRA) of 1976* or CERCLA past-practice units under the Tri-Party Agreement. Past-practice waste is waste that was abandoned before the first effective LDR date in Washington State, August 19, 1987. Classification of waste management units as RCRA or CERCLA past-practice units is described in Section 3.0 of the Tri-Party Agreement Action Plan. When cleanup actions occur in the operable unit for 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 table 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.

As a result of discussions with Ecology and EPA, the following categories of materials have not been included in 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, the materials would be included in a 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, such as ventilation system components and building utilities that would be considered part of the structure, also is not included.
- Equipment and chemicals being used.

The PMWT includes information on the assessments performed or scheduled to meet the DOE assessment requirement of the LDR storage report. Section 2.0 provides more information concerning assessments.

The PMWT also includes known and proposed schedule information. This information can include the following, as applicable:

- Proposed dates for assessments
- Operable units that encompass the facility or unit
- Existing documentation and milestones or schedules that indicate plans that will address the potential mixed waste (PMW)
- Date to complete data gap plan
- Start date for major negotiations such as facility transition or deactivation.

Table 1-1. Stored Volumes of Mixed Waste and Generation Projections.

| Treatability Group Name | Description ¹ | Current Inventory (m ³) ² | Generation Projection 2007 (m ³) ² | Generation Projection 2008 (m ³) ² | Generation Projection 2009 (m ³) ² | Generation Projection 2010 (m ³) ² | Generation Projection 2011 (m ³) ² |
|---------------------------------|--|--|---|---|---|---|---|
| 221-T Containment Building | Equipment (e.g., jumpers, tanks, centrifuges, etc.), other debris (e.g., pieces of concrete, etc.), and nondebris (e.g., sandblasting grit) generated during canyon deck and/or process cell cleanout, or from treatment and/or decontamination activities. | 58 | 0 | 0 | 0 | 0 | 0 |
| 221-T Tank System | Liquid mixed waste with settled solids/sludge (waste also contains PCBs at TSCA regulated concentrations) | 9.2 | 0 | 0 | 0 | 0 | 0 |
| 222-S Laboratory Complex | 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. | 4.0 | 11 | 11 | 11 | 11 | 11 |
| 222-S T8 Tunnel | This waste stream is comprised of debris that has come into contact with waste from the 219-S Waste Handling Facility (WHF) tank system waste. The debris is designated as remote-handled mixed low-level waste (RH MLLW) as a result of this contact. | 0.2 | 0 | 0 | 0 | 0 | 0 |
| 241-CX Tank System ¹ | Residual tank waste resulting from REDOX, PUREX, and Semiworks processes. | 2.6 | 0 | 0 | 0 | 0 | 0 |
| 324 Bldg. REC Waste | Radioactive waste containing regulated quantities of toxic heavy metals. Mixed waste residue will be generated from the future REC decontamination and deactivation activities and disposed as CERCLA waste in accordance with M-094-00. | 5.0 | 0 | 0 | 0 | 0 | 0 |
| 325 HWTU | This waste stream consists of many different inorganic and organic solids and liquids contaminated with inorganic and organic regulated dangerous waste constituents, including PCBs. This waste stream also includes hazardous debris. WSRds in this waste stream include PNNL-930-05 and PNNL-931-04. | 4.0 | 12 | 12 | 12 | 12 | 12 |
| 400 Area WMU | Mixed waste generated from Hanford activities, primarily from the deactivation of the Fast Flux Test Facility (FFTF). | 1.4 | 0.1 | 0 | 0 | 0 | 0 |
| B Plant Cell 4 | Waste resulted from WESF hot cell maintenance waste (i.e., manipulator boots, light bulbs, HEPA filters, misc. debris). No additional waste will be stored in this location as the B Plant Complex is under long-term S&M. | 1.4 | 0 | 0 | 0 | 0 | 0 |
| B Plant Containment Building | Stream consists of failed equipment (e.g., process jumpers, pumps, etc.) used in the 221-B canyon. Contaminated debris/equipment derived from the processing of "F" listed wastes for the recovery of strontium and cesium. Also contains elemental lead used for counterbalances and shielding. No additional waste will be stored at this location. The B Plant Complex is under long-term S&M. | 290,000 kg | 0 | 0 | 0 | 0 | 0 |
| Cesium and Strontium Capsules | Cesium and strontium were reclaimed from Tank Farm waste as a product, separated and purified at B Plant, and converted to dry salt for storage at WESF. The cesium and strontium capsules were declared waste in 1997 with the application for a Part A, Form 3, permit application. The subject waste consists of 1,335 cesium capsules and 601 strontium capsules. The capsules are stored in pool cells at WESF. | 2.0 | 0 | 0 | 0 | 0 | 0 |
| DST Waste | Basic aqueous solution that might contain suspended material and/or settled solids (sludge and saltcake). Waste streams are treated with sodium hydroxide and sodium nitrite to minimize tank corrosion and to address compatibility issues. Waste has been stored in the DST System from 1970 to the present. | 100,000 | 38 | 38 | 38 | 38 | 38 |

15

Table 1-1. Stored Volumes of Mixed Waste and Generation Projections.

| Treatability Group Name | Description ¹ | Current Inventory (m ³) ² | Generation Projection 2007 (m ³) ² | Generation Projection 2008 (m ³) ² | Generation Projection 2009 (m ³) ² | Generation Projection 2010 (m ³) ² | Generation Projection 2011 (m ³) ² |
|--------------------------------|---|--|---|---|---|---|---|
| ERDF—Treatment | This waste stream reflects mixed waste that requires treatment prior to disposal at ERDF. The waste is stored at the operable unit, and is shipped to ERDF where waste treatment and/or disposal occurs. | 210 | 14,000 | 20,000 | 11,000 | 16,000 | 19,000 |
| HSTF | Residual heel content remaining from Reduction/Oxidation (REDOX) Process. | 2.1 | 0 | 0 | 0 | 0 | 0 |
| LERF/ETF Liquid Waste | CERCLA and RCRA wastewaters are sent to the LERF/ETF for treatment and disposal. | 37,000 | 22,000 | 21,000 | 18,000 | 17,000 | 16,000 |
| MLLW-01 – LDR Compliant Waste | WSRds: BLS, EH3, EHM, EHR, EHB, EHD, H3L, EHS, 903, 930, 931; Waste with WSRd BLS consists of soils (dirt, sand, gravel, rocks, etc.) excavated from the various waste tank farms. The waste was incidentally contaminated with tank waste; therefore, the waste is designated with F001 through F005 based on the "contained-in" policy. The waste is typically packaged in drums and boxes. Remaining WSRds include waste that consists of soils (dirt, sand, gravel, rocks, etc.), treated debris, other particulates, and solidified liquids. All waste forms are anticipated to contain LDR compliant levels of dangerous waste constituents. Subject waste also includes the currently stored inventory of LDR compliant wastes and the forecast LDR compliant waste that comes directly from the generator (e.g., debris waste items, deactivated waste, stabilized waste, and waste meeting LDRs as generated). | 300 | 14 | 45 | 52 | 24 | 24 |
| MLLW-02 - Inorganic Non-Debris | This treatability group is for non-debris waste that contains hazardous constituents that either requires non-thermal treatment (specified technology) or non-thermal treatment is BDAT for meeting the applicable LDR treatment standards (concentration-based standards). The applicable WSRds for this treatability group are: ALI, EH4, EHP, H3C, H3G, H3M, H3S, IXI, LPI, PAI, SSA, 420, 421, 422, 425, 426, 428, 506, 507, 521, 523, 524, 525, 900, 901, 902, 904. This waste consists of many different inorganic solids (e.g., particulates, absorbed liquids, sludges, resin beads, soils) and lab packs that are contaminated with regulated metals and other inorganics. This waste treatability group does not include hazardous debris other than incidental debris material commingled with the non-debris. | 360 | 5.0 | 11 | 11 | 11 | 12 |
| MLLW-03 - Organic Non-Debris | This treatability group is for non-debris waste that contains hazardous constituents that either requires thermal treatment (specified technology) or thermal treatment is BDAT for meeting the applicable LDR treatment standards (concentration-based standards). Stabilization of the thermal treatment residue may also be required. The applicable WSRds for this treatability group are: ALO, IDW, IXO, LPA, LPO, PAO, SOC, SOE, SOW, TFS, TSC, 300, 301, 302, 303, 304, 305, 310, 311, 315, 320, 321, 330, 331, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 40A, 40B, 427, 429, 430, 431, 432, 43A, 43C, 45A, 46A, 47A, 500, 501, 502, 503, 504, 505, 50A, 50B, 50C, 520, 522, 52A, 53A, 700, 701, 720, 721, 90A, 920, 921, 922, 923. This waste stream consists of many different inorganic and organic solids (e.g., particulates, absorbed liquids, sludges, resins, soils) and labpacks that are contaminated with organic regulated dangerous waste constituents, including PCBs. This waste stream does not include hazardous debris other than incidental debris material commingled with the non-debris. | 610 | 6.6 | 16 | 16 | 21 | 17 |

Table I-1. Stored Volumes of Mixed Waste and Generation Projections.

