

AR TARGET SHEET

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Assistant Secretary for Environmental Management



**United States
Department of Energy**
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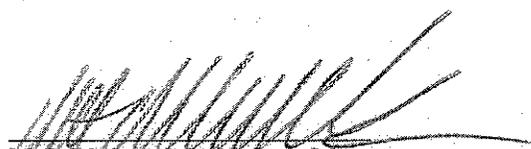
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**CALENDAR YEAR 2004 HANFORD SITE MIXED WASTE LAND
DISPOSAL RESTRICTIONS REPORT**

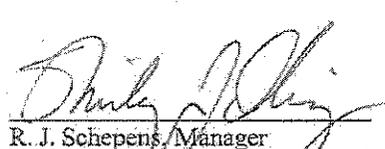
Approval of the U.S. Department of Energy's annual land disposal restriction report as a *Hanford Federal Facility Agreement and Consent Order* primary document shall be by written approval of U.S. Department of Energy and Washington State Department of Ecology Interagency Management Integration Team 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 _____ 2005.


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ACRONYMS

AEA	<i>Atomic Energy Act</i>
AOC	area of contamination
BAT	best available technology
BDAT	best demonstrated available technology
BHI	Bechtel Hanford, Inc.
CDD	critical design document
CDI	Canyon Disposition Initiative
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
CSB	Canister Storage Building
C&T	characterization & treatment
CY	calendar year
D&D	decontamination and decommissioning
DCRT	double-contained receiver tank
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
EA	environmental assessment
Ecology	Washington State Department of Ecology
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
ERDF	Environmental Restoration Disposal Facility
ETF	200 Area Effluent Treatment Facility
F&R	functions and requirements
FD	final determination
FDC	functional design criteria
FFCA	<i>Federal Facilities Compliance Act</i>
FFTF	Fast Flux Test Facility
FH	Fluor Hanford
FY	fiscal year
GASVIT	gasification-vitrification
HEPA	high-efficiency particulate air (filter)
HL	high level
HLV	high-level vault
HLW	high-level waste
HSTF	Hexone Storage and Treatment Facility
HVAC	heating, ventilation, and air conditioning

HWTU	Hazardous Waste Treatment Unit
IAMIT	Interagency Management Integration Team
IHLW	immobilized high-level waste
ILAW	immobilized low-activity waste
ID	identification code
IDF	Integrated Disposal Facility
IMUST	inactive miscellaneous underground storage tank
INL	Idaho National Laboratory
IPMP	integrated program management plan
ISS	interim safe storage
LAW	low-activity waste
LCAM	life-cycle asset management
LDR	land disposal restrictions
LEF	Liquid Effluent Facility
LERF	Liquid Effluent Retention Facility
LLBG	Low-level Burial Grounds
LLCE	long-length contaminated equipment
LLMW	low-level mixed waste
LLW	low-level waste
LSDS	location-specific data sheet
MLLW	mixed low-level waste
MW	mixed waste
NA or N/A	not applicable
NDA	nondestructive assay
NDE	nondestructive examination
NOD	notice of deficiency
NPL	National Priority List
O/C	organic/carbonaceous
ORP	Office of River Protection
OU	operable unit
PCB	polychlorinated biphenyl
PEcoS	Pacific EcoSolutions
PEIS	programmatic environmental impact statement
PFP	Plutonium Finishing Plant
pH	negative logarithm of the hydrogen-ion concentration
PMP	project management plan
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)
RCRA	<i>Resource Conservation and Recovery Act of 1976</i>
REC	radiochemical engineering cell
REDOX	reduction-oxidation (process)
RH	remote handled

RI/FS	remedial investigation/feasibility study
RLWS	Radioactive Liquid Waste System
RMERC	Specified LDR Technology in 40 CFR 268.42 for Retorting or Roasting Mercury
ROD	record of decision
RPP	River Protection Project
S&M	surveillance & maintenance
SALDS	State-Approved Land Disposal Site
SCW	special-case waste
SEIS	supplemental environmental impact statement
SNF	Spent Nuclear Fuel
SPR EIS	Surplus Reactors Environmental Impact Statement
SRS	Savannah River Site
SST	single-shell tank
STP	site treatment plan
STR	storage report
SWIFT	Solid Waste Integrated Forecast Technical (Report)
TBD	to be determined
TCLP	toxicity characteristic leaching procedure
TGDS	Treatability Group Data Sheet
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
TWRS	Tank Waste Remediation System
UHC	underlying hazardous constituent
UV	ultraviolet
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
WMA	Waste Management Area
WMP	Waste Management Project
WRAP	Waste Receiving and Processing Facility
WSCF	Waste Sampling and Characterization Facility
WSRd	waste specification record
WSS	waste specification system
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 2004 HANFORD SITE MIXED WASTE LAND DISPOSAL RESTRICTIONS REPORT

1.0 INTRODUCTION

Sections 2.0 through 6.0 present information concerning the storage and minimization of mixed waste and the potential sources for the generation of additional mixed waste. This information, presented in accordance with *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) (Ecology et al. 2003) Milestone M-26-01N, reports on the status of Hanford Site land disposal restricted mixed waste, other mixed waste, and other waste that the U.S. Department of Energy (DOE), Washington State Department of Ecology (Ecology), and U.S. Environmental Protection Agency (EPA) have agreed to include in this report. Information pertaining to the characterization and treatment plan are addressed in Sections 7.0 through 15.0. Appendix A lists the land disposal restrictions (LDR) reporting requirements and explains where the requirements are addressed in this report. Appendix B contains the Treatability group data sheets and location-specific data sheets for stored and forecasted mixed waste. Appendix C contains the Potential Mixed Waste Tables. The reporting period for this document is from January 1, 2004, to December 31, 2004.

1.1 SOURCES AND ORGANIZATION OF WASTE STORAGE DATA

This report presents information on waste streams that are reported either as a matter of law or as a result of discussions among DOE, Ecology, and EPA. Waste streams reported as a matter of law include mixed waste in storage subject to the storage prohibition of Title 40 *Code of Federal Regulations* (CFR) Part 268.50. *Washington Administrative Code* (WAC) 173-303-140, "Dangerous Waste Regulations", incorporates the federal rule by reference. The EPA guidance (EPA 1990) indicates which mixed waste is subject to the storage prohibition. Other mixed waste streams, are being reported under the Tri-Party Agreement Milestone M-26-01 as a result of discussions held among DOE, Ecology, and EPA.

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 off-site 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).

This storage report provides aggregate waste stream data based on a set of waste treatability groups and also provides the detailed data on location-specific sources of waste. The waste from these sources is included in the appropriate treatability groups. More information concerning treatability groups can be found in Sections 7.0 through 15.0. 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. 2004). If any storage of the mixed waste occurs, the mixed waste must be reported.

Treatability group data sheets describe the characteristics that the location-specific waste sources share (Appendix B, Figure B-1). The data sheets also provide total waste volume data from the associated location-specific data sheets for both the currently stored inventory and the waste projected to be generated. The location-specific data sheets describe how, where, and volume of waste stored and present information concerning disposition of the waste.

Appendix B provides location-specific data sheets for each waste stream, sorted by treatability group. Each location-specific data sheet was completed by staff knowledgeable of the waste stream. Mixed waste currently in satellite accumulation areas, in 90-day accumulation areas, is not considered current stored inventory, but is included as forecast waste generation. The content and format of waste stream data sheets and the process for collecting waste storage data are discussed in the following paragraphs.

Table 1-1 lists the names of the treatability groups used in this report and the major sources of waste in each group.

One treatability group has been added to this year's report, the "222-S Laboratory Complex". No treatability groups have been deleted from this year's report. Detail on treatability groups is found in Table 1-1, Table 2-1, Table 2-2, as well as the treatability group data sheets in Appendix B.

Other materials, items, etc., currently on the Hanford Site that might be designated as mixed waste in the future, are described in Section 2.3, listed in Appendix C, and are referred to as potential mixed waste.

Table 1-1. Treatability Groups.

Treatability Group Name	Major Waste Sources
221-T Containment Building	Waste resulting primarily from 221-T Building canyon activities.
221-T Tank System	Waste resulting from decontamination activities at the 221-T and 2706-T Buildings; some additional waste from other Hanford Site locations.
222-S Laboratory Complex	Waste resulting from operations at the 222-S Laboratory Complex and other CH2M HILL Hanford Site activities.
222-S T8 Tunnel	Waste piping removed from aqueous waste service formerly used to transfer waste from the laboratory to the waste tank system.
241-CX Tank System	Residual tank waste resulting from REDOX, PUREX, and Semiworks processes.
324 Building REC Waste	High-activity radioactive waste containing toxic heavy metals generated during research and development activities since the mid-1960's and the processing of high-level vault waste.
325 HWTU	Laboratory waste generated by research and analytical activities conducted by PNNL. This waste stream was managed in satellite and 90-day accumulation areas and subsequently transferred to the 325 HWTU for storage and/or treatment. Waste is or was generated by active, ongoing projects at PNNL.
B Plant Cell 4	Drums of WESF hot cell maintenance waste placed in storage from 1988 to 1997.

Table 1-1. Treatability Groups.

Treatability Group Name	Major Waste Sources
B Plant Containment Building	Process jumpers and equipment from B Plant Complex processes stored on the canyon deck and in process cells.
Cesium and Strontium Capsules	CsCl salt and SrF ₂ salt reclaimed from DST and SST Systems mixed waste.
DST Waste	Widely varying waste from chemical separations processes (e.g., PUREX, PFP, and cesium and strontium separations) and related support facilities operating from 1970 to date.
ERDF—Treatment	Spent resins and contaminated waste from CERCLA remediation requiring treatment before disposal at ERDF.
HSTF	Residual heel content remaining from REDOX process.
LERF/ETF Liquid Waste	Liquid waste sent from various Hanford Site processes to LERF and ETF for treatment.
MLLW-01 - LDR Compliant Waste	Inorganic salt waste, excavated soil, and contaminated equipment that currently meets disposal criteria and regulatory requirements for disposal.
MLLW-02 - Inorganic Non-Debris	Inorganic particulates, absorbed liquids and sludges, paint waste, salt waste, and aqueous laboratory packs from various locations.
MLLW-03 - Organic Non-Debris	General organic solids and laboratory packs from various locations.
MLLW-04A - O/C Hazardous Debris	Organic plastic, rubber, and heterogeneous debris from various locations.
MLLW-04B- Non-O/C Hazardous Debris	Current and past-practice waste, including metals, concrete, asbestos, and heterogeneous debris from various locations.
MLLW-05 - Elemental Lead	Elemental lead and lead shielding from various locations.
MLLW-06 - Elemental Mercury	Elemental mercury from various locations.
MLLW-07 - RH and Large Container	RH and oversized CH MLLW generated from various locations as well as MLLW highly radioactive waste.
MLLW-08 - Unique Waste	Waste stream consists of unique waste that requires special processing not typically employed for the other MLLW waste streams. Example includes beryllium powder from various locations, requiring RMETL or RTHRM (40 CFR 268.42).
MLLW-09 - Lead-Acid and Cadmium Batteries	Spent radioactive lead-acid and cadmium batteries from various locations.
MLLW-10 - Reactive Metals	Reactive metal waste from various locations.
PUREX Plant	Chromium-contaminated debris from E-Cell floor currently stored in F-Cell of the PUREX Containment Building.
PUREX Storage Tunnels ¹	Equipment and waste containing mercury, lead, silver, cadmium, chromium, barium, and mineral oil from PUREX and other processes.
Purgewater	Purgewater generated from pump-and-treat operations, well drilling, groundwater sampling, and well maintenance from across the Hanford Site.

Table 1-1. Treatability Groups.

Treatability Group Name	Major Waste Sources
SST Waste	Widely varying waste from chemical separations processes and related support facilities operating between 1944 and 1980.
TRUM-CH	CH TRUM waste includes waste from various locations.
TRUM-Large Box	TRUM waste in large boxes, slated for M-91 processing, from the 324 Building and/or other sources.
TRUM-RH	TRUM waste slated for M-91 processing from various locations.

¹This treatability group includes both TRUM and nonmixed TRU waste. TRUM and nonmixed TRU exist in the same storage unit and can be difficult to distinguish when the waste has been in storage for quite some time.

Table 1-2 is a comprehensive list of waste streams that were included in any previous LDR report, but are not included in this report, along with the reason the waste stream is no longer reported.

Table 1-2. Streams No Longer Applicable to Report.

Treatability Group Name	Waste Source	Reason
183-H Solar Evaporation Basins Waste	Containerized solids retrieved from 183-H Solar Evaporations Basins, generated from 300 Area fuel fabrication waste from 1973 to 1985.	Unit is in post-closure care. Process waste inventory is now stored at CWC and disposed. Remaining waste is reported as part of CWC inventory.
PNNL-305B	Waste generated from PNNL laboratory and facility operations.	Storage activities at 305-B no longer meet the definition of a "waste stream" subject to the report. PNNL mixed waste storage/treatment has been consolidated into the 325 HWTUs.
4843 Sodium Storage Facility Waste	Waste sodium from FFTF operations.	Significant amounts of alkali metal waste are no longer generated. This inventory is stored at CWC and reported as part of that inventory.
Hexone Waste	Hexone that had been planned for use in the 202-S solvent extraction process.	Hexone has been incinerated offsite at Diversified Scientific Services, Inc., Kingston, Tennessee. (Small amounts of waste continue to be generated from surveillance and maintenance of the emptied tanks that were used to store the hexone. This waste is involved in the MLLW-04A treatability group.)

Table 1-2. Streams No Longer Applicable to Report.

Treatability Group Name	Waste Source	Reason
PUREX Facility Ammonia Scrubber Waste	Waste generated from sorption of gaseous ammonia from fuel processing operations at the PUREX Plant.	Waste no longer generated. Inventory in DST System.
PUREX Facility Process Condensate	Condensed vapors from PUREX Plant operations.	Waste no longer generated. Inventory in DST System.
PUREX Plant Aging Waste	First extraction-column fission products from the PUREX Plant.	Waste no longer generated. Inventory in DST System.
T-Dragoff	T Plant Complex	Waste was dispositioned and disposed.
222-S RH-MLLW	222-S Laboratory Complex	Treatability group was combined with the MLLW-07 treatability group.
241-Z	Plutonium Finishing Plant	Treatability group was combined with the DST Waste treatability group.
HO-64-4275	Various Hanford Site locations.	Treatability group was combined with the DST Waste treatability group.
K Basin Sludge	100 Area K Basins	Treatability group was combined with the TRUM-PCB treatability group. The waste was subsequently removed from the report because the waste did not designate as mixed waste.
T Plant EC-1 Condenser	242-A Evaporator	Shipped offsite for recycling in CY2002
ERDF - Direct Disposal	Hanford Site remediation waste	No storage of mixed waste occurred for this treatability group.
618-4 Depleted Uranium/Oil Drums	618-4 Burial Ground	Waste has been treated off-site.
TRUM-PCBs	Various Hanford Site locations.	Waste in this treatability group has been rolled into the other three TRUM treatability groups based on the M-91 settlement agreement.

1.2 STORAGE REPORT DATA COLLECTION PROCESS

A central database was used for managing data contained in Appendix B. Data were collected for all stored and projected mixed waste and input into the database. Volumes reported as stored inventory at specific locations automatically were summed and presented as the storage information for the associated treatability group inventory. An analogous automatic summation was performed for projected waste generation rates. Appendix B contains the treatability group data sheets, along with the following information:

- A description of the data fields in the data sheets
- Figure B-1 to explain the relationship among the types of data sheets
- Table B-1 as an index to locate individual data sheets.

1.3 SCHEDULE AND MECHANICS OF LDR REPORT UPDATE

Each annual update is issued as a complete replacement with a new document number that supersedes the previous year's LDR Report. Proposed TPA milestones or proposed changes to TPA milestones are identified and processed using existing processes contained in the TPA Action Plan, Section 12.0, and not as part of the annual LDR report review and approval process. Commitments other than TPA milestones, however can be proposed in the LDR Report when required. Modification of commitments in the report are made by either using a LDR Report change form for within-year changes, by agreement through TPA lead regulatory agency project manager meetings, by agreement through LDR TPA project manager meetings, or by DOE in the annual update agreed on by Ecology during the primary document review and comment process. Changes to commitments proposed by DOE as part of the primary document process are summarized in Section 1.5.

Changes made to the LDR Report after DOE submits the document to Ecology can be incorporated by either updating the document and publishing the updated report, documenting changes through use of errata sheets, or could be incorporated in the next annual LDR report. The decision to choose a particular pathway is made jointly by DOE and Ecology project managers responsible for the work scope in question. Modification to TPA milestones listed in the LDR report are incorporated in the next annual LDR report and are not issued as errata sheets. As described in Attachment 3 of the March 14, 2002, *Resolution of Dispute Pertaining to Hanford Federal Facility Agreement and Consent Order Calendar Year 2000 Hanford Site Mixed Waste Land Disposal Restrictions Report*, workshops were held during 2002 to improve the LDR Report process. These results have been incorporated into the LDR Report.

The annual report revisions consist of the following:

- Updated mixed waste storage inventories and projected generation rates to reflect current plans and schedules
- Revised waste stream characterization information to reflect current knowledge
- Updated compliance status of the TSD units to reflect completion of pending storage assessments and permitting activities
- Report on completed LDR storage assessments and summarized resulting findings and observations
- Re-evaluation of the adequacy of the capacity of current TSD units for storing LDR mixed waste
- Addition of new milestones and revision of existing milestones as applicable
- Report on changes in the management and TSD of mixed waste required by changes in federal policy or regulations as applied to the DOE complex
- Funding/budget guidance impacts on operating plans and schedules
- Addition of mixed waste streams and projected mixed waste that will be generated in the 5-year span for the LDR report; and adding potential mixed waste as waste is identified

- Removing mixed waste and potential mixed waste from the LDR report that has been disposed or otherwise dispositioned (e.g., recycled); Refer to Table 1-2 and Appendix C Table C-3.

1.4 ASSUMPTIONS

This section lists key assumptions used to prepare this report.

- For tank waste [double-shell tank (DST) Waste and single-shell tank (SST) Waste treatability groups], the pretreatment methods to be developed include acceptable technology to separate the tank waste into low-activity waste (LAW) and high-level waste (HLW) streams so the bulk of chemical waste is in the LAW stream and the bulk of radionuclides are in the HLW stream.
- Pretreated tank waste will be transferred to LAW and HLW vitrification facilities.
- For tank waste, it is assumed that a treatability variance will be in place for both the LAW and HLW fractions and a delisting petition will be in place for the vitrified HLW fraction.
- The glass waste forms either comply with leachability requirements or appropriate variances are obtained.
- Liquid SST Waste from the SST System continues to be transferred to the DST System and mixed with DST Waste as part of the stabilization and retrieval programs for the SST System.
- Process condensate from the 242-A Evaporator and hazardous wastewater from other sources, including liquid effluents from tank waste pretreatment and vitrification, will continue to be treated at ETF.
- The work scope contained in the LDR report is based on expected funding and is contingent on Congressional budget actions. If funding is reduced or reprioritized, the ability to conduct and complete work scope is affected. To address these changes, changes to Tri-Party Agreement milestones are made using Section 12.0 of the Tri-Party Agreement Action Plan, and not part of the review and approval of the annual LDR report update.

1.5 SUMMARY OF PROPOSED CHANGES TO COMMITMENTS IN THE LDR REPORT

LDR report commitments can be changed through the processes described in Section 1.3. This section contains any commitment changes that are proposed by DOE in the annual update and agreed on by Ecology during the primary document review and comment process.

- The ERDF LDR assessment has been deleted from Table 3-2 because all MW has been identified and no PMW exists.
- The 300 Area General LDR assessment has been deleted from Table 3-1 because work is underway in the 300 Area to demolish buildings in accordance with TPA milestones M-094, M-094-03, and M-094-05.

- The 200 Area General LDR assessment has been deleted from Table 3-2 because the 200 Areas are adequately covered by the assessments already scheduled and completed, as well as the inspections performed pursuant to Hanford Facility RCRA Permit Condition II.O.

2.0 SUMMARY STORAGE DATA

The forecast generation rates represent the current best estimates of projected waste generation for each LDR treatment group, or the quantity of mixed waste added to the TSD units. These estimates are developed by the generating projects/facilities or programs based on an evaluation of operating schedules, past operational history, and projections of future waste-generating activities. The generation projections could be higher or lower than the actual generation values because of changes in process technologies and practices, waste treatment, production schedules, waste minimization activities, or uncertainties associated with the project estimates.

2.1 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 2-1. Mixed waste managed only in Hanford Site generator locations (satellite accumulation areas and 90-day accumulation areas), and then sent directly off-site for treatment are not reported. These data are summarized from the location-specific data sheets and also are reported in the treatability group data sheets in Appendix B. Table 2-2 presents an overall summary of the storage, characterization, treatment, and disposal activities for the treatability groups. Table 2-2 is a collection of information from the following four tables: Table 2-1; Table 13-1; and Table 14-1. Data on waste volumes in these tables are taken from Appendix B and 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 is a new TSD unit being constructed to treat DST Waste and SST Waste. The WTP Project Management Baseline schedule projects that mixed waste will not be generated at the Waste Treatment Plant until CY 2010, outside of the five-year forecasting window for this report. As agreed with Ecology at the January 18, 2005, LDR Project Manager Meeting, location-specific data sheets and/or treatability group data sheets for the Waste Treatment Plant will not be prepared for the CY 2004 LDR Report. In addition to the Waste Treatment Plant, mixed waste may be generated from treatment of SST and DST tank waste by supplemental technologies currently under evaluation. Supplemental technology data is anticipated in CY 2006 under TPA milestone M-62-08.

2.2 INVENTORY STORAGE METHOD AND LOCATION

Storage methods are identified in the location-specific data sheets in Section 2.1. Options include: container (pad), container (covered), container (retrievably buried), tank, DST, SST, or other (explain). The category "Other (explain)" includes all waste not stored in containers, DSTs or SSTs (e.g., PUREX Storage Tunnels). The location-specific data sheet storage location does not include waste in accumulation areas.

2.3 POTENTIAL MIXED WASTE

The potential mixed waste table (PMWT) (Appendix C) 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 RCRA 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 group and location-specific data sheets in Appendix B of this LDR report.
- Contaminated soil sites, cribs, ponds, ditches, trenches, etc., considered engineered disposal units. [However, the materials would be included in a LDR report location-specific data sheet (Appendix B) 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 3.0 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 PMW
- Date to complete data gap plan
- Start date for major negotiations such as facility transition or deactivation.

Table 2-1. Stored Volumes of Mixed Waste and Generation Projections.

Treatability Group Name	Description ¹	Current Inventory (m ³) ²	Generation Projection 2005 (m ³) ²	Generation Projection 2006 (m ³) ²	Generation Projection 2007 (m ³) ²	Generation Projection 2008 (m ³) ²	Generation Projection 2009 (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.	50	0	0	0	0	0
221-T Tank System	Liquid mixed waste with settled solids/sludge (waste also contains PCBs at TSCA regulated concentrations)	21	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. WSRDs- 400, 4001, 4002, 404, 420, 500, 503, 504, 525, 627, 820, 900, 921.	12	59	59	59	59	59
222-S T8 Tunnel	Debris that has contacted waste from the 219-S WHF tank system. The debris is designated as RH MLLW as a result of this contact.	0.20	0	0	0	0	0
241-CX Tank System	Residual tank waste resulting from REDOX, PUREX, and Semiworks processes.	3.0	0	0	0	0	0
324 Bldg. REC Waste	High activity radioactive waste containing regulated quantities of toxic heavy metals. Mixed waste residue will be generated from the future REC D&D activities.	5.0	0	0	5.0	5.0	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: PNNL-501-0001-02; PNNL-505-0001-03; PNNL-800-0001-02; PNNL-930-05; and PNNL-931-04.	11	16	10	10	10	10
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. The current waste inventory is 294,000 kg, and 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

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Table 2-1. Stored Volumes of Mixed Waste and Generation Projections.

Treatability Group Name	Description ¹	Current Inventory (m ³) ²	Generation Projection 2005 (m ³) ²	Generation Projection 2006 (m ³) ²	Generation Projection 2007 (m ³) ²	Generation Projection 2008 (m ³) ²	Generation Projection 2009 (m ³) ²
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.	95,000	38	38	38	38	38
ERDF—Treatment	This waste stream reflects mixed waste that requires treatment before disposal at ERDF. The waste is stored at the operable unit/facility, and is transferred to ERDF where the waste is treated and disposed.	81	13,000	13,000	13,000	13,000	13,000
HSTF	Residual heel content remaining from REDOX Process.	2.1	0	0	0	0	0
LERF/ETF Liquid Waste	CERCLA and RCRA aqueous wastewater is sent to the LERF/ETF for treatment and disposal.	47,000	110,000	98,000	90,000	86,000	84,000
MLLW-01 – LDR Compliant Waste	WSRds: BLS, 930, 931, EH3, EHM, EHR, EHB, EHS; Waste with WSRd BLS consists of soils (dirt, sand, gravel, rocks, etc.) that were excavated from the various 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 typically is 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 and the forecasted LDR compliant waste that comes directly from the generator (e.g., debris waste items, deactivated waste, stabilized waste, and waste meeting LDRs as generated).	210	31	700	50	45	30

Table 2-1. Stored Volumes of Mixed Waste and Generation Projections.