| Treatability Group Name | Description ¹ | Current Inventory (m ³) ² | Generation Projection 2007 (m ³) ² | Generation Projection 2008 (m ³) ² | Generation Projection 2009 (m ³) ² | Generation Projection 2010 (m ³) ² | Generation Projection 2011 (m ³) ² |
|-------------------------------------|--|--|---|---|---|---|---|
| MLLW-04A - O/C Hazardous Debris | This treatability group is for waste that meets the definition of hazardous debris as defined in 40 CFR 268.2, and the waste contains physical and/or chemical constituents that meet the definition of organic/carbonaceous waste as defined in WAC 173-303-040. The physical characteristics include paper, plastic, wood, rubber, rags, and lesser quantities of metallic and inorganic waste components. Applicable WSRds may include: BAB, MGD, PFD, PUD, WDD, H3D, RCB, BLD, DBR, UUU, 334, 600, 601,603, 605, 606, 607, 60A, 60B, 620, 621, 622, 625, 626, and 627. | 3,600 | 2.7 | 4.2 | 4.2 | 4.4 | 4.2 |
| MLLW-04B - Non-O/C Hazardous Debris | This treatability group is for waste that meets the definition of hazardous debris as defined in 40 CFR 268.2, and the waste does not contain physical and/or chemical organic/carbonaceous waste constituents in excess of 10% as defined in WAC 173-303-040. The physical characteristics include metals, inorganic debris items and lesser quantities of O/C waste components (paper, plastic, wood, etc.). Applicable WSRds may include: ASB, 640, 641, 645, 646, and 647. | 11 | 0.2 | 0.91 | 0.91 | 0.91 | 0.91 |
| MLLW-05 - Radioactive Lead Solids | This treatability group is for waste that is determined to meet the "Radioactive Lead Solids Subcategory" as described in 40 CFR 268.40. Applicable WSRds for this treatability group are: EPB, 800, 801, 802, 803. This treatability group consists of many different forms of radioactive lead solids including bricks, sheets, shot-filled blankets, lead-lined debris items where the lead comprises more than 50% of the waste matrix. The waste was and is generated by many onsite generating organizations and offsite generators. | 12 | 0.2 | 0.47 | 0.21 | 0.21 | 0.21 |
| MLLW-06 -- Mercury Wastes | This treatability group is for waste that is determined to meet the "Elemental Mercury Contaminated with Radioactive Materials" subcategory as described in 40 CFR 268.40. Applicable WSRds for this treatability group are: EHG, HHG, 810, 811, and 812. This treatability group consists of liquid mercury, partially amalgamated mercury, mercury spill cleanups, and some debris waste items packaged in with the mercury waste. | 10 | 0 | 0.21 | 0.21 | 0.21 | 0.21 |
| MLLW-07 - RH and Large Container | WSRds that comprise this treatability group are: DBL, HRW, 450, 550, 650, and all MLLW WSRds (except for 930 and 931) associated with waste packages that are ≥10m3 in size. This treatability group consists of the following waste types: (1) Large containers of MLLW. Large containers are defined as ≥10m3 in size, (2) Remote handled (RH) MLLW packages. RH-MLLW is defined as waste packages that have an external surface dose rate of >200mR/hr on contact, and (3) RH-MLLW that is shielded down to contact handling levels for safe handling and storage. Shielding can be internal, external, and/or integral to the waste container. This waste has various chemical (organics, inorganics, metals) and physical (particulates, debris, sludges, etc.) characteristics. Many different regulated constituents could be represented in this waste stream; however, the primary waste type is heterogeneous debris originating from SST/DST Systems operations and from waste retrieval operations associated with TRU-Retrieval. | 3,000 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 |

1-7

Table 1-1. Stored Volumes of Mixed Waste and Generation Projections.

| Treatability Group Name | Description ¹ | Current Inventory (m ³) ² | Generation Projection 2007 (m ³) ² | Generation Projection 2008 (m ³) ² | Generation Projection 2009 (m ³) ² | Generation Projection 2010 (m ³) ² | Generation Projection 2011 (m ³) ² |
|---------------------------------|--|--|---|---|---|---|---|
| MLLW-08 - Unique Waste | WSRds: BER, 821, 823, 84A. This waste stream consists of unique wastes that requires special processing not typically employed for the other MLLW waste streams. Example includes beryllium powder, requiring RMETL or RTHRM. See 40 CFR 268.42 for the definitions of RMETL or RTHRM. | 0.42 | 0 | 0 | 0 | 0 | 0 |
| MLLW-09 - Radioactive Batteries | WSRds: BAT and 830. This waste consists of mercury, silver and cadmium batteries from various onsite locations and from offsite generators. | 15 | 0 | 0.21 | 0.21 | 0.21 | 0.21 |
| MLLW-10 - Reactive Metals | WSRds: ENA, 44A, 44B, 820, 822, 82A. This waste consists of water-reactive metals and compounds, typically including sodium metal. May also consist of water-reactive cyanides. | 27 | 0 | 0 | 0 | 0.26 | 0 |
| PUREX Plant | Concrete rubble contaminated with trace chromium as a corrosion product. No additional waste will be stored at this location as the PUREX Plant is under long-term S&M. | 1.0 | 0 | 0 | 0 | 0 | 0 |
| PUREX Storage Tunnels | Varies from very large equipment vessels with lead counterweights to very fine mixed waste powder in canisters. Waste receipt into the TSD unit began in 1960. The TSD unit waste inventory list is contained in the Hanford Facility RCRA Permit, Attachment 28, Chapter 3.0, Waste Analysis Plan. Waste is expected to contain a combination of TRU and TRUM. | 2,800 | 0 | 0 | 0 | 0 | 0 |
| Purgewater | Groundwater contaminated with various constituents. | 3,700 | 1,100 | 1,100 | 1,100 | 1,100 | 1,100 |
| SST Waste | Basic aqueous slurry with layers of saltcake and/or sludge. The sludge consists of solids (i.e., hydrous metal oxides) precipitated from the neutralization of acid waste. The saltcake consists of the various salts formed from the evaporation of water. | 110,000 | 0 | 0 | 0 | 0 | 0 |
| TRUM-CH Special Processing | TRUM waste from various generating activities around the Hanford Site. The waste contains metals including steel shielding, plastic/polyurethane, wood, paper/cardboard, glass, filters, soil, miscellaneous/unknown/other, rags, lead and lead shielding, plexiglas, styrofoam, asbestos, rubber, glass, sorbents/kitty litter, cement and concrete. Package size includes any CH TRUM waste that is not in a container up to 55 gallons in size, an 85-gallon overpack, a WIPP Standard Waste Box, or a Ten Drum Overpack containing certified waste. | 4,200 | 0 | 0 | 0 | 0 | 0 |
| TRUM-CH Standard Processing | The waste came from various facilities on and off the Hanford Site. The waste contains plastic/polyurethane, rubber, iron-based metal, soil, paper, cardboard, lead, rags, cement, stainless steel, wood, styrofoam, glass, absorbent/kitty litter, filters, lead shielding, carbon steel, fiberglass, brick/firebrick, plastic liner, shielding, concrete, animal waste, paints, ceramics, sludges, asbestos, aluminum, diatomaceous earth, resins, copper metal, lead, water, floor sweepings, batteries, leather, liquid, teflon, cork, cotton, light bulbs, urethane and wax. Waste packages in this treatability group include containers up to 55-gallons, 85-gallon overpack containers, WIPP Standard Waste boxes and Ten Drum Overpacks containing certified waste. Any other package size is included in the TRUM large container treatability group. Note that some TRUM-CH containers will be found to be TRUM-RH upon repackaging or processing of the waste. | 4,200 | 28 | 9.1 | 8.3 | 47 | 52.7 |

Table 1-1. Stored Volumes of Mixed Waste and Generation Projections.

| Treatability Group Name | Description ¹ | Current Inventory (m ³) ² | Generation Projection 2007 (m ³) ² | Generation Projection 2008 (m ³) ² | Generation Projection 2009 (m ³) ² | Generation Projection 2010 (m ³) ² | Generation Projection 2011 (m ³) ² |
|-------------------------|---|--|---|---|---|---|---|
| TRUM-RH | The waste consists of inner container, iron-based metals, lead, soil, lead shielding, and steel shielding. Waste is from the clean-out of hot cells from research/development laboratories. The relative waste quantity is small, because the waste matrix contains a large percentage of lead and steel shielding materials. TRUM is considered remote handled if any waste component has a contact dose rate >200 mrem/hr. In addition, in order to provide an estimate of what might be remote handled, TRUM will be reported as remote handled if the package is known to contain lead shielding. | 210 | 4.9 | 13.8 | 13.8 | 630 | 620 |

¹ Waste specification record (WSRd) indicates waste treatment and/or disposal pathway.

² Volume numbers have been rounded to two significant figures.

³ The stored volume reported contains uncertainty as to the actual volume (DOE 2005).

| | | | |
|--------|--|-------|---|
| AOC | area of contamination | O/C | organic/carbonaceous |
| BDAT | best demonstrated available technology | OU | operable unit |
| CERCLA | <i>Comprehensive Environmental Response, Compensation, and Liability Act of 1980</i> | PCB | polychlorinated biphenyl |
| CFR | Code of Federal Regulations | PNNL | Pacific Northwest National Laboratory |
| CH | contact handled | PUREX | Plutonium-Uranium Extraction (Plant) |
| CSB | Canister Storage Building | RCRA | <i>Resource Conservation and Recovery Act of 1976</i> |
| CWC | Central Waste Complex | REC | radiochemical engineering cells |
| D&D | decontamination and decommissioning | REDOX | Reduction-Oxidation (Plant) |
| DST | double-shell tank | RH | remote handled |
| ERDF | Environmental Restoration Disposal Facility | ROD | record of decision |
| ETF | 200 Area Effluent Treatment Facility | S&M | surveillance and maintenance |
| HEPA | high-efficiency particulate air | SST | single-shell tank |
| HLV | high-level vault | TRU | transuranic |
| HWTU | Hazardous Waste Treatment Unit | TRUM | transuranic mixed |
| IHLW | immobilized high-level waste | TSCA | <i>Toxic Substances Control Act of 1976</i> |
| ILAW | immobilized low-activity waste | WAC | <i>Washington Administrative Code</i> |
| LDR | land disposal restrictions | WESF | Waste Encapsulation and Storage Facility |
| LERF | Liquid Effluent Retention Facility | WMU | Waste Management Unit |
| MLLW | mixed low-level waste | WHF | Waste Handling Facility |
| | | WIPP | Waste Isolation Pilot Plant |
| | | WSRd | Waste Specification Record |

Table 1-2. Treatability Group Summary of Storage, Characterization, and Treatment Activities.

| Treatability Group Name | Current Inventory (m ³) ¹ | Projected Generation Volume 2007 through 2011 (m ³) ¹ | Planned Characterization Schedule | Treatment Process | Projected Volume to be Treated 2007 through 2011 (m ³) |
|---------------------------------|--|--|---|---|--|
| 221-T Containment Building | 58 | 0 | Completed. | Not yet determined. | 0 |
| 221-T Tank System | 9.2 | 0 | Will be done in conjunction with T Plant Complex Canyon disposition. | Not yet determined. | 0 |
| 222-S Laboratory Complex | 4.0 | 55 | Ongoing. | Commercial - Stabilization, Commercial - Thermal | 59 |
| 222-S T8 Tunnel | 0.2 | 0 | Will be done in conjunction with 222-S Laboratory building disposition. | Not yet determined. | 0 |
| 241-CX Tank System ² | 2.6 | 0 | To be determined through development of 200-IS-1 documentation. | Not yet determined. | 0 |
| 324 Building REC Waste | 5.0 | 0 | Completed. | As necessary, ERDF stabilization or macroencapsulation. | 0 |
| 325 HWTU | 4.0 | 60 | Ongoing. | HWTU, Commercial - Stabilization, Commercial - Thermal | 64 |
| 400 Area WMU | 1.4 | 0.1 | To be determined | Deactivation and conversion to sodium hydroxide. | 0 |
| B Plant Cell 4 | 1.4 | 0 | To be determined via Tri-Party Agreement Action Plan, Section 8.0. | Not yet determined. | 0 |
| B Plant Containment Building | 290,000 kg | 0 | To be determined via Tri-Party Agreement Action Plan, Section 8.0. | Not yet determined. | 0 |
| Cesium and Strontium Capsules | 2.0 | 0 | Completed. | Not yet determined. | 0 |
| DST Waste | 100,000 | 190 | Ongoing. | WTP vitrification. | 0 |
| ERDF—Treatment | 210 | 80,000 | Ongoing. | ERDF treatment. | 80,210 |
| HSTF | 2.1 | 0 | To be determined through development of 200-IS-1 documentation. | Not yet determined. | 0 |
| LERF/ETF Liquid Waste | 37,000 | 96,000 | Ongoing. | ETF. | 133,000 |
| MLLW-01 – LDR Compliant Waste | 300 | 160 | Completed. | No treatment required. | No treatment required. |
| MLLW-02 - Inorganic Non-Debris | 360 | 50 | M-091-42 ³ | Stabilization. | 401 ³ |
| MLLW-03 - Organic Non-Debris | 610 | 76 | M-091-12 and M-091-42 ³ | Thermal. | 720 ³ |

Table 1-2. Treatability Group Summary of Storage, Characterization, and Treatment Activities.

| Treatability Group Name | Current Inventory (m ³) ¹ | Projected Generation Volume 2007 through 2011 (m ³) ¹ | Planned Characterization Schedule | Treatment Process | Projected Volume to be Treated 2007 through 2011 (m ³) |
|-------------------------------------|--|--|--|--|--|
| MLLW-04A - O/C Hazardous Debris | 3,600 | 20 | M-091-42 ³ | Macroencapsulation | 3,850 ³ |
| MLLW-04B - Non-O/C Hazardous Debris | 11 | 3.8 | M-091-42 ³ | Macroencapsulation. | 12.1 ³ |
| MLLW-05 -- Radioactive Lead Solids | 12 | 1.3 | M-091-42 ³ | Macroencapsulation. | 13.7 ³ |
| MLLW-06 -- Mercury Wastes | 10 | 0.84 | M-091-42 ³ | Amalgamation. | 10.6 ³ |
| MLLW-07 - RH and Large Container | 3,000 | 36 | M-091-15 and M-091-43 ³ | M-091-43. | 900 ³ |
| MLLW-08 - Unique Waste | 0.42 | 0 | M-091-42 ³ | Not yet determined. | 0.42 ³ |
| MLLW-09 -- Radioactive Batteries | 15 | 0.84 | M-091-42 ³ | Macroencapsulation. | 15.6 ³ |
| MLLW-10 - Reactive Metals | 27 | 0.26 | M-091-42 ³ | Dactivation with selected stablization. | 27 ³ |
| PUREX Plant | 1.0 | 0 | To be determined via Tri-Party Agreement Action Plan, Section 8.0. | Not yet determined. | 0 |
| PUREX Storage Tunnel | 2,800 | 0 | To be determined via Tri-Party Agreement Action Plan, Section 8.0. | Not yet determined. | 0 |
| Purgewater | 3,700 | 5,700 | Ongoing. | Solar evaporation at PSTF and ETF treatment. | 9,400 |
| SST Waste | 110,000 | 0 | Ongoing. | WTP vitrification. | 0 |
| TRUM-CH Special Processing | 4,200 | 0 | M-091-44 ³ | M-091 TRUM. | TBD ³ |
| TRUM-CH Standard Processing | 4,200 | 150 | M-091-42 ³ | WRAP Facility and/or T Plant Complex. | TBD ³ |
| TRUM-RH | 210 | 1,300 | M-091-44 ³ | M-091 TRUM | TBD ³ |

¹ Volume numbers in this table have been rounded to two significant figures. Due to rounding, the in some cases, the summation of Table 1-1 numbers do not add up to the numbers in this Table.

² The stored volume reported contains uncertainty as to the actual volume (DOE 2005)

³ Characterization and Treatment will be performed in accordance with applicable M-091 milestones. See the M-091 milestones to determine what portion of the total volume requires treatment under those milestones.

| | | | | | |
|------|---|-------|--|------|---|
| CH | contact handled | LDR | land disposal restrictions | REC | radiochemical engineering cells |
| DST | double-shell tank | LERF | Liquid Effluent Retention Facility | RH | remote handled |
| ERDF | Environmental Restoration Disposal Facility | MLLW | mixed low-level waste | SST | single-shell tank |
| ETF | 200 Area Effluent Treatment Facility | O/C | organic/carbonaceous | TRUM | Transuranic mixed |
| HSTF | Hexone Storage and Treatment Facility | PSTF | Purgewater Storage and Treatment Facility | WIPP | Waste Isolation Pilot Plant |
| HWTU | hazardous waste treatment unit | PUREX | Plutonium-Uranium Extraction (Plant) | WMU | Waste Management Unit |
| | | RCRA | Resource Conservation and Recovery Act of 1976 | WRAP | Waste Receiving and Processing Facility |
| | | | | WTP | Waste Treatment Project |