Treatability Group Name	Description ¹	Current Inventory (m ³) ²	Generation Projection 2005 (m ³) ²	Generation Projection 2006 (m ³) ²	Generation Projection 2007 (m ³) ²	Generation Projection 2008 (m ³) ²	Generation Projection 2009 (m ³) ²
MLLW-02 - Inorganic Non-Debris	This treatability group is for non-debris waste that contains hazardous constituents that either require 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, IXI, LPI, PAI, SSA, 420, 421, 422, 425, 426, 428, 521, 523, 524, 525, 900, 901, 902, 903, 904. This waste consists of many different inorganic solids (e.g., particulates, absorbed liquids, sludges, resins, soils) and labpacks 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. The inventory is primarily from the closure of the 183-H Solar Evaporation Basins.	920	19	14	14	20	12
MLLW-03 - Organic Non-Debris	This treatability group is for non-debris waste that contains hazardous constituents that either require 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 also might 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, 43C, 45A, 47A, 500, 501, 502, 503, 504, 505, 506, 507, 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, sludge, 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.	1,200	24	17	15	19	12

Table 2-1. Stored Volumes of Mixed Waste and Generation Projections.

Treatability Group Name	Description ¹	Current Inventory (m ³) ²	Generation Projection 2005 (m ³) ²	Generation Projection 2006 (m ³) ²	Generation Projection 2007 (m ³) ²	Generation Projection 2008 (m ³) ²	Generation Projection 2009 (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 would be considered to meet the definition of O/C 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 could include: BLD, DBR, UUU, , 334, 600, 601,603, 605, 606, 607, 60A, 60B, 620, 621, 622, 625, 626, and 627.	3,400	65	71	78	76	66
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 O/C 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 could include: ASB, 640, 641, 645, 646, and 647. Debris that is regulated for PCBs by TSCA regulations is not included in this waste stream; such debris is considered organic solid waste and is reported in MLLW-03.	1,700	.41	.62	.83	1.0	1.2
MLLW-05 - Elemental Lead	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, and 803. This treatability group consists of many different forms of radioactive lead solids including bricks, sheets, shot-filled blankets, and 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	0.89	21	20	15	13
MLLW-06 - Elemental Mercury	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.	15	0.89	0.32	0.20	0.40	0.00

Table 2-1. Stored Volumes of Mixed Waste and Generation Projections.

Treatability Group Name	Description ¹	Current Inventory (m ³) ²	Generation Projection 2005 (m ³) ²	Generation Projection 2006 (m ³) ²	Generation Projection 2007 (m ³) ²	Generation Projection 2008 (m ³) ²	Generation Projection 2009 (m ³) ²
MLLW-07 - RH and Large Container	WSRds: DBL, HRW, 450, 550, 650. All MLLW WSRds in packages greater or equal to 10 cubic meters. All MLLW WSRds with high rad waste. This waste stream is comprised of RH-MLLW with 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 from the SST/DST Systems operations. This waste stream also contains waste in oversized containers not typically suited for commercial treatment; which will be treated using the M-91 MLLW capability.	230	1.5	0.51	0.51	0.51	0.51
MLLW-08 - Unique Waste	BER, 821, 823, 84A. This waste stream consists of unique waste that requires special processing not typically employed for the other MLLW waste streams. Example includes beryllium powder, requiring RMETL or RTHRM.	27	0	0	0	0	0
MLLW-09 - Lead-Acid and Cadmium Batteries	BAT, 830. This waste consists of lead-acid and cadmium batteries from various onsite locations and from offsite generators.	12	1.1	0.94	4.2	0.82	0.42
MLLW-10 - Reactive Metals	ENA, 44A, 44B, 820, 822, 82A. This waste consists of water-reactive metals and compounds, typically including sodium metal; also could consist of water-reactive cyanides.	25	0.001	0.001	0.001	0.001	0.001
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	This treatability group varies from very large equipment vessels with lead counterweights to very fine powder in canisters.	2,800	0	0	0	0	0
Purgewater	Groundwater contaminated with various constituents.	3,700	2,500	2,500	2,500	2,500	2,500
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.	120,000	0	0	0	0	0
TRUM-CH	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, conweb pads, absorbent/kitty litter, filters, lead shielding, universal polypropylenes, anti-corrosive radpad, carbon steel, fiberglass, brick/firebrick, plastic liner, shielding, concrete, animal waste, paints, ceramics, sludges, asbestos, aluminum, sand equipment, diatomaceous earth, resins, copper metal, lead, water, floor sweeps, batteries, leather, liquid, teflon, cork, cotton/kotex, light bulbs, urethane, and wax.	4,600	410	180	5.6	2.6	2.0

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Table 2-1. Stored Volumes of Mixed Waste and Generation Projections.

Treatability Group Name	Description ¹	Current Inventory (m ³) ²	Generation Projection 2005 (m ³) ²	Generation Projection 2006 (m ³) ²	Generation Projection 2007 (m ³) ²	Generation Projection 2008 (m ³) ²	Generation Projection 2009 (m ³) ²
TRUM-Large Box	TRUM waste from various generating activities. The waste contains iron-based metal, plastic/ polyurethane, wood, paper, filters, soil, miscellaneous/ unknown/other, rags, lead, plexiglas, styrofoam, anti-corrosive radpad, asbestos, rubber, glass, absorbent/kitty litter, cement, and concrete.	6,200	0	0	0	0	0
TRUM-RH	The waste consists of inner-container, iron-based metals, lead, soil, lead shielding, and steel shielding. Waste is from cleanout of hot cells from reearch and development laboratories. The relative waste quantity is small, because the waste matrix contains a large percentage of lead and steel shielding materials.	86	1.8	1.0	1.0	0.51	0.51

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

² Volume numbers have been rounded to two significant figures.

AOC	area of contamination	MLLW	mixed low-level waste
BDAT	best demonstrated available technology	O/C	organic/carbonaceous
CERCLA	<i>Comprehensive Environmental Response, Compensation, and Liability Act of 1980</i>	OU	operable unit
CFR	Code of Federal Regulations	PCB	polychlorinated biphenyl
CH	contact handled	PNNL	Pacific Northwest National Laboratory
CSB	Canister Storage Building	PUREX	Plutonium-Uranium Extraction (Plant)
D&D	decontamination and decommissioning	RCRA	<i>Resource Conservation and Recovery Act of 1976</i>
DST	double-shell tank	REC	radiochemical engineering cells
ERDF	Environmental Restoration Disposal Facility	REDOX	Reduction-Oxidation (Plant)
ETF	200 Area Effluent Treatment Facility	RH	remote handled
HEPA	high-efficiency particulate air	ROD	record of decision
HLV	high-level vault	SST	single-shell tank
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	WHF	Waste Handling Facility
		WSRd	Waste Specification Record

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

Treatability Group Name	Current Inventory (m ³) ¹	Projected Generation Volume 2005 through 2009 (m ³) ¹	Planned Characterization Schedule	Treatment Process	Projected Volume to be Treated 2005 through 2009 (m ³) ¹
221-T Containment Building	50	0	Completed.	M-091 TRUM	0
221-T Tank System	21	0	Will be done in conjunction with T Plant Complex Canyon disposition.	Not yet determined.	0
222-S Laboratory Complex	12	300	Ongoing	Commercial - Macro, Commercial -Thermal	312
222-S T8 Tunnel	0.2	0	2033	Not yet determined.	0
241-CX Tank System	3.0	0	To be determined through future negotiations.	Not yet determined.	0
324 Building REC Waste	5.0	10	Completed.	Not yet determined.	0
325 HWTU	11	56	Ongoing	HWTU, Commercial - Macro, Commercial -Thermal	67
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.	Under evaluation.	0
DST Waste	95,000	190	Ongoing.	WTP.	0
ERDF—Treatment	81	63,000	Ongoing.	ERDF treatment.	63,000
HSTF	2.1	0	To be determined through future negotiations.	Not yet determined.	0
LERF/ETF Liquid Waste	47,000	460,000	Ongoing.	ETF.	460,000
MLLW-01 - LDR Compliant Waste	210	860	Completed	No treatment required.	No treatment required.
MLLW-02 - Inorganic Non-Debris	920	80	M-091 ²	Commercial-stabilization.	M-091 ²
MLLW-03 - Organic Non-Debris	1,200	87	M-091-12, M-091-12A, M-091 ²	Commercial-thermal.	M-091-12, M-091-12A, M-091 ²
MLLW-04A - O/C Hazardous Debris	3,400	360	M-091 ²	Commercial-Thermal	M-091 ²
MLLW-04B - Non-O/C Hazardous Debris	1,700	4.1	M-091 ²	Commercial-Macro.	M-091 ²
MLLW-05 - Elemental Lead	12	70	M-091 ²	Commercial-Macro.	M-091 ²
MLLW-06 - Elemental Mercury	15	1.8	M-091 ²	Commercial Amalgamation.	M-091 ²

2-9

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

Treatability Group Name	Current Inventory (m ³) ¹	Projected Generation Volume 2005 through 2009 (m ³) ¹	Planned Characterization Schedule	Treatment Process	Projected Volume to be Treated 2005 through 2009 (m ³) ¹
MLLW-07 - RH and Large Container	230	3.6	M-091 ²	M-091 MLLW.	M-091 ²
MLLW-08 - Unique Waste	27	0	M-091 ²	Not yet determined.	M-091 ²
MLLW-09 - Lead-Acid and Cadmium Batteries	12	7.5	M-091 ²	Not yet determined.	M-091 ²
MLLW-10 - Reactive Metals	25	0.005	M-091 ²	Not yet determined.	M-091 ²
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	13,000	Ongoing.	Solar evaporation at PSTF.	13,000
SST Waste	120,000	0	Ongoing.	WTP.	0
TRUM-CH	4,600	610	M-091 ²	WRAP Facility.	M-091 ²
TRUM-Large Box	6,200	0	M-091 ²	M-091 TRUM.	0
TRUM-RH	86	4.9	M-091 ²	M-091 TRUM	M-091 ²

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

² Treatment will be performed in accordance with applicable M-091 milestones.

CH contact handled
 DST double-shell tank
 ERDF Environmental Restoration Disposal Facility
 ETF 200 Area Effluent Treatment Facility
 HLW high-level waste
 HWTU hazardous waste treatment unit
 kg Kilogram

LDR land disposal restrictions
 LERF Liquid Effluent Retention Facility
 MLLW mixed low-level waste
 PCB polychlorinated biphenyls
 PNNL Pacific Northwest National Laboratory
 PSTF Purgewater Storage and Treatment Facility
 PUREX Plutonium-Uranium Extraction (Plant)
 RCRA *Resource Conservation and Recovery Act of 1976*

REC radiochemical engineering cells
 RH remote handled
 SALDS State-approved land disposal structure
 SST single-shell tank
 TBD to be determined
 TRUM transuranic mixed
 WIPP Waste Isolation Pilot Plant
 WTP Waste Treatment Project

3.0 COMPLIANCE ASSESSMENTS OF MIXED WASTE AND POTENTIAL MIXED WASTE STORAGE AREAS

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.

3.1 INTRODUCTION

Of the findings and observations that were made from DOE assessments in CY 2004, no indicators requiring global actions for LDR reporting were identified.

3.2 ASSESSMENT SCHEDULES

In CY 2004, DOE-RL contractors performed five assessments and completed three CY 2003 assessments (100 Area Reactor Auxiliaries, 100 Area General, and 340/340A/340B/300-RLWS). The 300 Area general assessment from CY2003 has not been completed. The observations from these assessments are summarized in Table 3-1.

Table 3-1. Summary of DOE-RL Assessment Results.

Assessment Location	Assessment Number	Assessment Start Dates	Findings and Observations
K Basin East	SNFP-ENV-04-MA-0101a	March 2004	As of December 31, 2004, the assessment report was not finalized.
K Basin West	Not assigned	March 2004	As of December 31, 2004, the assessment report was not finalized.
SNF Complex	Not assigned	March 2004	As of December 31, 2004, the assessment report was not finalized.
100 Area Reactor Auxiliaries (excluding reactors)	ARQP-04-11	May 2004	There was one observation (Footnote 1).
100 Area General (everything but reactors and reactor auxiliaries)	ARQP-04-11	May 2004	There were no findings or observations.
340/340A/340B/300-RLWS	WM-LP-EP-04-MA-103	October, 2003	There was one observation (Footnote 2).