Table 1-3. Explanation of Table 1-4, 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 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 Potential Mixed Waste Table. 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, etc., are not included. Equipment and chemicals that are in use are not included. |
| F | DOE assessment of storage methods | Indicate when the DOE 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 surveillance and maintenance phase, further DOE LDR assessment not needed). |
| G | Schedule information | Include schedule information relative to materials detailed in these columns. Include references to pertinent documents (closure plans, RODs) and identify any applicable operable units 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 potential mixed waste, such as the 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 of no action, ties to other activities such as operable unit remediation, ties of action to facility missions, etc. |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford Inc. K Basin Closure Project | 100-K Area | 105-KE and 105-KW | <p>105-KE: Old electrical equipment, lead blankets, neutron detectors with boron tri-fluoride tubes</p> <p>105-KW: None</p> | <p>105-KE: Oil drained from equipment, chemicals in storage cabinets, and lead used as shielding for Ion Exchange Columns.</p> <p>105-KW: Underwater lead</p> | Completed 2 nd quarter CY 2005 | <p>Data gap Plan: Completed 2nd quarter CY 2005</p> <p>105-KE: Anticipated to be dispositioned by the end of FY2007.</p> <p>105-KW: Anticipated to be dispositioned by the end of FY2012.</p> | None |
| Fluor Hanford, Inc., PFP Closure Project | 216-Z-9 Crib Soil Removal Glovebox (inactive) | 216Z9A, B & 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 | DOE assessment: Completed 3 rd quarter CY 2001 | <p>To be dispositioned as CERCLA non-time critical removal action.</p> <p>Tri-Party Agreement milestone M-083-41, Complete Transition and Dismantlement of the 216-Z-9 Crib Complex (due date: September 30, 2010)</p> <p>Data gap plan: NA Starting negotiations: NA (completed)</p> | None |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., PFP Closure Project | Plutonium Finishing Plant | 234-5Z | Radioactive Acid Digestion Test Unit (RADTU) Gloveboxes (potential for residual contamination during cleanout). Note: Gloveboxes to be maintained and used for containment when conducting facility cleanout/transition activities. | Residues and low-grade SNM solids. | DOE assessment: Completed 3 rd quarter CY 2001 | <p>To be dispositioned as CERCLA non-time critical removal action.</p> <p>M-083-44, Complete Transition of the 234-5Z (Plutonium Conversion Facility) and ZA (Plutonium Conversion Support Facility), 243-Z Low Level Waste Treatment Facility, 291-Z Exhaust Building, and 291-Z-1 Exhaust Stack to support PFP Decommissioning, due September 30, 2015.</p> <p>Data gap plan: NA Starting negotiations: NA (completed)</p> | None |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., PFP Closure Project | Plutonium Reclamation Facility | 236Z | 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. | None. | DOE assessment: Completed 3 rd quarter CY 2001 | To be dispositioned as CERCLA non-time critical removal action. Tri-Party Agreement milestone M-083-43, Complete Transition of the 242-Z Waste Treatment Facility and 236-Z Plutonium Reclamation Facility to Support PFP Decommissioning (due date: September 30, 2013). Data gap plan: NA Starting negotiations: NA (completed) | None |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., PFP Closure Project | MW Treatment and Storage Tanks | 241Z | 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. | None | DOE assessment: Completed 1 st quarter CY 2001 | To be dispositioned as CERCLA non-time critical removal action. Tri-Party Agreement milestone M-083-42, Complete Transition and Dismantlement of the 241-Z Waste Treatment Facility (due date: September 30, 2011) M-083-32 Complete Closure Of The PFP 241-Z TSD Unit (due date: September 30, 2011) Data gap plan: NA Starting negotiations: NA (completed) | Tank D-6 is not included in the 241-Z TSD Unit Closure Plan. RCRA/CERCLA integration is provided in the PFP Below Grade EE/CA. |
| Fluor Hanford, Inc., | PFP Settling Tank | 241-Z-361 | Tank containing waste from past practices | None | DOE assessment: 1 st quarter CY 2006 | To be dispositioned as CERCLA remedial action during FY 2009 to FY 2011. Data gap plan: 1 st quarter CY 2008 Starting negotiations: NA. Characterization completed ("Tank Characterization Report for 241-Z-361", FH 0107145, 12/20/01). | RCRA/CERCLA integration is provided in the PFP Below Grade EE/CA. |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., PFP Closure Project | Waste Treatment Facility (inactive) | 242Z | Miscellaneous process tanks, first floor and mezzanine level. Process piping. Containment gloveboxes. Potential for liquids within tanks, vessels, and piping. Residual contamination within gloveboxes, tanks, and piping (potential for mixed waste during cleanout). | None | No assessments. Facility is sealed currently because of high levels of radioactive contamination resulting from cation exchange column explosion, August 1976. DOE assessment: NA | To be dispositioned as CERCLA non-time critical removal action. Tri-Party Agreement milestone M-083-43, Complete Transition of the 242-Z Waste Treatment Facility and 236-Z Plutonium Reclamation Facility to Support PFP Decommissioning (due date: September 30, 2013). Data gap plan: NA Starting negotiations: NA (completed) | None. |
| Fluor Hanford, Inc., PFP Closure Project | SNM Storage/ Repackaging | 2736Z | None | Residues and low-grade SNM solids. | DOE assessment: Completed 3 rd quarter CY 2001 | Tri-Party Agreement milestone M-083-00A, Complete PFP Facility Transition and Selected Disposition Activities (due date: September 30, 2016). Data gap plan: NA Starting negotiations: NA (completed) | None |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., D&D Project | Rail Car Staging Area | 212R Rail Spur, and PUREX Rail Cut | None | Rail car components (lead casks, liquids within the lead casks, bearings, and lubricants) | DOE assessment: 4 th quarter CY 2005 | The equipment reuse/recycling program funding is no longer available. Without future funding, these materials will likely have to be disposed of as solid waste. Disposition options are being evaluated. Data gap plan: 4 th quarter CY 2007 Starting negotiations: Negotiations are not needed. | None |
| Fluor Hanford, Inc., D&D Project | 200 North Area | 212-N, 212-P, 212-R | 212-R contains a burial box with some radiologically-contaminated equipment. The 212-N transfer bay contains 14 wooden boxes of suspected TRUM nuclear fuel fabrication equipment from the 308 Building, Room 213, moved around 1972, and a single wooden box from 308 Building, Room 212, transferred around 1973. No non-radioactive contamination has been identified in this facility that would support a MW designation. 212-P used to store PCBs. PMW will be evaluated in the upcoming assessment. | None | DOE assessment: 4 th quarter CY 2005 | Data gap plan: 4 th quarter CY 2007 Starting negotiations: Negotiations are not needed. | Activities are under way to remove the 15 wooden crates and ship them to a TSD unit. |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., D&D Project | IMUSTs not associated with a building | 216-BC-201, 216-BY-201, 216-TY-201, 241-B-361, 241-U-361, 241-T-361 | Tank system heels in each IMUST | None | DOE assessment: 2 nd quarter CY 2006 | Data gap plan: 4 th quarter CY 2008 Starting negotiations: Negotiations are not needed. | The IMUSTs will be dispositioned with their respective cribs. Further information regarding the remediation strategy can be found in 200-IS-1 Operable unit documentation. |
| Fluor Hanford, Inc., D&D Project | 224-T (Includes TRUSAF) | 224-T | D1: Potential for liquid in vessels. The presence or absence of mixed waste in the 224-T cells is not documented and the potential for waste was identified in the Silver List D2: There is a glovebox/hood with vessels in the glovebox/hood, but mixed waste is not expected to be found in these items. | None | DOE assessment: Completed 1 st quarter CY 2002 | D1 and D2: Data gap plan: Completed 4 th quarter CY 2002 Starting negotiations: Negotiations are not needed. | The potential for MW presence in the cells is a former Silver List issue that has not been closed out. Facility decommissioning is being planned. |
| Fluor Hanford, Inc., D&D Project | 231Z | 231Z | Liquid in vessels and chemicals in gloveboxes. | None | DOE assessment: 1 st quarter CY 2006 | Data gap plan: 3 rd quarter CY 2008 Starting negotiations: Negotiations are not needed. | The potential for MW to be present is a former Silver List issue that has not been closed out. Media that might designate as MW, if present, are expected to be contained in stainless steel vessels. It is assumed that the media, if present, are stable and pose no threat to human health or the environment. |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., D&D Project | 242-B/BL | 242-B/BL | None | Although no specific matrix can be identified at this time, a possibility exists that matrices could be found which would qualify as PMW. | DOE assessment: 1 st quarter CY 2007 | Data gap plan: 1 st quarter CY 2009 Starting negotiations: Negotiations are not needed. | None. |
| Fluor Hanford, Inc., D&D Project | B Plant | 207-BA, 211-B, 212-B, 217-B, 221-B, 221-BB, 221-BF, 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) | S&M Plan, DOE/RL-99-24, identifies the hazardous material remaining in the facility. Tank heels relate to TSD tank system and 270-E-1. | S&M Plan, DOE/RL-99-24, identifies the hazardous material remaining in the facility. | DOE assessment: NA | D & E: As described in the S&M Plan, DOE/RL-99-24, Rev 0. Data gap plan: NA Starting negotiations: Complete. Any additional negotiations will be completed in accordance with the Tri-Party Agreement Action Plan Section 8.6.2. | B Plant is in the S&M phase of the facility decommissioning process, as described in Chapter 8.0 of the Tri-Party Agreement. Final disposition of the IMUST and B Plant will be scheduled such that the activities are performed concurrently. See stored/forecasted portion of the report for details regarding waste stored in Cell 4 and in the containment building. |
| Fluor Hanford, Inc., D&D Project | 224-B Building | 224-B | Chemicals associated with operations at the 224-B Building may exist as residual deposition in tanks. Potential mixed waste remains in the 224-B process cells and vessels. | None | DOE assessment: 4 th quarter CY 2006 | Data gap plan: 4 th quarter CY 2008 Starting negotiations: Negotiations are not needed. | Facility decommissioning is being planned. |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., D&D Project | 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, 217-A, 252-AC/AB, 216-A-5 (IMUST) | S&M Plan, DOE/RL-98-35, identifies the hazardous material remaining in the facility. Tank heels relate to TSD tank system and 216-A-5. | S&M Plan, DOE/RL-98-35, identifies the hazardous material remaining in the facility. | DOE assessment: NA | Data gap plan: NA Starting negotiations: Complete. Any additional negotiations will be completed in accordance with the Tri-Party Agreement Action Plan Section 8.6.2. | PUREX is in the S&M phase of the facility decommissioning process described in Chapter 8.0 of the Tri-Party Agreement. Final disposition of the IMUST at PUREX will be scheduled such that the activities are performed concurrently. See the stored/forecasted portion of the report for TSD waste storage at PUREX. |
| Fluor Hanford, Inc., D&D Project | REDOX | 202-S, 291-S, 292-S, 293-S, 2718-S, 211-S, 2711-S, 2715-S, 2904-SA, 2710-S, 2706-S, | S&M Plan, DOE/RL-98-19, identifies the hazardous material remaining in the facility. | S&M Plan, DOE/RL-98-19, identifies the hazardous material remaining in the facility. | DOE assessment: NA | Data gap plan: NA Starting negotiations: Complete. Any additional negotiations will be completed in accordance with the Tri-Party Agreement Action Plan Section 8.6.2. | REDOX is in the S&M phase of the facility decommissioning process described in Chapter 8.0 of the Tri-Party Agreement. |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., D&D Project | U Plant | 221-U, 276-U, 211-UA, 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, 2716-U, 2714-U | S&M Plan, DOE/RL-98-20, identifies the hazardous material remaining in the facility and 241-WR Vault. | S&M Plan, DOE/RL-98-20, identifies the hazardous material remaining in the facility. | DOE assessment: NA | Data gap plan: NA Starting negotiations: Complete. Any additional negotiations will be completed in accordance with the Tri-Party Agreement Action Plan Section 8.6.2. | The final disposition of 221-U, 276-U, and 291-U is being evaluated under CERCLA as a part of the Canyon Disposition Initiative. 275-UR and 2714-U, among others, are being dispositioned under a CERCLA action memorandum calling for demolition of the facilities. Final disposition of all of the U Plant structures will be coordinated as parts of the overall U Plant Area closure. |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., D&D Project | UO3 Facility | 224-U, 203-UX, 211-U, 207-U, 270-W (IMUST) | S&M Plan, DOE/RL-98-22, identifies the hazardous material remaining in the facility. | S&M Plan, DOE/RL-98-22, identifies the hazardous material remaining in the facility. | DOE assessment: For 270-W, 2 nd quarter CY2007 | Data gap plan: for 270 W, 2 nd quarter 2009. Starting negotiations: Complete. Any additional negotiations will be completed in accordance with the Tri-Party Agreement Action Plan Section 8.6.2. | The 272-U, 2715-UA, 203-U, and 2716-U, among others, were dispositioned under a CERCLA action memorandum calling for demolition of the facilities. 207-U is part of the 200-CW-5 CERCLA Operable Unit, and 270-U is part of the 200-PW-2 CERCLA Operable Unit. Final disposition of all parts of the UO3 Facility will be coordinated as parts of the overall U Plant Area closure. |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., Waste Management Project | 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 tool boxes, 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. | DOE assessment: 3 rd quarter CY 2005 | Cells with no proposed future use will be addressed when final decommissioning of the canyon takes place. Data gap plan: 3 rd quarter CY 2007. Draft provided to Ecology for review on 9/19/06. Starting negotiations: Completed. These activities have been discussed with Ecology during the T Plant Complex Dangerous Waste Permit Application Part A and Part B negotiations. | T Plant received its first shipment of K-Basin North Loadout Pit Sludge on January 5, 2005. |
| Fluor Hanford, Inc., Waste Management Project | T Plant Canyon, Cell 11-L | 221-T | Tank in Cell 11-L. The cell 11-L tank contains approximately 500 gallons of a green liquid and saltcake mixture that will be designated as F001-F005, D002, D006, D007, D008, and D010 when removed from the tank. | None | DOE assessment: 3 rd quarter CY 2005 | Cell 11-L will be dispositioned along with the other RCRA-past practice process cells in the T Plant canyon. Data gap plan: 3 rd quarter CY 2007. Draft provided to Ecology for review on 9/19/06. Starting negotiations: Completed. These activities have been discussed with Ecology during the T Plant Complex Dangerous Waste Permit Application Part A and Part B negotiations. | Any commitment date will be dependent on the outcome of the Canyon Disposition Initiative. |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Fluor Hanford, Inc., Waste Management Project | T Plant Complex IMUSTs | 292-TK-1 and 292-TK-2 | 292-TK-1 and 292-TK-2 consist of two stainless steel 55-gallon 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 | DOE assessment: 3 rd quarter CY 2005 | This WIDS site will be addressed as part of the CERCLA remediation activity. Data gap plan: 3 rd quarter CY 2007. Draft provided to Ecology for review on 9/19/06. Starting negotiations: Negotiations are not anticipated | Tanks are part of 200-IS-1 CERCLA remediation process. |
| Fluor Hanford, Inc., Waste Management Project | Waste Neutralization Facility (340-Vault Tanks) | 340 | 340 Vault tank heels and clean out residues and associated equipment (valves, piping, pumps, light fixtures) may designate as MW. | None. | DOE assessment: Completed 4 th quarter CY 2004 | Potential MW disposition will be performed in accordance with Tri-Party Agreement milestones M-094-00, Complete Disposition of 300 Area Surplus Facilities (due 9/30/2015) and M-092-16, Complete Removal and Transfer, and Initiate Storage or Phase III SCW Waste and Materials (due 9/30/2015) Data gap plan: Completed 4 th quarter CY 2004. Starting negotiations: Completed as part of the River Corridor negotiations | The schedule information in Column G is subject to change in accordance with Section 12.0, <i>Changes to the Agreement</i> , of the Tri-Party Agreement Action Plan. |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | 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) Obsolete and no longer useable contaminated equipment and materials. Equipment containing approximately 5 tons of lead in numerous contaminated shipping containers, sample carriers, lead bricks, and other lead items. | DOE assessment: Completed 4 th quarter CY 2001 | Data gap plan: Completed 4 th quarter CY 2002 Starting negotiations: NA (no data gaps identified) | Part of an active facility; no special hazards known. |
| CH2M HILL, Hanford Group, Inc., Tank Farms | 702-A Ventilation Building | 241-A-702 | Seal pot that received liquids from the HEPA pre-heater. | None | DOE Assessment: Completed 4 th Quarter 2004 | Data gap plan: None, as sample analysis for similar ventilation systems indicate it is unlikely the heel in the seal pot will designate as mixed waste. Starting negotiations: NA. | None |
| CH2M HILL, Hanford Group, Inc., Tank Farms | Double-Shell Tank Farms | 241-AN, AW, AP, AY, AZ, SY | Contaminated unusable equipment, e.g., ductwork, exhausters, piping, etc. | None | DOE Assessments: Completed 4 th Quarter 2004 | Data gap plan: The equipment will be handled in accordance with the management procedure. Starting negotiations: NA. Equipment will be taken care of on a continuous basis. | None |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| CH2M HILL, Hanford Group, Inc., Tank Farms | Single-Shell Tank Farms | 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, etc. | None | DOE Assessments: Completed 4 th Quarter 2004 | Data gap plan: The equipment will be handled per the management procedure. Starting negotiations: NA Equipment will be taken care of on a continuous basis. | None |
| CH2M HILL, Hanford Group, Inc., Tank Farms | Evaporators | 242-S, T | Liquids/solids in process tanks and piping, debris | None | DOE Assessment: Completed 4 th Quarter 2005. | 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 negotiations: NA. | None |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| CH2M HILL, Hanford Group, Inc., Tank Farms | IMUSTs not associated with a building | 200-W-7 (243-S-TK-1), 231-W-151, 240-S-302, 241-A-302B 241-B-301B, 241-B-302B, 241-BX-302A, 241-BX-302B, 241-BX-302C, 241-C-301C 241-ER-311A 241-S-302A and B, 241-SX-302, 241-T-301, 241-TX-302A and B, 241-TX-302BR, 241-TX-302X, 241-TY-302A and B, 241-Z-8, 242-T-135, 241-TA-R1, 244-BXR (Vault), 244-TXR (Vault), 244-UR (Vault) | Tank system heels in each IMUST | None | Department of Ecology assessment, 3 rd Quarter 2001 | Data gap plan: Deferred until closure of specific Waste Management Area. | None |
| CH2M HILL, Hanford Group, Inc., Tank Farms | Miscellaneous Building | 241-A-431, 241-C-801, 241-SX-401, 241-SX-402 | Liquids/solids in piping and debris. | None | DOE Assessments completed: 2 nd Quarter 2004, 3 rd Quarter 2002, 1 st Quarter 2001 | Data gap plan: Deferred until closure of specific Waste Management Area. | None |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Washington Closure Hanford, Environmental Restoration | 100-B Reactor Facilities | 105-B | Miscellaneous contaminated material remains in the facility. | None | DOE assessment: Completed 6/15/04. Assessment excludes reactor. | Data gap plan: Completed 6/15/04 Starting negotiations: Approval of Tri-Party Agreement Change Request M-093-01-02 completed Tri-Party Agreement Milestone M-093-14, Initiate Negotiations for the Remaining Surplus Reactor Disposition Schedules. | The reactor is a key facility under Section 8.0 of the Tri-Party Agreement. |
| Washington Closure Hanford, Environmental Restoration | 100-KE and KW Reactor Facilities | 115-KE, 115-KW | Miscellaneous contaminated material in the facility is being managed as part of surveillance and maintenance activities | None | DOE assessment: Completed 6/15/04. Assessment excludes reactor. | Waste will be generated as part of the Interim Safe Storage activities. Data gap plan: Completed 6/15/04 Starting negotiations: Completed as a part of River Corridor negotiations. Tri-Party Agreement Milestone M-093-22, Complete 105- KE and 105-KW Reactor Interim Safe Storage, is due 09/30/2011. | The reactor is a key facility under Section 8.0 of the Tri-Party Agreement. Tri-Party Agreement Milestones M-93-21-T01 and M-93-22-T01 address Interim Safe Storage of 105-KW and 105-KE respectively. |

Table 1-4. Potential Mixed Waste.

| 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) | DOE assessment of storage methods | Schedule information | Integrating factors |
| Washington Closure Hanford, Environmental Restoration | 100 Area Waste/Material Transport Containers | 100 Area Reactor Facilities (Primarily N and K Area) | None | Containers being stored for future shipment of waste to be treated, disposed, or recycled. | DOE assessment: N/A | If not used, containers will be dispositioned with facility D&D in the 100 Areas. Data gap plan: N/A Starting negotiations: Negotiations are not anticipated. | None. |

Table 1-5. Historical List of Materials Deleted from Potential Mixed Waste Table.

| Common Name or Description | Facility Number | Last Calendar Year Reported in Table 1-4 | "Stuff"/Material Deleted | Reason for Deletion |
|------------------------------|---------------------------------------|--|--|---|
| 327 Building | 327 | 2005 | Lead bricks | The building is undergoing deactivation and demolition is planned for 2008. 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. |
| 100-K Area | 105-KW | 2005 | Lead in the back of a utility truck. | The lead in the truck was removed from the vehicle and sent to the ERDF facility for disposal |
| 3711 Building | 3711 | 2004 | Lead cask, pipe, pipe joints and metal railing contaminated with lead | Matrices were disposed of in 2005. |
| 2711-E | 2711-E | 2004 | Radiator from crane-suspect lead solder | Matrices were disposed of in 2005. |
| U03 | 203-U, 2715-UA, 272-U | 2004 | Any matrices described in the UO ³ S&M Plan, DOE/RL-98-22 | 203-U, 2715-UA, and 272-U have been demolished as part of the CERCLA Removal Action. |
| 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. |
| Heavy Equipment Staging Area | 4734D | 2004 | Heavy equipment components | Equipment is no longer cleaned at this location. |
| PPF Facilities | 232-Z, 236-Z, and portions of 234-SZ. | 2003 | Incinerator and leaching gloveboxes. Inactive process tanks, piping, and control equipment. Reclamation tanks, piping, and control equipment. Miscellaneous tools. | Materials have been dispositioned, did not meet the definition of PMW, or are forecasted to be generated as MW. |
| 340 Facility Complex | 340-A, 340-B, and 300 RLWS | 2003 | Tanks, process piping, ancillary equipment and related equipment. | Facilities did not contain MW or PMW |
| 100 Areas Facilities | Many | 2003 | Miscellaneous contaminated material | Facilities did not contain MW or PMW |
| 100-N Lead Storage Area | 1714-N | 2002 | Lead sheeting and bricks, lead lined containers, and a lead lined survey booth | Matrix is now included in the stored/forecasted portion of the report for CERCLA lead under the ERDF – Treatment treatability group |
| 242-A Evaporator | 242-A | 2002 | Ion exchange column(s) | The ion exchange column(s) were disposed onsite. |
| 314 | 314 | 2002 | Large equipment previously used in the facility | LDR assessment concluded facility contained no MW or PMW. |
| 3708 | 3708 | 2002 | Solid obsolete laboratory equipment | LDR assessment concluded facility contained no MW or PMW. |
| Heavy Equipment Staging Area | 2711E | 2001 | Miscellaneous equipment | No material left at this location, as it was shipped offsite for reuse. |
| Rad. Storage Area | 3711 | 2001 | Lead bricks | Shipped 9/26/01 to Duratek Inc. in Memphis, TN for decontamination/lead casting |
| Waste Storage Building | 2724WB | 2001 | Radiators (from motor vehicles) | Shipped 9/26/01 to Duratek, Inc in Memphis, TN for decontamination/metal melt |

1-31

Table 1-5. Historical List of Materials Deleted from Potential Mixed Waste Table.

| Common Name or Description | Facility Number | Last Calendar Year Reported in Table 1-4 | "Stuff"/Material Deleted | Reason for Deletion |
|-----------------------------------|--------------------------------------|--|---|--|
| Plutonium Finishing Plant | 234-5Z | 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). | 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 stored/forecasted portion of the report . Note: Only the contents noted were removed from Table C-2. Table C-2 still contains other potential waste in this location. |
| MW Treatment and Storage Tanks | 241-Z | 2001 | Tank D-9, Treatment chemicals | Tank D9 is in use to mix treatment chemicals. Treatment chemicals are in use in transferring waste from the Plutonium Finishing Plant to Double Shell Tanks. Note: Only the contents noted were removed from Table C-2. Table C-2 still contains other potential waste in this location. |
| Waste Handling Facility | 219-S | 2001 | Tank 103 and heel content | Combined with existing stored information for the 219-S WHF. |
| 300-RRLWS | RRLWS | 2001 | Retired radioactive liquid waste sewer piping and ancillary structures might designate as MW. | Below-ground structure: Does not meet reporting criteria for Potential Mixed Waste Table. |
| 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, etc.). The photographs are maintained in the T Plant Complex operating record. |
| 224-T (Includes TRUSAF) | 224-T | 2001 | Liquid in the sumps and the deep cell. Two cardboard boxes in the cells. | Determined to not have a hazardous component, and therefore not a mixed waste. Note: Only the contents noted were removed from Table C-2. Table C-2 still contains other potential waste in this location. |
| 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. |
| 324 | 324 | 2001 | Shielded glovebox. Potential mixed waste residue. Former Silver List Item 11.8 | Glovebox was included in the 4 th quarter CY 2002 LDR storage assessment and determined to contain only floor sweeps. |
| 200 ETF | 2025E | 2001 | Thin film dryer rotor | Rotor was rebuilt for reuse at the 200 ETF. |
| 100 K Basins | 105-KW | 2001 | Lead bricks, sheets | The lead has been declared CERCLA waste and reported under the stored/forecasted portion of the report. |
| Environmental Sciences Laboratory | 3720 | 2001 | Laboratory equipment, hoods and gloveboxes used for radioactive materials and waste analysis and research (reused as needed for new or expanded research activities) | Onsite inspection revealed that contaminated equipment is in use. Hoods and gloveboxes listed are part of the structure of the building. |
| 100 C Reactor Facility | 105-C, 118-C-4 | 2001 | Reactor core, and equipment remaining in the facility. | Reactor core is part of the structure of the building. Mixed waste is removed during the reactor interim safe storage. |