¹ Observation: There were two overhead rusty pipes in the 115KW Gas Recirculation Building that appear to have leaked liquid onto the concrete floor.

² Observation: It was determined that 340-A, 340-B, and 300-RLWS can be removed from the PMW table since the tanks and associated piping were rinsed and there will be no PMW cleanout residues.

Table 3-2 lists the locations where DOE-RL plans to conduct assessments in CYs 2004 through 2006

Table 3-2. DOE-RL Assessments for CYs 2005 through 2007.

Facility/Location	Start Date	Facility/Location	Start Date
2711E 241-CX	1st quarter CY2005	Heavy equipment staging area	3rd quarter CY2006
None	2nd quarter CY2005	224-B	4th quarter CY2006
T Plant	3rd quarter CY2005	None	1st quarter CY2007
1. 200 Area North 2. Railcar staging areas	4th quarter CY2005	None	2nd quarter CY2007
PFM settling tanks 231-Z	1st quarter CY2006	None	3rd quarter CY2007
IMUSTs not associated with a building	2nd quarter CY2006	None	4th quarter CY2007

Table 3-3 lists the CH2M HILL 2004 assessments and the identified finding and observations. Table 3-4 shows currently scheduled assessments. Post-2005 assessment of tank farm facilities will be negotiated with Ecology in LDR Project Manager Meetings, and documented in related meeting minutes.

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

Assessment Location*	Assessment Number	Assessment Conduct Dates	Findings and Observations
A, AX, T, TX, TY, and U single-shell tank farms AZ and AW double-shell tank farms UX-302-A, A-350, AX-152, and AZ-151 catch tanks	RPP-ENV-LDR-2003-01	11/2003-12/2003	There were three findings and six observations (Footnotes 1-8).
241-A-702 and DSTs	FY2005-SPMA-S-0317	11/2004-12/2004	As of December 31, 2004, the assessment report was not finalized.

* Not all findings and observations from these assessments are directly related to mixed waste storage compliance. Only those directly related are tabled below.

¹ Finding: Reusable contaminated equipment guidance not fully implemented.

² Finding: Operator rounds and sheets related to equipment deficiency are not consistently implemented in the field.

³ Finding: Round sheets, which vary from tank farm to tank farm, sometimes omit inspections for specific environmental requirements.

⁴ Observation: Environmental Protection surveillance compliance inspection checklists do not effectively support the Land Disposal Restrictions Assessment program.

⁵ Observation: Inspection for RCRA-required postings on the perimeter fence and at tank farm entry points is conducted daily at the single-shell tank farms and weekly at the double-shell tank farms.

⁶ Observation: RPP-16922, *Environmental Specifications Requirements*, Sections 10.14 and 10.28 may need clarification.

⁷ Observation: TFC-ESHQ-ENV-RM-D-02, *Environmental Records*, does not reflect the transition of the 242-A Evaporator and 222-S Laboratory from Fluor Hanford to CH2MHill.

⁸ Observation: F-contacted waste designations are inconsistent between operators (CH2MHill) and construction (Fluor Federal Services) forces.

Table 3-4. DOE-ORP Assessments for CYs 2005 through 2007.¹

Facility/Location	Start Date
242-S and 242-T Evaporators ²	3 rd Quarter 2005

¹ No assessments are currently scheduled beyond CY 2005.

² Contingent upon safety-driven roof inspection entry to the 242-T Evaporator. If no such entry is made, ALARA principles will preclude entry to the high risk areas of the 242-T Evaporator.

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4.0 POTENTIAL STORAGE ISSUES

This section discusses issues pertaining to storage of mixed waste.

4.1 STORAGE CAPACITY

Storage capacity is addressed in Section 2.4 of the location-specific data sheets (Appendix B) and is summarized in the following sections.

4.1.1 Bechtel Hanford, Inc.

BHI does not have any issues pertaining to storage capacity within the 5-year forecast period and beyond.

4.1.2 CH2M HILL Hanford Group, Inc.

Annually, in accordance with Tri-Party Agreement Milestone M-46-00, an evaluation is performed to determine available tank capacity and capacity needs for future years. This evaluation looks at waste receipts to the DST System for the past 12 months and makes projections based on trends that appear. A computer simulation of site operations (incoming waste projections and outgoing waste) is performed, which results in projections of tank fill schedules, tank transfers, evaporator operations, tank retrieval, and aging waste tank use. During this evaluation, the parties to the Tri-Party Agreement (Ecology, EPA, and DOE) determine whether new tanks need to be built. Current estimates indicate that the storage capacity of the DST System could be reached by 2007, depending on the sequence and rate of retrieval for waste currently stored in SSTs and on evaporator operations. Table 4-1 summarizes DST storage capacities and current volume stored. In addition to the DST Waste and the SST waste treatability groups, CH2M HILL also manages the 222-S Laboratory Complex containing container storage areas and a long-term storage location.

The DST system is designed to receive and safely store liquid wastes from the SST system and, to a lesser extent, wastes from other Hanford site facilities. The wastes received typically come from other storage locations and, as such, are not documented as newly generated waste in the context of this document. Similarly, wastes returned to the DST system from the 242-A Evaporator are not considered newly generated. Process condensate from the 242-A Evaporator is directed to LERF/ETF, and is documented on the 242-A Evaporator location specific data sheet under the LERF/ETF treatability group.

Table 4-1. Potential Storage Capacity Issues.¹

Waste name	Tank farm	Estimated storage capacity ⁴ per farm (m ³)	Current amount of stored ⁴ waste (m ³)	Year capacity could be reached/bases and assumptions
DST Waste	241-SY	13,000	7,000	2007 ²
DST Waste	241-AY	8,000	4,000	2007 ²
DST Waste	241-AZ	8,000	7,000	2007 ²
DST Waste	241-AW	26,000	21,000	2007 ²
DST Waste	241-AP ⁵	37,000	28,000	2007 ²
DST Waste	241-AN	30,000	27,000	2007 ²
	Total	119,000 ³	95,000 ³	

¹ Volumes are rounded to the nearest 1,000 m³.

² This date is for the tank farms as a system and depends on the evaporator runs and the schedule/order of waste retrieval from SSTs.

³ Corrected to compensate for round-off in individual values.

⁴ Per HNF-EP-0182, Rev. 201, Table 3-2, approximately 19,000 m³ of the listed DST storage capacity is currently identified as 1) dedicated operational space, 2) restricted usage space, or 3) emergency allocation space.

⁵ Assumes a 2700 m³ increase in capacity for the AP Farm (RPP-21753).

4.1.3 Fluor Hanford, Inc.

FH manages the long-term storage locations of mixed waste in the 200 Areas, except for the DST System, SST System, 242-A Evaporator, and the 222-S Laboratory Complex managed by CH2M Hill, and the ERDF managed by BHI. FH long-term storage areas include mixed waste at the T Plant Complex, B Plant Complex, the PUREX Plant and the CWC. The waste is stored in the B Plant Complex and the PUREX Plant with lead regulator approval of the specific long-term S&M plans in accordance with Section 8.0 of the Tri-Party Agreement Action Plan. The plans do not allow for storage of any additional waste in these TSD units.

The Solid Waste Projection Model is a discrete event simulation model; the model is used to project the TSD requirements of the onsite radioactive and mixed solid waste management program in CWC. The model combines current waste inventories and forecasts of future waste receipts with baseline planning assumptions to determine TSD unit requirements throughout the anticipated life of the TSD units. The amount of waste is estimated using the following input:

- Amount of waste type in storage
- Amount of waste type sent for processing
- Amount of waste type disposed
- Amount of waste type shipped offsite for disposal.

The resulting estimates are used to make decisions concerning future TSD needs. For example, if the amount of waste in storage was projected to exceed the current capacity, planning for additional storage capacity could begin and/or changes could be made to the baseline treatment and disposal schedules to reduce the projected storage requirement.

The model is reviewed and updated frequently to ensure that the appropriate assumptions for waste treatment and facility capabilities and schedules, and therefore storage capacity, are adequate to effectively manage mixed waste. When changes occur in programmatic assumptions in response to budgetary or regulatory changes, the model is run again using the new assumptions.

The Hanford Site maintains a system for forecasting the amount of radioactive waste, including mixed waste, to be generated well into the future. This system is known as the SWIFT Report. Input to this system is maintained in a database updated periodically by all waste generating units. Significant changes to the input must be reported. These changes are evaluated for impact on the storage facilities as required.

Based on the projections to date, information on active FH-managed TSD units in this report indicates that no requirements for additional storage capacity exist within the 5-year forecast period and beyond. Figure 4-1 shows projected CWC waste storage versus capacity based on SWIFT Report 2004.1 volumes for 2005-2035.

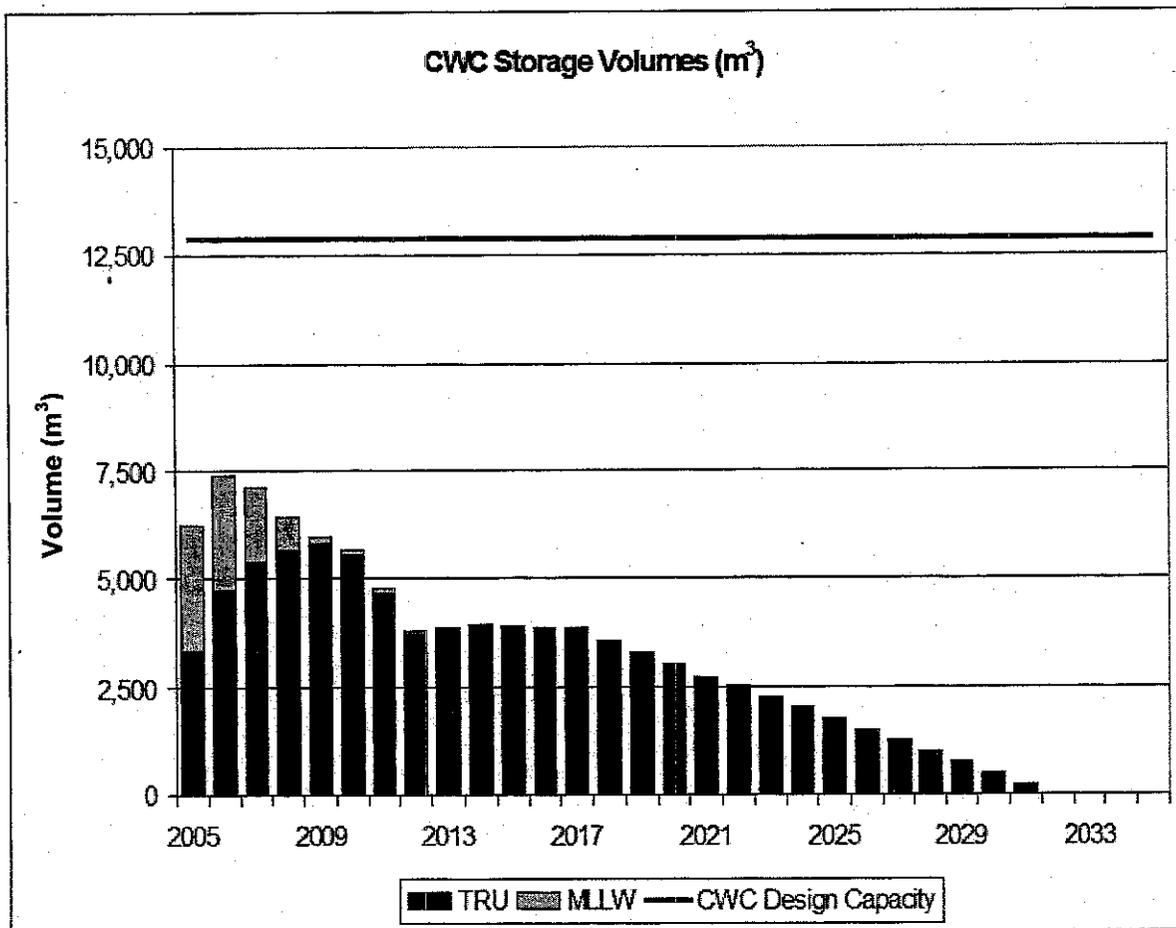


Figure 4-1. Central Waste Complex Waste Storage Versus Capacity.

4.1.4 Pacific Northwest National Laboratory

PNNL uses the SWIFT reporting system to project storage requirements. Based on the projections to date, no requirements for additional storage capacity for PNNL-managed TSD units exist within the 5-year forecast period and beyond. Replacement storage capacity may need to be identified if PNNL must leave its 300 Area facilities (including the 325 HWTUs) to support expedited River Corridor cleanup.