1-32

Table 1-5. Historical List of Materials Deleted from Potential Mixed Waste Table.

| Common Name or Description | Facility Number | Last Calendar Year Reported in Table 1-4 | "Stuff"/Material Deleted | Reason for Deletion |
|----------------------------|--|--|--|--|
| 100 D/DR Reactor Facility | 105-D, 105-DR, 117-DR, 190-DR | 2001 | Reactor core, and equipment remaining in the facility. | Reactor core is part of the structure of the building. Mixed waste is removed during the reactor interim safe storage. |
| 100 F Reactor Facility | 105-F | 2001 | Reactor core, and equipment remaining in the facility. | Reactor core is part of the structure of the building. Mixed waste is removed during the reactor interim safe storage. |
| 100 H Reactor Facility | 105-H, 1720-HA, 1713-H | 2001 | Reactor core, and equipment remaining in the facility. | Reactor core is part of the structure of the building. Mixed waste is removed during the reactor interim safe storage. |
| 100-N Reactor Facilities | See Table 1, S&M Plan for the 100-N Deactivated Facilities, DOE/RL-98-64, Rev. 0 | 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, Rev. 0, S&M Plan for the 100-N Area Deactivated Facilities) | Reactor core is part of the structure of the building. Mixed waste was removed during the reactor decommissioning. |
| REDOX | 276-S-141/142 | 2001 | Tanks and heel content | The HSTF treatability group was developed to account for the 276-S-141/142 tanks. See Table 1-1. |
| Semi Works | 241-CX-70, 241-CX-71, 241-CX-72, 276-C | 2001 | Tanks and heel content | The 241-CX Tank System treatability group was developed to account for the 241-CX tanks. See Table 1-1.. |

1-33

This page intentionally left blank.

2.0 ASSESSMENTS OF MIXED WASTE STORAGE AREAS AND POTENTIAL MIXED WASTE

The DOE conducts/oversees assessments of mixed waste storage areas and other areas that could, in the future, be the source of generation of other mixed waste. DOE assessments include reviewing other independent assessments and inspections and contractor self-assessments. In addition, daily, weekly, monthly, quarterly, and annual contractor assessments and inspections are conducted at Hanford Site mixed waste storage areas in accordance with company policy, DOE requirements, permit conditions, and other LDR storage obligations. The LDR storage assessment provides an additional level of review to address circumstances associated with mixed waste and potential mixed waste.

2.1 INTRODUCTION

Of the findings and observations that were made from DOE assessments in CY 2006, no indicators requiring action for LDR reporting were identified.

2.2 ASSESSMENT SCHEDULES

In CY 2006, DOE-RL contractors initiated and/or performed assessments identified in Table 2-1.

Table 2-1. Summary of DOE-RL Assessment Results.

| Assessment Location | Assessment Start Dates | Findings and Observations |
|--|------------------------|--|
| 241-CX | March 2005 | As of December 31, 2006, the assessment report was not finalized. |
| T Plant | October 2005 | As of December 31, 2006, the assessment report was not finalized. The draft assessment report/data gap plan was provided to Ecology for review on September 19, 2006 |
| 200 Area North and Railcar staging areas | December 2005 | As of December 31, 2006, the assessment report was not finalized. |
| 241-Z-361 | March 2006 | As of December 31, 2006, the assessment report was not finalized. |
| 231-Z | March 2006 | As of December 31, 2006, the assessment report was not finalized. |
| IMUSTs not associated with a building | June 2006 | As of December 31, 2006, the assessment report was not finalized. |
| 224-B | December 2006 | As of December 31, 2006, the assessment report was not finalized. |

IMUST = inactive miscellaneous underground storage tank

Table 2-2 lists the locations where DOE-RL plans to initiate assessments in CYs 2007 through 2009.

Table 2-2. DOE-RL Assessments for CYs 2007 through 2009.

| Facility/Location | Start Date |
|-------------------|--------------------------------|
| 242-B/BL | 1 st quarter CY2007 |
| 270-W | 2 nd quarter CY2007 |

Table 2-3 lists the last DOE-ORP assessment scheduled to be performed. There were no identified findings and observations. No DOE-ORP assessments are currently scheduled. Any additional DOE-ORP assessment will be negotiated with Ecology in LDR Project Manager Meetings, and documented in related meeting minutes.

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

| Assessment Location | Assessment Number | Assessment Conduct Dates | Findings and Observations |
|-----------------------------|--------------------|--------------------------|---------------------------|
| 242-S and 242-T Evaporators | FY2006-POPD-S-0313 | 11/2005 | None |

3.0 SUMMARY OF CHARACTERIZATION INFORMATION

As part of generation of any waste, a generating unit must take steps necessary to confirm the proper management of this waste. This includes identifying proper radioactive classification, understanding the physical matrix, properly designating the waste, and, where applicable, identifying the appropriate underlying hazardous constituents. Types of information that can be 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.

This section discusses and summarizes the waste treatability groups and the planned characterization activities for the waste. Waste must be sufficiently characterized so the waste can be stored and managed properly. In addition, waste must be sufficiently characterized before treatment to ensure that the proper treatment processes are applied and that the resultant treated waste meets LDR standards. Table 3-1 summarizes the planned characterization activities for each of the treatability groups. One column of information from Table 3-1 is reproduced in Table 1-2.

Table 3-1. Summary of Characterization Information for Each Treatability Group.

| Treatability Group Name | Additional characterization activities | Planned characterization schedule | Related Tri-Party Agreement milestone |
|-------------------------------|--|---|--|
| 221-T Containment Building | Completed. | Completed. | None. |
| 221-T Tank System | Additional characterization might be required to support waste treatment. | Will be done in conjunction with T Plant Complex Canyon disposition. | None. |
| 222-S Laboratory Complex | Characterization performed as generated. | Ongoing. | None. |
| 222-S T8 Tunnel | As required to support cleanout of 222-S. | Will be done in conjunction with 222-S Laboratory building disposition. | None. |
| 241-CX Tank System | Additional characterization will be performed, as necessary, to support 200-IS-1 Operable Unit remedial decisions. | To be determined through development of 200-IS-1 documentation. | Major Milestone M-015-00 and interim Milestone M-020-54. |
| 324 Building REC Waste | No further characterization planned for transfer to ERDF. | Completed. | M-089-00, M-094-03. |
| 325 HWTU | Characterization performed as generated. | Ongoing. | M-094-00. |
| 400 Area WMU | Completed. | Completed. | None. |
| B Plant Cell 4 | To be determined via Tri-Party Agreement Action Plan, Section 8.0. | To be determined via Tri-Party Agreement Action Plan, Section 8.0. | None. |
| B Plant Containment Building | To be determined via Tri-Party Agreement Action Plan, Section 8.0. | To be determined via Tri-Party Agreement Action Plan, Section 8.0. | None. |
| Cesium and Strontium Capsules | None. | Completed. | M-092-05. |
| DST Waste | Additional information could be required, per TPA milestone. | Ongoing. | M-050, M-051, M-061, M-062, M-090. |

Table 3-1. Summary of Characterization Information for Each Treatability Group.

| Treatability Group Name | Additional characterization activities | Planned characterization schedule | Related Tri-Party Agreement milestone |
|-------------------------------------|--|--|---------------------------------------|
| ERDF – Treatment | Characterized as generated. Treatment and disposal are performed under CERCLA decision documents and treatment plans. | Ongoing. | None. |
| HSTF | Additional characterization will be performed, as necessary, to support removal of the tanks as part of 200-IS-1 Operable Unit activities. | To be determined through development of 200-IS-1 documentation. | Major Milestone M-015-00. |
| LERF/ETF Liquid Waste | Characterization performed as generated. | Ongoing. | None. |
| MLLW-01 – LDR Compliant Waste | Characterization performed as generated ¹ . | Completed. | None |
| MLLW-02 – Inorganic Non-Debris | As necessary to meet treatment facility waste acceptance criteria ¹ . | M-091-42 ² . | M-091-42 ² . |
| MLLW-03 – Organic Non-Debris | As necessary to meet treatment facility waste acceptance criteria ¹ . | M-091-12 and M-091-42 ² . | M-091-12 and M-091-42 ² . |
| MLLW-04A – O/C Hazardous Debris | As necessary to meet treatment facility waste acceptance criteria ¹ . | M-091-42 ² . | M-091-42 ² . |
| MLLW-04B – Non-O/C Hazardous Debris | As necessary to meet treatment facility waste acceptance criteria ¹ . | M-091-42 ² . | M-091-42 ² . |
| MLLW-05 – Radioactive Lead Solids | As necessary to meet treatment facility waste acceptance criteria ¹ . | M-091-42 ² . | M-091-42 ² . |
| MLLW-06 –Mercury Wastes | As necessary to meet treatment facility waste acceptance criteria ¹ . | M-091-42 ² . | M-091-42 ² . |
| MLLW-07 – RH and Large Container | As necessary to meet treatment facility waste acceptance criteria ¹ . | M-091-15 and M-091-43 ² . | M-091-15 and M-091-43 ² . |
| MLLW-08 – Unique Waste | As necessary to meet treatment facility waste acceptance criteria ¹ . | M-091-42 ² . | M-091-42 ² . |
| MLLW-09 – Radioactive Batteries | As necessary to meet treatment facility waste acceptance criteria ¹ . | M-091-42 ² . | M-091-42 ² . |
| MLLW-10 – Reactive Metals | As necessary to meet treatment facility waste acceptance criteria ¹ . | M-091-42 ² . | M-091-42 ² . |
| PUREX Plant | To be determined via Tri-Party Agreement Action Plan, Section 8.0 | To be determined via Tri-Party Agreement Action Plan, Section 8.0 | None. |
| PUREX Storage Tunnels | To be determined in conjunction with PUREX Plant based on RCRA Permit closure plan. | To be determined via Tri-Party Agreement Action Plan, Section 8.0. | None. |

Table 3-1. Summary of Characterization Information for Each Treatability Group.

| Treatability Group Name | Additional characterization activities | Planned characterization schedule | Related Tri-Party Agreement milestone |
|-----------------------------|---|-----------------------------------|--|
| Purgewater | Characterization performed as generated. | Ongoing. | None. Addressed in Appendix F of the Tri-Party Agreement |
| SST Waste | Further information may be required, per TPA milestone. | Ongoing. | M-045, M-050, M-051, M-061, M-062, M-090. |
| TRUM-CH Special Processing | As necessary to meet WIPP waste acceptance criteria. | M-091-44 ² . | M-091-44 ² . |
| TRUM-CH Standard Processing | As necessary to meet WIPP waste acceptance criteria. | M-091-42 ² . | M-091-42 ² . |
| TRUM-RH | As necessary to meet WIPP waste acceptance criteria. | M-091-44 ² . | M-091-44 ² . |

¹ 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 characterization corrections will be made as necessary based on existing acceptable knowledge.