4.2 ISSUES AND THEIR RESOLUTION

No storage issues were identified for CY 2004 reporting. Storage capacity issues identified and resolved in the future will be reported in the year following their resolution.

4.3 PLANNED VARIANCES OR EXEMPTIONS FOR STORAGE

Requests for variances and other exemptions related to storage are addressed in Section 2.10 of the location-specific data sheets (Appendix B). No requests for variances are identified.

4.4 KEY STORAGE ASSUMPTIONS

Key assumptions related to storage, inventory, and generation information are addressed in Section 2.12 of the location-specific data sheets (Appendix B).

5.0 WASTE RELEASES FROM STORAGE UNITS

Known releases from mixed waste storage units into the environment are subject to reporting in this report, whether or not the release was cleaned up. The only waste releases from storage to the environment have occurred from the SST System. Table 5-1 lists the names and locations of the SST farms and the number of tanks in each farm. No releases have been documented during this reporting period (CY 2004).

Table 5-1. Single-Shell Tank System.^a

200 East Area		200 West Area	
Farm	Number of tanks	Farm	Number of tanks
A	6	S	12
AX	4	SX	15
B	16	T	16
BX	12	TX	18
BY	12	TY	6
C	16	U	16

^a The capacity of the tanks ranges from 210 m³ to 3,800 m³.

These tanks contain waste that was placed into the system between 1944 and 1980. The waste was generated as a byproduct of processing spent nuclear fuel to recover plutonium, uranium, and neptunium, and consists of radioactive and chemically hazardous waste. Except for cooling water, nothing has been added to the SSTs since 1980. SST System Waste Management Areas (SST WMA) are being reassessed to develop better inventory estimates for chemicals and radionuclides lost to the vadose zone. At this time, the S, SX WMA, B, BY, BX WMA, and the T, TY, TX WMA, have been reassessed. The new assessments have shown that some of the released volumes may be less than reported in HNF-EP-0182, Revision 201.

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6.0 HANFORD SITE MIXED WASTE MINIMIZATION PROGRAM DESCRIPTION

The *Hanford Site Pollution Prevention and Waste Minimization Program Plan* (DOE/RL-2004-57) provides guidance for Hanford Site contractors to prevent pollution from entering the environment, to conserve resources and energy, and to reduce the quantity and toxicity of hazardous, radioactive, mixed, and sanitary waste produced at the Hanford Site. The program plan reflects the national and local waste minimization and pollution prevention goals and policies and represents an ongoing effort to ensure Pollution Prevention/Waste Minimization (P2/WMin) is part of the Hanford Site operating philosophy. In accordance with these policies, a hierarchical approach to environmental management has been adopted and is applied to all polluting and waste generating activities. Waste minimization through source reduction is the first priority in the Program Plan, followed by environmentally safe recycling. Treatment, which includes some segregation, to reduce the quantity, toxicity, and mobility of waste is considered only when source reduction or recycling/reuse is not possible or practical. Environmentally safe disposal is the least preferred option.

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

The program plan includes the following required elements:

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

The Hanford Site contractors implement these techniques individually in accordance with their internal waste minimization program. For further information for each waste, refer to location-specific data sheets (Appendix B).

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7.0 CHARACTERIZATION AND TREATMENT PLAN INTRODUCTION

Sections 7.0 through 15.0 of the LDR report discusses characterization, treatment and disposal actions, and plans for managing mixed waste on the Hanford Site. Waste characterization and treatment activities on the Hanford Site continue to increase as waste management facilities are completed and funded to process and/or treat the waste. This chapter briefly describes the development process for the treatment plan and identifies other reports that can be consulted for additional information concerning the Hanford Site and expected waste treatment activities. This report has been organized to be similar to the site treatment plans prepared by other U.S. Department of Energy (DOE) sites governed by the *Federal Facility Compliance Act (FFCA) of 1992* requirements.

7.1 SITE TREATMENT PLAN ACTIVITIES

The overall information needs and relationships for the report are shown in Figure 7-1. Initial activities include identifying waste streams and available and needed characterization data associated with the streams, and defining the regulatory treatment requirements. The treatment requirements define the treatment categories and technologies needed for each waste type. The physical, chemical, and radiological characteristics of the waste determine the treatability group in which the waste is included. Hanford Site treatment, storage, and/or disposal (TSD) units and available commercial processes for treating the mixed waste also are identified along with their capabilities. Knowing the processes for the treatment capabilities and the treatment requirements for each treatability group, each treatability group can be assigned to either existing treatment capacity or to future processes. For the existing processes, Hanford Site schedules can be determined based on anticipated budgets and overall onsite needs. These schedules confirm the need for operations funding. For the future processes, the waste that requires further characterization determines the types of technology needs and, subsequently, the requirements and capabilities. The future processes will be scheduled and operated as budgets allow.

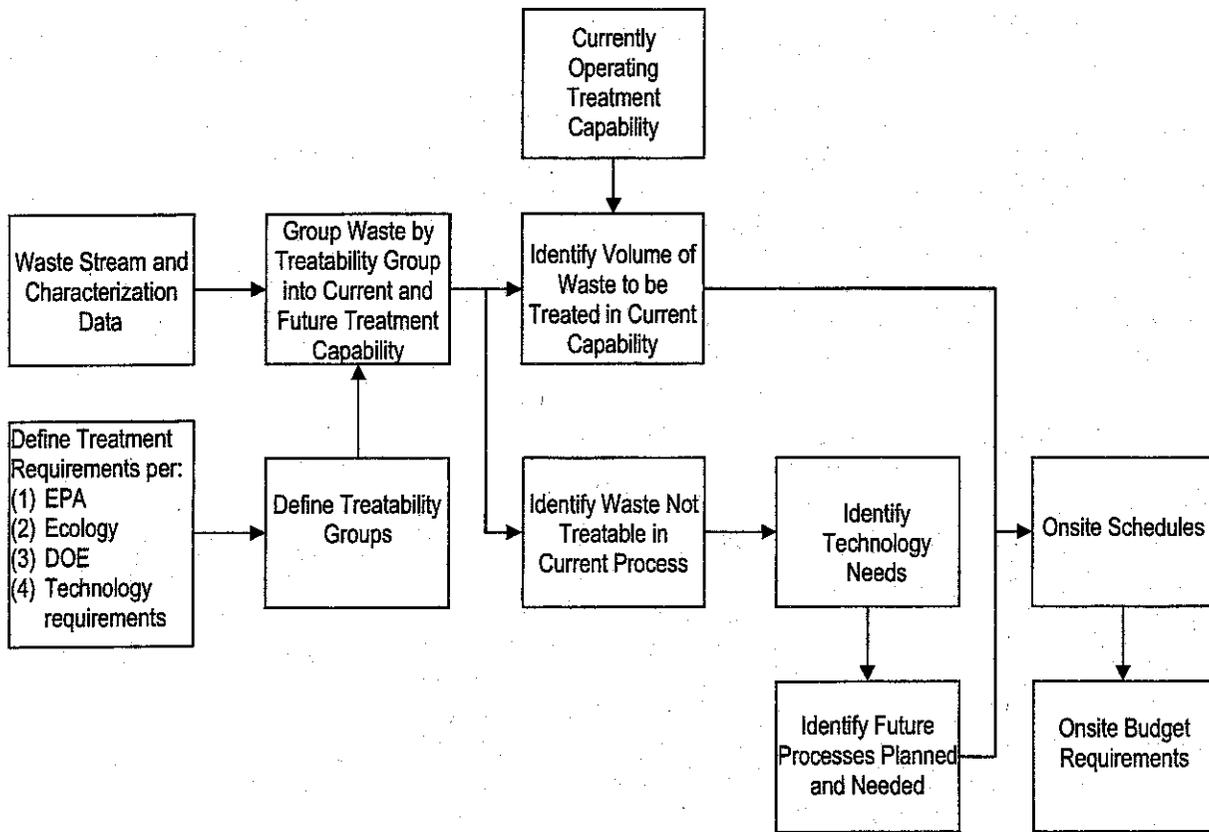


Figure 7-1. Outline of Activities to Complete Treatment Plan.

7.2 RELATIONSHIP TO OTHER MAJOR DOE AND HANFORD SITE ACTIVITIES AND DOCUMENTS

The characterization and treatment plan is influenced by numerous Hanford Site activities. Some of the activities and their resulting reports are identified in the following reports. Additional details can be obtained from the referenced reports. Some of the reports provide additional information on waste stream characterization and evaluation of alternatives, and identify the likely effects of managing the mixed waste on the Hanford Site. These reports include the following:

- *Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement)* (Ecology et al. 2003). This report is submitted pursuant to Tri-Party Agreement Milestone M-026-01O. The Tri-Party Agreement also contains many treatment and characterization milestones.
- *Disposal of Hanford Defense High-Level Transuranic and Tank Wastes Environmental Impact Statement* (DOE/EIS-0113). This 1987 EIS discussed mixed waste treatment and disposal options for the Hanford Site.
- *Final Environmental Impact Statement for the Tank Waste Remediation System* (DOE/EIS-0189). This environmental impact statement (EIS) and its associated record of decision (ROD) provide details on the alternative treatments for HLW.

- *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Wastes (DOE/EIS-0200-F)*. This EIS and its associated RODs provide the overall evaluation of treatment and disposal alternatives for all the DOE sites.
- *Hanford Site Solid (Radioactive and Hazardous) Waste Program Environmental Impact Statement* has been prepared (DOE/EIS-0286). The final EIS was issued in CY2004 followed by the associated ROD (69 FR 39449, June 30, 2004). This document provides environmental and technical information concerning waste management activities at the Hanford Site including mixed waste treatment.
- *Solid Waste Integrated Forecast Technical Report (SWIFT (HNF-EP-0918))*. This report provides the waste generation volume forecast.
- *Final Hanford Comprehensive Land-Use Plan Environmental Impact Statement (DOE/EIS-0222-F)*. This EIS and its associated RODs identify areas on the Hanford Site used for managing and disposing of mixed waste.

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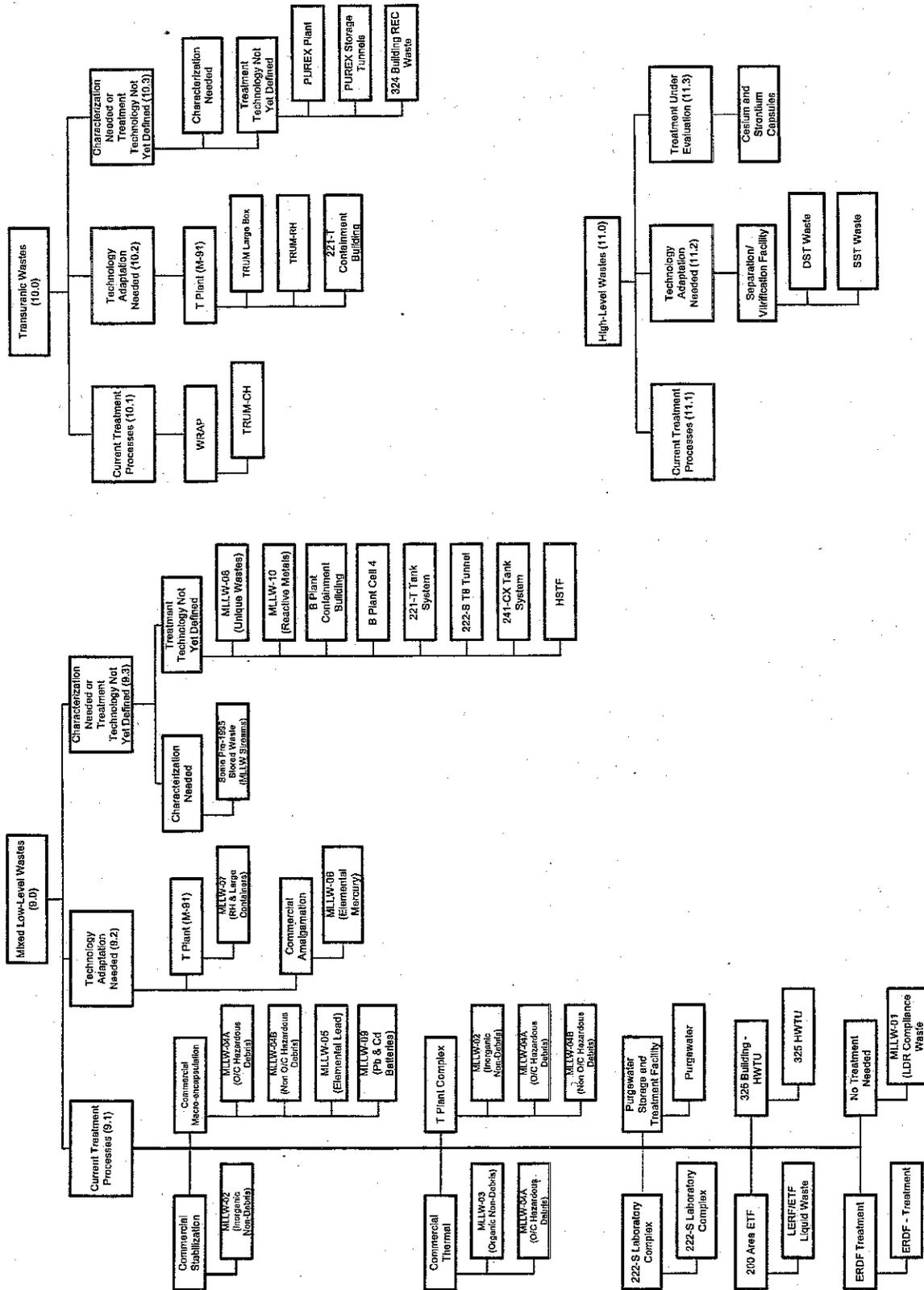
8.0 WASTE STREAMS AND TREATABILITY GROUPS

Each waste treatability group is or will be assigned to a specific treatment process. These assignments are based on the treatment and/or characterization requirements of the treatability group and the treatment process capability. For a discussion on the organization of treatability groups, refer to Appendix B. Figure 8-1 summarizes the layout of the treatability groups and identifies where each group is expected to be treated. The upper levels of the chart show the waste type [e.g., mixed low-level waste (MLLW)] and whether or not the treatment capacity exists. The information is presented first for existing processes, then for planned processes, and finally for treatability groups for which further characterization is required to determine the treatment process or for which a treatment technology has not been selected.

Figure 8-1 also indicates the characterization needs for the waste. Waste to be treated under existing processes typically is characterized sufficiently to designate the waste and to ensure that the waste is categorized correctly and safely stored. Any further characterization of this waste that must be done is planned as part of the treatment preparation. Waste to be treated under planned processes and processes not yet defined is characterized sufficiently to know the designation and is safely stored. Because treatment is not planned for waste requiring processes not yet defined, additional characterization might occur as part of the design and development of the proposed treatment units.

The schedule and means for reporting waste characterization data are outlined in Section 9.6 of the Tri-Party Agreement Action Plan (Ecology et al. 2003). This section states that DOE will make available to Washington State Department of Ecology (Ecology) and the U. S. Environmental Protection Agency (EPA) all relevant electronic data and databases.

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Note: Numbers in parentheses indicate sections of the report.

Figure 8-1. Correlation Between Treatability Groups and Treatment Facilities.

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9.0 MIXED LOW-LEVEL WASTE STREAMS

Disposition maps shown in Figures 9-1 and 9-2 present an overview of the planned treatment and disposal of MLLW streams. Figure 9-1 shows the major waste treatability groups and the associated treatment processes (Section 9.1) with existing capabilities. Figure 9-2 shows a flowsheet for the treatability groups contained in the adaptation-needed category (Section 9.2). Because the treatment plan for the remaining MLLW treatability groups is not well developed, a flowsheet for these groups is not included. As noted in Figure 9-1, some treatability groups (MLLW-02, -04A, and -04B) could be treated in more than one location. These treatability groups also are shown in multiple locations in Figure 8-1.

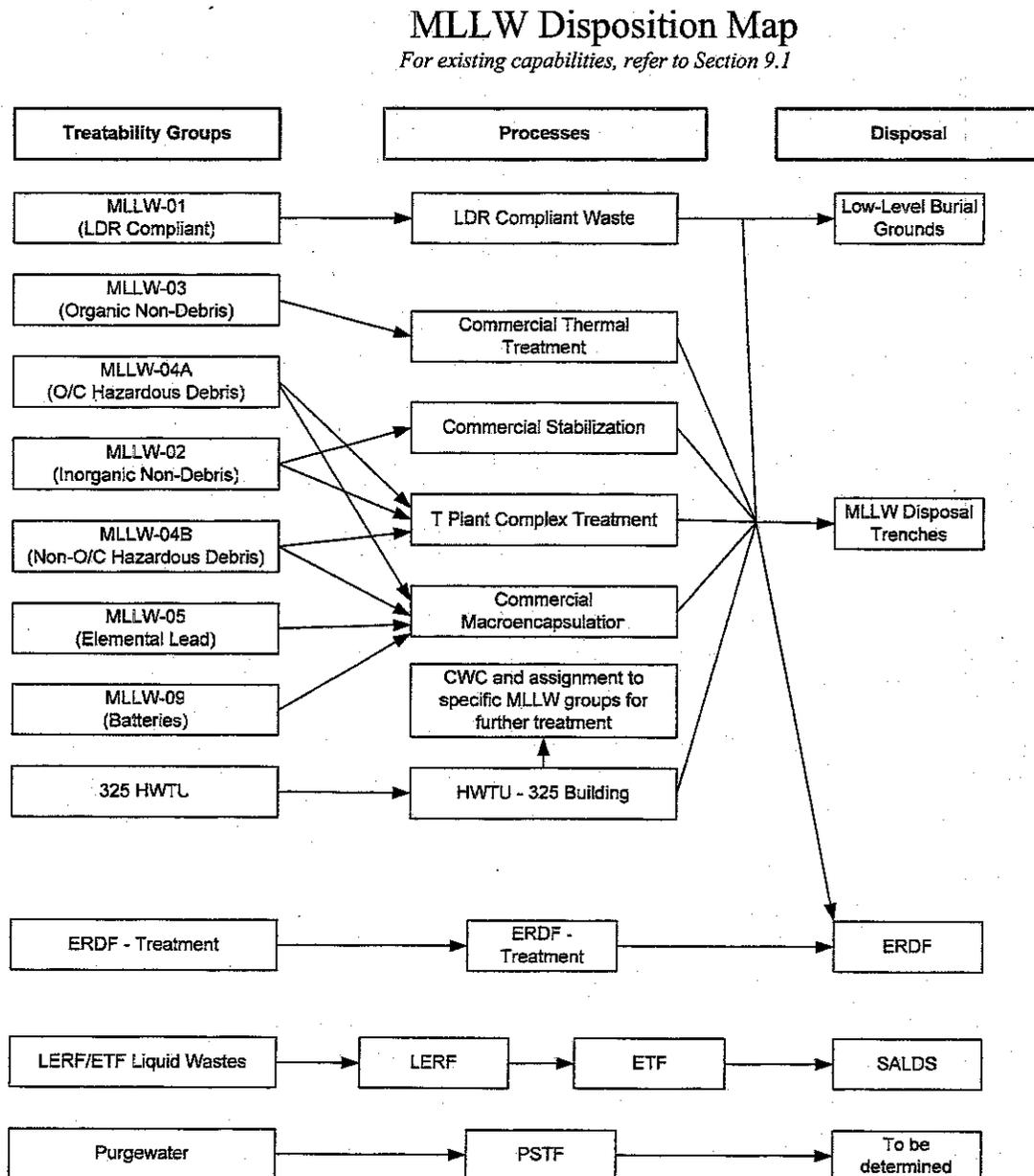


Figure 9-1. Site Disposition Map for Mixed Low-Level Waste.

MLLW Disposition Map

For future capabilities, refer to Section 3.2

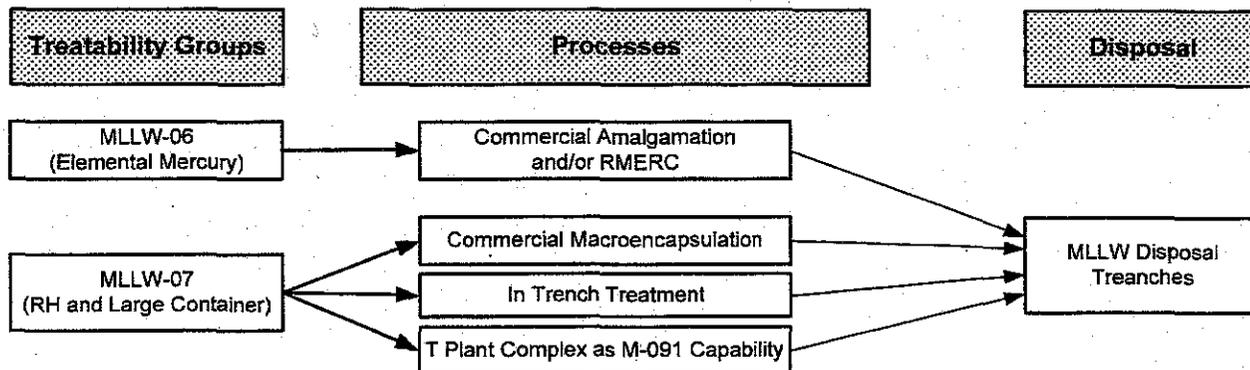


Figure 9-2. Disposition Map for Treatability Groups Needing Facilities Adapted to Allow Waste Treatment.

9.1 MIXED WASTE STREAMS FOR WHICH TREATMENT TECHNOLOGY EXISTS

This section generally describes each treatment process and provides information concerning the processes identified in Figure 9-1. This section also provides information on which waste treatability groups will be treated by each process, including the volume of waste treated during the past year and the anticipated volume of waste to be treated in Calendar Years (CYs) 2005 through 2009.

Tables in this section describe treatment processes related to M-091 milestones. Waste streams addressed in the M-091 milestones include: MLLW-02, MLLW-03, MLLW-04A, MLLW-04B, MLLW-05, MLLW-06, MLLW-07, MLLW-08, MLLW-09, and MLLW-10.

The planning baseline indicates that sufficient capacity exists or will exist, to treat this volume of MLLW using the identified treatment process and alternatives: commercial stabilization, commercial thermal treatment, T Plant Complex, Broad Spectrum contracts, etc. However, the exact distribution of treatment among these treatment processes has not been finalized. This allows the Hanford Site to optimize the use of funds (minimize unit costs), to react to changing conditions and capabilities of the treatment processes, and to use emerging national treatment contracts.

Through the use of Broad Spectrum and local contracts, DOE waste generators have the opportunity to participate in this nationwide privatization initiative for treating and disposing of legacy and currently generated MLLW. Contracts have been awarded to Materials and Energy Corporation (Perma-Fix), Waste Control Specialists, and Pacific EcoSolutions (PECoS). These contracts give the Hanford Site several options with unique capabilities for treating a wide range of MLLW streams.

9.1.1 Commercial Stabilization

MLLW that does not have a significant organic content and is not debris waste is expected to be stabilized. This stabilization processing will be conducted in commercial facilities. Waste currently in

9.1.2 Commercial Macroencapsulation

Macroencapsulation consists of applying a surface coating of polymeric organics or using a jacket of inert inorganic materials (e.g., cement) to substantially reduce surface exposure to potential leaching media. During CY 2004, waste was treated under commercial contracts near the Hanford Site. Existing contracts do not cover all the waste streams, so it is expected that some waste will be treated on the Hanford Site, or that additional commercial contracts will be awarded competitively as needed to meet future needs. The processes potentially available near the Hanford Site are described in an Environmental Assessment (EA) for non-thermal treatment (DOE/EA-1189). For macroencapsulation of hazardous debris under treatability groups MLLW-04A and MLLW-04B, pretreatment processes can include sorting, cutting/shearing, compaction, and supercompaction. For MLLW-05, Elemental Lead, decontaminated lead can be recycled or reused. Lead waste can be encapsulated by a cement jacket according to the definition of MACRO in 40 CFR 268.42. For MLLW-09, Lead-Acid and Cadmium Batteries, EPA recently promulgated a new treatment standard so the MLLW can be treated according to the debris macroencapsulation standards in 40 CFR 268.45. Ecology proposed to adopt this treatment standard in CY2004. Once effective (expected January 1, 2005), the Hanford Site will be able to treat and dispose of MLLW-09 waste. Table 9-2 contains information concerning the commercial macroencapsulation process, using PEcoS as a representative example for regulatory status information.

Macroencapsulation currently is being used to treat hazardous debris containing organic/carbonaceous (O/C) constituents that would otherwise require thermal treatment in accordance with the state-only LDR for O/C. The Hanford Site has been allowed to treat, and plans to continue to treat, the MLLW-04A O/C Hazardous debris using macroencapsulation in accordance with a site-wide 1,609 kilometers (1,000-mile) inapplicability certification for the Washington State O/C LDR in accordance with WAC 173-303-140(4)(d)(iii).

Other immobilization treatment technologies could be used to treat some of the Hanford Site MLLW debris.