² Characterization is anticipated to be performed as necessary to meet M-091 milestones.

| | |
|---|--|
| CERCLA <i>Comprehensive Environmental Response, Compensation, and Liability Act</i> | RCRA <i>Resource Conservation and Recovery Act of 1976</i> |
| CH contact handled | REC Radiochemical engineering cell |
| DST double-shell tank | RH remote handled |
| ERDF Environmental Restoration Disposal Facility | SST single-shell tank |
| HWTU Hazardous Waste Treatment Unit | TRUM transuranic mixed |
| LDR land disposal restrictions | TSD treatment, storage, and/or disposal |
| MLLW mixed low-level waste | WESF Waste Encapsulation and Storage Facility |
| O/C organic/carbonaceous | WIPP Waste Isolation Pilot Plant |
| PCB polychlorinated biphenyl | WMU Waste Management Unit |
| PUREX plutonium-uranium extraction (facility or process) | WRAP Waste Receiving and Processing Facility |

This page intentionally left blank.

4.0 SUMMARY OF TREATMENT INFORMATION

This section summarizes the treatment information associated with the treatability groups and the volume of waste that will be treated as identified in Table 4-1. Certain information from Table 4-1 is reproduced in Table 1-2.

Table 4-1. Summary of Treatment Information for Each Treatability Group.

| Treatability group name | Treatment process | Volume currently stored (m ³) ¹ | Projected generation volume 2007 through 2011 (m ³) ¹ | Projected volume to be treated 2007 through 2011 (m ³) | Planned treatment period | Tri-Party Agreement milestone |
|---------------------------------|--|--|--|--|--|--|
| 221-T Containment Building | Not yet determined | 58 | 0 | 0 | 2025 | None |
| 221-T Tank System | Not yet determined. | 9.2 | 0 | 0 | 2025 | None. |
| 222-S Laboratory Complex | Commercial-Stabilization, Commercial -Thermal. | 4.0 | 55 | 59 | 2035 | None. |
| 222-S T8 Tunnel | Not yet determined. | 0.2 | 0 | 0 | 2033 | None. |
| 241-CX Tank System ² | Not yet determined. | 2.6 | 0 | 0 | To be determined through development of 200-IS-1 documentation. | M-015-00 |
| 324 Building REC Waste | As necessary, ERDF stabilization or macroencapsulation | 5.0 | 0 | 0 | In accordance with schedules established under M-094 milestones | M-089-00, M-094-03. |
| 325HWTU | HWTU, Commercial-Stabilization, Commercial -Thermal. | 4.0 | 60 | 64 | Through 2011 | M-094-00 |
| 400 Area WMU | Deactivation and conversion to sodium hydroxide. | 1.4 | 0.1 | 0 | Treatment is planned to begin after 2015 | None. |
| B Plant Cell 4 | Not yet determined. | 1.4 | 0 | 0 | In accordance with Tri-Party Agreement Action Plan, Section 8.0. | None. |
| B Plant Containment Building | Not yet determined. | 290,000 kg | 0 | 0 | In accordance with Tri-Party Agreement Action Plan, Section 8.0. | None. |
| Cesium and Strontium Capsules | Not yet determined. | 2.0 | 0 | 0 | Treatment options are still being assessed. | M-092-05. |
| DST Waste | WTP vitrification. | 100,000 | 190 | 0 | 2011-2028. | M-050, M-051, M-061, M-062, and M-090. |
| ERDF - Treatment | ERDF treatment. | 210 | 80,000 | 80,210 | Through 2035. | None. Treatment and disposal are performed under a CERCLA decision document and treatment plans. |

4-2

Table 4-1. Summary of Treatment Information for Each Treatability Group.

| Treatability group name | Treatment process | Volume currently stored (m ³) ¹ | Projected generation volume 2007 through 2011 (m ³) ¹ | Projected volume to be treated 2007 through 2011 (m ³) | Planned treatment period | Tri-Party Agreement milestone |
|--------------------------------------|--|--|--|--|---|--|
| HSTF | Not yet determined. | 2.1 | 0 | 0 | To be determined through development of 200-IS-1 documentation. | M-015-00. |
| LERF/ETF Liquid Waste | ETF. | 37,000 | 96,000 | 133,000 | Through 2032. | M-026-07A, B, C. |
| MLLW-01 -- LDR-Compliant Waste | No treatment required. | 300 | 160 | No treatment required. | NA | None. |
| MLLW-02 -- Inorganic Non-Debris | Stabilization. | 360 | 50 | 401 ³ | M-091-42 ³ . | M-091-42. |
| MLLW-03 -- Organic Non-Debris | Thermal. | 610 | 76 | 720 ³ | M-091-42 ³ . | M-091-12A, M-091-12, and M-091-42. |
| MLLW-04A -- O/C Hazardous Debris | Macroencapsulation | 3,600 | 20 | 3,850 ³ | M-091-42 ³ . | M-091-42. |
| MLLW-04B -- Non-O/C Hazardous Debris | Macroencapsulation | 11 | 3.8 | 12.1 ³ | M-091-42 ³ . | M-091-42. |
| MLLW-05 -- Radioactive Lead Solids | Macroencapsulation | 12 | 1.3 | 13.7 ³ | M-091-42 ³ . | M-091-42. |
| MLLW-06 -- Mercury Wastes | Amalgamation. | 10 | 0.84 | 10.6 ³ | M-091-42 ³ . | M-091-42. |
| MLLW-07 -- RH and Large Container | M-091-43. | 3,000 | 36 | 900 ³ | M-091-15 and M-091-43 ³ . | M-091-15 and M-091-43. |
| MLLW-08 -- Unique Waste | Not yet determined. | 0.42 | 0 | 0.42 ³ | M-091-42 ³ . | M-091-42. |
| MLLW-09 -- Radioactive Batteries | Macroencapsulation | 15 | 0.84 | 15.6 ³ | M-091-42 ³ . | M-091-42. |
| MLLW-10 -- Reactive Metals | Deactivation with selected stabilization. | 27 | 0.26 | 27 ³ | M-091-42 ³ . | M-091-42. |
| PUREX Plant | Not yet determined. | 1.0 | 0 | 0 | In accordance with Tri-Party Agreement Action Plan, Section 8.0 | None. |
| PUREX Storage Tunnels | Not yet determined. | 2,800 | 0 | 0 | Coordinated with PUREX Plant waste. | None. |
| Purgewater | Solar evaporation at PSTF and ETF treatment. | 3,700 | 5,700 | 9,400 | Ongoing. | None. |
| SST Waste | WTP ⁴ vitrification. | 110,000 | 0 | 0 | 2011-2028. | M-050, M-051, M-061, M-062, and M-090. |
| TRUM-CH Special Processing | M-091 TRUM. | 4,200 | 0 | TBD ³ | M-091-44 ³ . | M-091-44. |

Table 4-1. Summary of Treatment Information for Each Treatability Group.

| Treatability group name | Treatment process | Volume currently stored (m ³) ¹ | Projected generation volume 2007 through 2011 (m ³) ¹ | Projected volume to be treated 2007 through 2011 (m ³) | Planned treatment period | Tri-Party Agreement milestone |
|-----------------------------|---------------------------------------|--|--|--|------------------------------|-------------------------------|
| TRUM-CH Standard Processing | WRAP Facility and/or T Plant Complex. | 4,200 | 150 | TBD ³ | Before WIPP closure (~2034). | None. |
| TRUM-RH | M-091 TRUM. | 210 | 1,300 | TBD ³ | M-091-44 ³ . | M-091-44. |

¹ Volume numbers in this table have been rounded to two significant figures.

² The stored volume reported contains uncertainty as to the actual volume (DOE 2005).

³ Treatment is anticipated to be performed as necessary to meet M-091 milestones. See the M-091 milestones to determine what portion of the total volume requires treatment under those milestones.

⁴ Some SSTs may classify as TRU, not high-level. If so, these would be expected to follow a different treatment path.

| | | | |
|------|---|-------|--|
| CH | contact handled | PCB | polychlorinated biphenyls |
| DST | double-shell tank | PSTF | Purgewater Storage and Treatment Facility |
| ERDF | Environmental Restoration Disposal Facility | PUREX | plutonium-uranium extraction (facility or process) |
| ETF | 200 Area Effluent Treatment Facility | REC | radiochemical engineering cell |
| HSTF | Hexone Storage and Treatment Facility | RH | remote handled |
| HWTU | Hazardous Waste Treatment Unit | SST | single-shell tank |
| LDR | land disposal restriction | TRUM | transuranic mixed |
| LERF | Liquid Effluent Treatment Facility | WIPP | Waste Management Unit |
| MLLW | mixed low-level waste | WMU | Waste Isolation Pilot Plant |
| O/C | organic/carbonaceous | WRAP | Waste Receiving and Processing Facility |
| | | WTP | Waste Treatment Plant |

5.0 STORAGE VOLUME AND CONTAINER NUMBERS FOR SELECTED STORAGE LOCATIONS

This section contains information on the volume in storage and the numbers of containers in storage for a number of Hanford Site locations. These locations are identified in the Tri-Party Agreement milestone description for M-026-01Q.