Table 9-2. Commercial Macroencapsulation Process Summary.

Type of information	Information
Treatability groups that the process is expected to treat	MLLW-04A, Organic/Carbonaceous (O/C) Hazardous Debris; MLLW-04B, Non-O/C Hazardous Debris; MLLW-05, Elemental Lead; and MLLW-09, Lead-Acid and Cadmium Batteries.
Tri-Party Agreement milestones related to these treatability groups	M-091-42.
Projected volume of MLLW to be treated between CY 2005 and the end of CY 2009	Treatment will be performed in accordance with M-091 milestones.
Treatment capacity	Sufficient capacity exists to treat this volume of MLLW using the identified treatment processes and alternatives (commercial stabilization, commercial thermal treatment, T Plant Complex, Broad Spectrum contracts, etc.).
PEcoS regulatory status information:	
- Date of RCRA permit application	1999.
- Date treatment contract established	1995.
- Date facility construction started	1999.
- Date system testing started	1999.
- Date operations begin	1999.

Table 9-2. Commercial Macroencapsulation Process Summary.

Type of information	Information
- Current regulatory status	Permitted, some operations temporarily suspended. For the treatment and disposal of batteries, DOE is waiting for Ecology to adopt the new federal treatment standard for batteries.
Budget status for continued operations	Funding has been requested in the FY 2005 through FY 2006 budgets and currently is planned to be requested through FY 2009.
Planned completion of treatment using this facility	The baseline plan anticipates that the majority of these treatability groups will be processed using commercial treatment. Stored inventories are expected to decrease with anticipated processing rates. Because waste generation is expected to continue through the life of the Hanford Site cleanup operations, continued treatment will be needed into the foreseeable future.
Alternative facilities that could be used in place of this facility or to supplement capacity for this facility.	The T Plant Complex has macroencapsulation capability and could be used to supplement commercial facilities. Other commercial facilities also could be used in the future.

CY calendar year
 FY fiscal year
 MLLW mixed low-level waste
 PEcoS Pacific EcoSolutions
 RCRA *Resource Conservation and Recovery Act of 1976*
 Tri-Party Agreement *Hanford Federal Facility Agreement and Consent Order*

9.1.3 Thermal Treatment of Organics

MLLW containing organic materials will be treated thermally. The material could be debris waste, other solid waste, or liquid waste. Waste currently in storage has been characterized sufficiently for proper designation and storage on the Hanford Site. Before waste treatment, the existing TSD record information will be reviewed and characterization corrections will be made as necessary based on existing acceptable knowledge. The thermal treatment process destroys organic materials by oxidation, combustion, and/or pyrolysis. Additional commercial processing contracts will be awarded competitively as needed.

Table 9-3. Commercial Thermal Treatment Process Summary.

Type of information	Information
Treatability groups the process is expected to treat	MLLW-03, Organic Non-Debris.
Tri-Party Agreement milestones related to this treatability group	TPA Interim Milestone M-091-12A, Complete thermal treatment of 240 m ³ of waste by 9/30/2005. M-091-12, Complete thermal treatment of an additional 360m ³ of waste by 11/16/2007. M-091-42.
Projected volume of MLLW to be treated between CY 2005 and the end of CY 2009	Treatment will be performed in accordance with M-091 milestones. M-091-12 requires the treatment of 600m ³ of waste by 11/16/2007. M-091-42 requires work-off of the remaining backlog by 12/31/2009.
Treatment capacity	Treatment capacity appears to be adequate to thermally treat 600 m ³ of MLLW by 11/16/2007.

Table 9-3. Commercial Thermal Treatment Process Summary.

Type of information	Information
Budget status for continued operations	Funding has been requested in the FY 2005 budget and currently is planned to be requested through the FY 2009.
Planned completion of treatment using commercial facilities	The baseline plan anticipates that the majority of this treatability group will be processed with commercial contracts because other DOE thermal treatment capability is not available. Stored inventories are expected to decrease with anticipated processing rates. Because waste generation is expected to continue through the life of Hanford Site cleanup operations, continued treatment will be needed into the foreseeable future.
Alternative facilities that could be used in place of this facility or to supplement capacity for this facility.	Other treatment technologies will be available for treating this waste stream. Examples include molten salt oxidation, direct chemical oxidation, and thermal desorption.

CY calendar year
 FY fiscal year
 GASVIT gasification-vitrification
 MLLW mixed low-level waste
 RCRA *Resource Conservation and Recovery Act of 1976*
 Tri-Party Agreement *Hanford Federal Facility Agreement and Consent Order*

9.1.4 T Plant Complex

The commercial stabilization and macroencapsulation treatment could be supplemented or replaced by capability that exists within the T Plant Complex. While the T Plant Complex canyon is being planned for use in treating RH waste (Section 9.2.1), the T Plant Complex canyon also has been used to open, inspect, segregate, and repackage mixed waste. The 2706-T Building within the T Plant Complex is a decontamination area with the capability to open, sample, sort, treat, and repackage boxes and drums of CH mixed waste. Some of the waste planned to go to commercial treatment facilities will be inspected in the 2706-T Building before being shipped offsite for treatment and some waste will be inspected following treatment. Table 9-4 contains information on the T Plant Complex.

Table 9-4. T Plant Complex Treatment Activities Summary.

Type of information	Information
Treatability groups that the process is expected to treat	MLLW-02, Inorganic Non-Debris, and MLLW-04B, and Non-O/C Hazardous Debris.
Tri-Party Agreement milestones related to these treatability groups	M-091-42.
Projected volume of MLLW to be treated between CY 2005 and the end of CY 2009	Treatment will be performed in accordance with M-091 milestones.
Treatment capacity	Permitted capacity is 150 metric tons per day.
Regulatory status information:	
- Date of RCRA permit application	T Plant Complex submitted in 2002 to Ecology
- Date treatment contract established	NA.
- Date facility construction started	1943.
- Date system testing started	NA.

Table 9-4. T Plant Complex Treatment Activities Summary.

Type of information	Information
- Date operations begin	Mixed waste operations under interim status, Part A Permit Application, began 8/19/87.
- Current regulatory status	Operating under interim status to a current Part A Permit Application.
Budget status for continued operations	Funding has been requested in the FY 2005 through FY 2006 budgets and currently is planned to be requested through FY 2009.
Planned completion of treatment using this facility	The baseline plan anticipates that the majority of this treatability group will be processed using commercial treatment; however, significant treatment activities have occurred and could occur at T Plant Complex. Stored inventories are expected to decrease with anticipated processing rates. Because waste generation is expected to continue through the life of the Hanford Site cleanup operations, continued treatment will be needed into the foreseeable future.
Alternative facilities that could be used in place of this facility or to supplement capacity for this facility.	The primary treatment processes are expected to be the commercial treatment facilities described in Sections 9.1.1 and 9.1.2.

FY fiscal year
 MLLW mixed low-level waste
 NA not applicable
 RCRA *Resource Conservation and Recovery Act of 1976*
 Tri-Party Agreement (TPA) *Hanford Federal Facility Agreement and Consent Order*

9.1.5 Environmental Restoration Disposal Facility Treatment

Waste amenable for treatment through grouting or macroencapsulation is performed within the disposal cells. Specific information on the ERDF treatment activities is included in Table 9-5.

Table 9-5. Environmental Restoration Disposal Facility Treatment Activities Summary.

Type of information	Information
Treatability groups that the process is expected to treat	ERDF – Treatment, MLLW-02, MLLW-04A, and MLLW-04B.
Tri-Party Agreement milestones related to this treatability group	None. Treated as generated in compliance with regulatory timeframe; no compliance agreement required.
Projected volume of MLLW to be treated between CY 2005 and the end of CY 2009	63,000 m ³ .
Treatment capacity	NA.
Regulatory status information:	
- Date of RCRA permit application	NA.
- Date facility construction started	NA.
- Date operations begin	1996.
- Current regulatory status	Facility is operating under a CERCLA ROD issued in 1995, amended in 1997, 1999, and 2002.
Budget status for continued operations	Funding is included as part of the Richland Environmental Restoration Project.

Table 9-5. Environmental Restoration Disposal Facility Treatment Activities Summary.

Type of information	Information
Planned completion of treatment using this facility	2035.
Alternative facilities that could be used in place of this facility or to supplement capacity for this facility.	Commercial macroencapsulation or other commercial treatment methods could be used for some waste at significantly increased costs.

CERCLA *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
 CY calendar year
 ERDF Environmental Restoration Disposal Facility
 FY fiscal year
 MLLW mixed low-level waste
 RCRA *Resource Conservation and Recovery Act of 1976*
 ROD record of decision
 Tri-Party Agreement *Hanford Federal Facility Agreement and Consent Order.*

9.1.6 200 Area Effluent Treatment Facility and Liquid Effluent Retention Facility

Numerous Hanford Site activities generate low-level aqueous waste. Radioactive effluents are generated primarily in the 200 Areas. The Liquid Effluent Retention Facility (LERF) consists of three RCRA-compliant surface impoundments for storing low-level aqueous waste. The LERF provides segregation of RCRA- and CERCLA-regulated feed and equalization of the flow and pH of the feed to the 200 Area Effluent Treatment Facility (ETF). Each LERF basin has a capacity of 30 million L (7.8 million gal). A truck unloading station allows receipt of liquid effluents from other projects for transfer either to the LERF for storage or directly to the ETF for treatment.

Liquid effluents stored in LERF are treated in ETF to remove toxic metals, radionuclides, and ammonia, and to destroy organics. The ETF treatment process constitutes best available technology (BAT) treatment and includes pH adjustment, filtration, ultraviolet light/peroxide destruction of organics, reverse osmosis, degasification, and ion exchange. Storage tanks allow for hold-up of the treated effluent to verify that the waste has been treated to concentration levels in the permit before discharge. The treated effluent is discharged under a Washington Administrative Code (WAC) 173-216 State Waste Discharge Permit to a state-approved land disposal site (SALDS) north of the 200 West Area after being delisted (40 Code of Federal Regulations [CFR] 261, Appendix IX, Table 2). Table 9-6 contains information on ETF.

The purgewater agreement signed by DOE, Ecology, and the EPA is being renegotiated. Currently, aqueous waste (Purgewater treatability group) from wells is received at the 600 Area Purgewater Storage and Treatment Facility (PSTF) and is treated via solar evaporation. The aqueous waste is from well sampling, well maintenance, and well drilling. Under the revised agreement, this waste could be sent to ETF for treatment and disposal. For this report, the 2005 to 2009 purgewater forecast is maintained in the PSTF treatability group. The forecast might be revised to reflect the transfer to the ETF treatability group depending on the outcome of renegotiations.

Table 9-7. HWTU Summary.

Type of information	Information
Treatment capacity	14 m ³ /day.
Regulatory status information:	
- Date of RCRA permit (final status)	1998 (Part A, Form 3, application 1988).
- Date facility construction started	1952.
- Date system testing started	1991.
- Date operations begin	1991.
- Current regulatory status	Final permit.
Budget status for continued operations	Funding has been included in the current 8-year plan.
Planned completion of treatment using this facility	2009.
Alternative facilities that could be used in place of this facility or to supplement capacity for this facility	Commercial treatment facilities could have capacity to treat some of the waste streams.

CY calendar year
 HWTU Hazardous Waste Treatment Unit
 MLLW mixed low-level waste
 RCRA *Resource Conservation and Recovery Act of 1976*
 Tri-Party Agreement *Hanford Federal Facility Agreement and Consent Order.*

9.1.8 222-S Laboratory Complex

The 222-S Laboratory Complex is a RCRA permitted TSD unit used to manage waste generated from 222-S Laboratory Complex operations and other CH2M HILL group wastes that can not be sent off-site for treatment within the 90-day accumulation time frame. The storage locations reported in this treatability group include the three container storage units identified on the 222-S Laboratory Complex Part A Permit Application. The 222-S Laboratory Complex is located in the 200 West Area. Waste that is not LDR compliant for disposal is sent off-site for treatment. Waste that meets disposal requirements is sent to the Low Level Burial Grounds (LLBG). Table 9-8 contains information on the 222-S Laboratory Complex.

Table 9-8. 222-Laboratory Complex Summary.

Type of information	Information
Treatability groups that the process is expected to treat	222-S Laboratory Complex.
Tri-Party Agreement milestones related to this treatability group	None.
Projected volume of MLLW to be treated between CY 2005 and the end of CY 2009	The volume projected to be generated.
Treatment capacity	None at the 222-S Laboratory Complex.
Regulatory status information:	
- Date of RCRA permit application	August 2000, October 2000, and March 2001.
- Date facility construction started	1950.
- Date system testing started	1951.
- Date operations begin	1951.
- Current regulatory status	Interim status.
Budget status for continued operations	Funding has been included in the current 8-year plan.