Table 5-1. Storage Volume and Number of Containers for Selected Hanford Locations.

| Hanford Site location | Treatability group | Waste stream | Storage Volume (m ³) ¹ | Number of containers |
|-----------------------|-------------------------------------|---|---|-----------------------|
| 200 ETF | MLLW-01 -- LDR Compliant Waste | RCRA Powder, LDR Compliant | 17 | 82 |
| | MLLW-02 - Inorganic Non-Debris | RCRA Powder, Inorganic Non-Debris Non-LDR Compliant | 0 | 0 |
| | MLLW-04A - O/C Hazardous Debris | Caustic O/C Hazardous Debris | 0 | 0 |
| | MLLW-04A - O/C Hazardous Debris | Acid O/C Hazardous Debris | 0.6 | 3 |
| | MLLW-04A - O/C Hazardous Debris | RCRA O/C Hazardous Debris | 9.3 | 13 |
| 222-S | 222-S Laboratory Complex | Containerized mixed waste | 3.98 | 124 |
| | 222-S T8 Tunnel | T8 Tunnel RH-MLLW | 0.2 | N/A - Pile |
| | DST Waste | Bulk Aqueous Liquids | 9.7 | N/A - Tanks |
| | TRUM-CH Standard Processing | TRUM-CH | 0.42 | 2 |
| 324 | 324 Building REC Waste | Radiochemical Engineering Cells | 5 | N/A - Tanks and cells |
| 327 | Data sheets deleted | | 0 | 0 |
| 325 HWTU | 325 HWTU | 325 HWTU | 3.9 | 151 |
| | MLLW-07 - RH and Large Container | MLLW-07 RH | 0.001 | 1 |
| | TRUM-CH Standard Processing | TRUM-CH | 0.004 | 4 |
| | TRUM - RH | TRUM-RH | 0.208 | 2 |
| CWC | MLLW-01 -- LDR Compliant Waste | LDR compliant | 186.62 | 123 |
| | MLLW-02 - Inorganic Non-Debris | Inorganic Non-Debris Solids and Labpacks | 353 | 1,634 |
| | MLLW-03 - Organic Non-Debris | Organic Non-Debris Solids and Labpacks | 442.44 | 1,833 |
| | MLLW-04A - O/C Hazardous Debris | O/C Hazardous Debris | 716.12 | 2,445 |
| | MLLW-04B - Non-O/C Hazardous Debris | Non-O/C Inorganic Hazardous Debris | 7.7 | 37 |
| | MLLW-05 -- Radioactive Lead Solids | Elemental Lead | 11.01 | 55 |
| | MLLW-06 - Mercury Wastes | Elemental Mercury | 9.72 | 49 |
| | MLLW-07 - RH and Large | MLLW-07 | 412.45 | 58 |

Table 5-1. Storage Volume and Number of Containers for Selected Hanford Locations.

| Hanford Site location | Treatability group | Waste stream | Storage Volume (m ³) ¹ | Number of containers |
|-----------------------|-----------------------------------|--|---|----------------------------|
| | Container | | | |
| | MLLW-08 - Unique Waste | Unique Waste | 0.42 | 2 |
| | MLLW-09 - Radioactive Batteries | Pb & Cd Batteries | 14.66 | 70 |
| | MLLW-10 - Reactive Metals | Alkali Metals | 26.7 | 67 |
| | TRUM-CH Special Processing | TRUM Boxes | 1,272 | 228 |
| | TRUM-CH Standard Processing | CH TRUM | 1,613 | 5,206 |
| | TRUM - RH | RH TRUM | 95 | 138 |
| LLBG ² | LERF/ETF Liquid Waste | TR34 and TR31 Leachate | 0 | N/A - Tanks |
| | MLLW-01 - LDR Compliant Waste | LDR compliant | 94.8 | 224 |
| | MLLW-02 - Inorganic Non-Debris | MLLW Retrieval Inorganic Non-Debris | 0.74 | 3 |
| | MLLW-03 - Organic Non-Debris | MLLW Retrieval Organic Non-Debris | 148 | ~590 |
| | MLLW-04A - O/C Hazardous Debris | MLLW Retrieval Debris | 2,815 | ~11,300 |
| | MLLW-07 - RH and Large Container | MLLW-07 | 2,554 | ~290 |
| | TRUM-CH Special Processing | TRUM Retrieval Boxes | 2,832 | ~270 |
| | TRUM-CH Standard Processing | TRUM Retrieval | 2,090 | ~9,940 |
| | TRUM - RH | RH TRUM | 106 | ~510 |
| PPF | MLLW-01 - LDR Compliant Waste | Lab Chemicals/Reagents, LDR Compliant | 0 | 0 |
| | MLLW-02 - Inorganic Non-Debris | Laboratory Chemical Wastes, Inorganic Non-Debris | 0 | 0 |
| | MLLW-03 - Organic Non-Debris | Lab Chemicals/Waste, Organic Non-Debris | 0 | 0 |
| | MLLW-04A - O/C Hazardous Debris | Operations and D&D Wastes O/C Hazardous Debris | 0 | 0 |
| | MLLW-05 - Radioactive Lead Solids | Elemental Lead | 0 | 0 |
| | MLLW-06 - Mercury Wastes | Hg, Elemental | 0 | 0 |
| | MLLW-09 - Radioactive Batteries | Batteries, Lead | 0 | 0 |
| | TRUM-CH Standard Processing | Legacy Holdup Waste | 0 | 0 |
| | TRUM-CH Standard Processing | TRUM Debris | 0 | 0 |
| T Plant | 221-T Containment Building | 221-T Containment Building | 58 | N/A - Containment Building |
| | 221-T Tank System | RCRA Tank System | 9.2 | N/A - Tanks |
| | LERF/ETF Liquid Waste | 2706-T Tank System | 0.63 | N/A - Tanks |
| | MLLW-01 - LDR Compliant Waste | LDR Compliant | 1.38 | 5 |
| | MLLW-02 - Inorganic Non-Debris | Inorganic Non-Debris | 0.7 | 3 |

Table 5-1. Storage Volume and Number of Containers for Selected Hanford Locations.

| Hanford Site location | Treatability group | Waste stream | Storage Volume (m ³) ¹ | Number of containers |
|-----------------------|-------------------------------------|---------------------------------|---|----------------------|
| | MLLW-03 - Organic Non-Debris | Organic Non-Debris | 13.9 | 44 |
| | MLLW-04A - O/C Hazardous Debris | O/C Hazardous Debris | 8.8 | 13 |
| | MLLW-04B - Non-O/C Hazardous Debris | Non-O/C Hazardous Debris | 3.3 | 16 |
| | MLLW-05 -- Radioactive Lead Solids | Elemental Lead | 0.4 | 2 |
| | MLLW-07 - RH and Large Container | RH and Large Container | 1.2 | 5 |
| | MLLW-08 - Unique Waste | MW Requiring Special Processing | 0 | 0 |
| | MLLW-09 -- Radioactive Batteries | Radioactive Batteries | 0.2 | 1 |
| | MLLW-10 - Reactive Metals | Alkali Metals | 0.2 | 1 |
| | TRUM-CH Special Processing | TRUM Box | 52 | 6 |
| | TRUM-CH Standard Processing | TRUM-CH | 73.2 | 298 |
| | TRUM-RH | TRUM-RH | 9 | 2 |
| WRAP | MLLW-01 -- LDR Compliant Waste | LDR Compliant | 0.21 | 1 |
| | MLLW-03 - Organic Non-Debris | Organic Non-Debris | 2.84 | 13 |
| | MLLW-04A - O/C Hazardous Debris | O/C Hazardous Debris | 20.34 | 85 |
| | MLLW-05 -- Radioactive Lead Solids | Radioactive Lead Solids | 0 | 0 |
| | MLLW-06 - Mercury Wastes | Elemental Mercury | 0.66 | 4 |
| | MLLW-09 -- Radioactive Batteries | Miscellaneous Heavy Metal | 0.21 | 1 |
| | TRUM-CH Special Processing | TRUM - Large Container | 1 | 2 |
| | TRUM-CH Standard Processing | TRUM-CH | 431 | 1,953 |
| | TRUM-RH | TRUM-RH | 3 | 15 |
| WSCF | LERF/ETF Liquid Waste | LERF/ETF | 0 | 0 |
| | MLLW-02 - Inorganic Non-Debris | Inorganic Non-Debris | 0 | 0 |
| | MLLW-03 - Organic Non-Debris | Organic Non-Debris | 0 | 0 |
| | MLLW-04A - O/C Hazardous Debris | O/C Hazardous Debris | 0 | 0 |

¹=If zero is indicated, the reported mixed waste is forecasted to be generated or is being managed in a generator location (SAA or 90-day accumulation area). Values are rounded to 2-significant figures.

²= The storage volume for MLLW and TRUM treatability groups were estimated based on past retrieval activities and review of burial records. The number of containers was estimated based on a 50-50 split between MLLW and TRUM.

| | | | |
|--------|--|------|---|
| CERCLA | <i>Comprehensive Environmental Response, Compensation, and Liability Act</i> | MLLW | mixed low-level waste |
| CH | contact handled | O/C | organic/carbonaceous |
| D&D | decontamination & decommissioning | PFP | Plutonium Finishing Plant |
| DST | double-shell tank | RCRA | <i>Resource Conservation and Recovery Act</i> |
| ETF | Effluent Treatment Facility | REC | Radiochemical Engineering Cell |
| ERDF | Environmental Restoration Disposal Facility | RH | remote handled |
| HWTU | Hazardous Waste Treatment Unit | SAA | satellite accumulation area |
| LDR | land disposal restriction | TR | trench |
| LERF | Liquid Effluent Retention Facility | TRUM | transuranic mixed |
| LLBG | Low-Level Burial Grounds | WSCF | Waste Sampling and Characterization Facility |
| | | WRAP | Waste Receiving and Processing |

This page intentionally left blank.

6.0 REFERENCES

- DOE, 2005, *Calendar Year 2004 Land Disposal Restrictions Report Comment Responses*, 05-AMCP-0318, July 12, 2005, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-98-19, 1999, *Surveillance and Maintenance Plan for the 202-S Reduction Oxidation (REDOX) Facility*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-98-20, 2000, *Surveillance and Maintenance Plan for the 221-U Facility (U Plant)*, Rev. 1, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-98-22, 1999, *Surveillance and Maintenance Plan for the Uranium Trioxide (UO₃) Facility*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-98-35, 1998, *Surveillance and Maintenance Plan for the Plutonium Uranium Extraction (PUREX) Facility*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-98-64, 1998, *Surveillance and Maintenance Plan for the 100-N Deactivated Facilities*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-99-24, 1999, *Surveillance and Maintenance Plan for the 221-B Facility (B-Plant)*, Rev. 0, U.S. Department of Energy, Richland, Washington.
- Ecology, EPA, and DOE, 2003a, *Hanford Federal Facility Agreement and Consent Order*, as amended, Washington State Department of Ecology, U.S. Environmental Protection Agency, U.S. Department of Energy, Olympia, Washington, updated periodically.
- Ecology, DOE-ORP, and DOE-RL, 2003b, "M-026 LDR Report Project Manager Meeting Minutes", February 6, 2003, Washington State Department of Ecology; U.S. Department of Energy, Office of River Protection; and U.S. Department of Energy, Richland Operations Office.
- Ecology, DOE-ORP, and DOE-RL, 2006, "M-026 LDR Report Project Manager Meeting Minutes", January 17, 2006, Washington State Department of Ecology; U.S. Department of Energy, Office of River Protection; and U.S. Department of Energy, Richland Operations Office.
- EPA, 1990, *Guidance on the Land Disposal Restrictions' Effect 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.
- WAC 173-303, *Washington Administrative Code, Dangerous Waste Regulations*, State of Washington Department of Ecology, Olympia, WA

This page intentionally left blank.