Table 9-8. 222-Laboratory Complex Summary.

Type of information	Information
Planned completion of treatment of waste from this facility.	2035.
Alternative facilities that could be used in place of this facility or to supplement capacity for this facility	Commercial treatment facilities will have capacity to treat the waste streams.

CY calendar year
 MLLW mixed low-level waste
 RCRA *Resource Conservation and Recovery Act of 1976*
 Tri-Party Agreement *Hanford Federal Facility Agreement and Consent Order.*

9.1.9 Waste That Currently Meets Disposal Requirements

Some mixed waste does not require treatment to meet LDR requirements before disposal. Based on an agreement with Ecology on February 6, 2003, waste that is directly disposed is excluded from the LDR report. The largest volume of this mixed waste is generated by the environmental restoration activities conducted under CERCLA which is transferred directly to ERDF for disposal. The MLLW-01, LDR Compliant, treatability group includes waste that do not require treatment to meet LDR standards prior to disposal. Most of the MLLW-01 treatability group waste will be disposed in the LLBG or ERDF, depending on waste acceptance criteria. This waste falls outside the scope of the LDR report, when storage does not occur based on an agreement with Ecology on February 6, 2003. A treatability group that does not require treatment but storage is occurring at the CWC is MLLW-01, LDR Compliant Waste. Most of this waste stream will be disposed of in the LLBG and ERDF. A fraction of the waste in the MLLW-01 treatability group currently does not meet DOE requirements for disposal, but eventually will be processed to meet these requirements (e.g., filling of voids). Waste not meeting all disposal requirements is stored. Section 9.5 summarizes the information for the ERDF and LLBG capabilities.

9.2 MIXED WASTE STREAMS FOR WHICH TECHNOLOGY EXISTS BUT NEEDS ADAPTATION

As discussed in the following sections, processing is needed for the RH waste currently on the Hanford Site and for the RH waste expected to be generated in the future.

9.2.1 T Plant Complex For M-091 Capability

In a previous evaluation of alternatives (HNF-6287), modifying the T Plant Complex is identified as the lowest cost alternative. The modified portion of the T Plant Complex is known on the Hanford Site as the "M-091 Capability", named for the M-091 Tri-Party Agreement milestone that requires this. The M-091 Capability also is anticipated to provide for processing of the RH TRUM waste and the CH TRUM waste that cannot be accepted into the Waste Receiving and Processing (WRAP) Facility. These waste types are discussed in more detail in the TRUM section. Table 9-8 contains information on the M-91 Capability for MLLW.

Table 9-9. Summary of the M-091 Capability at the T Plant Complex.

Type of information	Information
Treatability groups that the process is expected to treat	MLLW-07, RH and Large Container.
Tri-Party Agreement milestones related to this treatability group	M-091-15, and M-091-43.
Technology needed for facility	Technology needs for processing all this waste are expected to be complex; it is anticipated that in addition to developing existing technology capabilities, further technology demonstrations and deployments are required.
Projected volume of MLLW to be treated between CY 2005 and the end of CY 2009	Treatment will be performed in accordance with M-091 milestones.
Treatment capacity	To be determined based on design reports.
Regulatory status information:	
- Design reports	Engineering study/functional design criteria for CH large/oversize sized MLLW containers 9/30/2005. Engineering study/functional design criteria for RL MLLW by 12/31/2007.
- Submittal of RCRA permit application	Expected to be a modification to T Plant Complex Permit.
- Date operations begin	6/30/2008.
- Current regulatory status	NA.
Budget status for design, construction, and operations	Included in budget requests.
Estimated date of completion of treatment with the assumption of available funding.	RH waste continues to be produced through the operation and decontamination and decommissioning (D&D) of tank farms and vitrification facilities; therefore, treatment will continue through at least 2032.
Alternatives for treating this waste.	Several alternatives have been considered over the past 5 years. The most attractive alternative is construction of a new modular treatment facility for these and other difficult-to-treat waste groups.

CDD	conceptual design document
CY	calendar year
D&D	decontamination and decommissioning
FDC	functional design criteria
MLLW	mixed low-level waste
NA	not applicable
Tri-Party Agreement	<i>Hanford Federal Facility Agreement and Consent Order.</i>

9.2.2 Commercial Amalgamation

Elemental mercury waste requires amalgamation as the best demonstrated available technology (BDAT) treatment. Mercury can be present as a small-percentage component in some waste, but also can be present in high concentrations. Mercury present in concentrations >260 mg/kg requires retorting or roasting to recover the metal.

The Hanford Site inventory of mercury-bearing waste is relatively small, as is the case with inventories at other sites across the DOE complex. As part of an effort to increase the efficiency of the treatment and disposal of this waste across the DOE complex, DOE headquarters is leading an effort to assess the magnitude of the need for mercury-bearing waste treatment across the DOE Complex and to develop a

9.3 MIXED WASTE TREATABILITY GROUPS REQUIRING FURTHER CHARACTERIZATION, OR FOR WHICH TECHNOLOGY DOES NOT EXIST OR A TECHNOLOGY ASSESSMENT HAS NOT BEEN DONE

Treatment planning for these waste treatability groups is less complete and continues.

9.3.1 Treatability Groups for which Further Characterization is Needed

Many of the waste groups currently in storage were stored before the current characterization and classification systems were implemented in 1995. The waste acceptance process at that time emphasized safe storage, and the information collected on the waste was to ensure safe storage. Specific information required for treating the waste was not collected. For this waste, the adequacy of the existing characterization information needs to be re-assessed. Therefore, before waste treatment, the existing TSD record information will be reviewed and corrections will be made as necessary based on existing knowledge.

The current baseline assumes that waste requiring additional characterization is characterized in sequence with and near planned treatment and disposal dates. The close coordination of waste characterization schedules with planned treatment and disposal dates has the following benefits.

- Coordination avoids long lag times between characterization and treatment and disposal, minimizing the potential need to recharacterize waste as acceptance, treatment, and disposal criteria evolve.
- Coordination allows for closer matching of characterization efforts with budget constraints.

A settlement agreement was completed to address mixed waste treatment under the Tri-Party Agreement M-091 milestone series that would include many of the waste groups currently in storage. Any characterization necessary to perform treatment is anticipated to be performed in accordance with M-091 milestones.

9.3.2 Treatability Groups For Which Treatment Technology Has Not Been Selected

Some waste streams in storage have not had technology assessments or selection completed so the streams can be assigned to treatability groups for treatment in existing treatment processes. When the technology assessments for the waste in this category have been completed, many of the waste streams probably can be treated in one of the existing processes. Waste treatability groups for which treatment technologies have not been selected include the following:

- MLLW-08, Unique Waste
- MLLW-10, Reactive Metals
- B Plant Cell 4
- B Plant Containment Building
- 241-CX Tank System
- Hexone Storage and Treatment Facility (HSTF)
- 222-S T8 Tunnel
- 221-T Tank System.

MLLW-10, Reactive Metals (Table 9-11), represents a relatively small volume. As is the case with the inventory of reactive metals waste on the Hanford Site, these waste categories are common with waste

categories at other sites across the DOE complex. As part of the effort to increase the efficiency of treatment and disposal of this waste across the DOE complex, DOE headquarters is leading an effort to assess the need for reactive metal treatment and develop a national contract for treating this waste. In the Hanford Site baseline, the plan is to focus on larger volume waste categories for which treatment capabilities or contracts exist and await the outcome of the national coordination effort before treating these smaller waste streams.

Table 9-11. Information for Selected Treatability Groups for Which Treatment Technology Assessments have not been Completed.

Type of information	Information
Treatability groups included in this category	MLLW-08, Unique Waste, MLLW-10, Reactive Metals.
Tri-Party Agreement milestones related to these treatability groups	M-091-42.
Projected volume of MLLW to be treated between CY 2005 and the end of CY 2009	Treatment will be performed in accordance with M-091-042 milestone.
Technology needed for facility	NA.
Characterization status information:	
- Characterization needed defined	NA.
- Characterization milestones	NA.
Treatment status information:	
- Treatability testing	NA.
- Feasibility analysis and reports	NA.
- Bench- and pilot-scale testing reports	NA.
- Research, development, and demonstration projects	NA.
- Design reports	NA.
- Permitting milestones	NA.
- Treatment milestones	M-091-42.
Budget status for testing, development, design, construction, and operations	Budget has been requested for the activities.
Estimated completion date for treatment of treatability groups with the assumption of available funding.	Treatment will be performed in accordance with M-091-42 milestone.

MLLW mixed low-level waste
 NA not applicable
 TBD to be determined
 Tri-Party Agreement *Federal Facility Agreement and Consent Order.*

The waste included in the B Plant Cell 4 and B Plant Containment Building treatability groups is stored in a facility managed under a regulator-approved long-term surveillance and maintenance (S&M) plan (DOE/RL-99-24). Therefore, active management of the waste is not planned in the near term. Ongoing S&M activities for these two B Plant Complex treatability groups will be conducted in accordance with the approved S&M plan and associated Tri-Party Agreement commitments until DOE Headquarters decides to initiate the disposition phase or other actions required under the terms of the *Tri-Party Agreement Action Plan*, Section 8.1 or 8.3.3.

Waste in both the 241-CX Tank System and the HSTF treatability groups will be addressed as part of the remedial action of the 200-IS-1 Operability Unit.

In the resolution negotiations for the Notices of Deficiency the 222-S Laboratory Complex Part B permit application, Ecology agreed that the 222-S T8 Tunnel waste can remain in the 222-S Laboratory Complex until closure. The current schedule reflects initiating cleanout of the 222-S Laboratory Complex in FY 2033 and transition to facility disposition in FY 2035.

Information concerning the 221-T Tank System Waste is included in Table 9-12.

Table 9-12. Information for the 221-T Tank System Waste for Which Treatment Technology Assessments have not been Completed.

Type of information	Facility Information
Treatability group included in this category	221-T Tank System
Tri-Party Agreement milestones related to this treatability group	Completed.
Technology needed for facility	None.
Projected volume of MLLW to be treated between CY 2005 and the end of CY 2009	0
Characterization status information	
- Characterization needed defined	Unknown until the treatment capability is defined. This waste might change radioactivity categories from LLMW to TRUM through evaporation.
- Characterization milestones	NA.
Treatment status information:	
- Treatability testing	NA.
- Feasibility analysis and reports	NA.
- Bench- and pilot-scale testing reports	NA.
- Research, development, and demonstration projects	NA.
- Design reports	NA.
- Permitting milestones	Complete (M-20-51).
- Treatment milestones	12/2007 for evaporation of liquid fraction only. Solids proposed to be handled with canyon disposition, in accordance with DOE-RL to Ecology letter #01-RCA-192, dated 3/29/01.
Budget status for testing, development, design, construction, and operations	Priorities within the next 5-year window do not include working on this waste group.
Estimated completion date for treatment of treatability group with the assumption of available funding	With canyon disposition.

DOE-RL U.S. Department of Energy, Richland Operations Office
 Ecology Washington State Department of Ecology
 MLLW mixed low-level waste
 NA not applicable
 Tri-Party Agreement *Federal Facility Agreement and Consent Order*
 UHC underlying hazardous constituents

9.4 RADIONUCLIDE SEPARATION PLANS

For MLLW, the only process that involves extensive separations is aqueous waste treatment at ETF. No separation activities specifically are planned for any other MLLW treatability group.

9.5 MIXED WASTE DISPOSAL

MLLW is disposed of in the LLBG mixed waste trenches, ERDF, and Trench 94 of LLBG for defueled naval reactor compartments. The mixed waste trenches and ERDF are discussed in this section. Trench 94 is not included in the scope of this report. Disposal facilities to be used for the disposal of low activity waste (LAW) from the vitrification of high-level waste (HLW) are discussed in Section 11.6.

9.5.1 Low-Level Burial Ground Mixed Waste Trenches

The LLBG mixed waste trenches (218-W-5, Trenches 31 and 34) have been constructed to provide disposal capabilities for a portion of the Hanford Site RCRA mixed waste. Each disposal trench has a capacity of about 24,000 m³ air volume. The LLBG mixed waste trenches are RCRA compliant. In future years, Trenches 31 and 34 are expected to be filled.

9.5.2 Environmental Restoration Disposal Facility

ERDF is a RCRA-compliant landfill authorized under CERCLA. The landfill is used primarily for disposal of environmental restoration waste generated from cleanup activities. ERDF is designed to receive and dispose of low-level radioactive waste or mixed waste generated through remediation activities on the Hanford Site. The original two cells have been filled since the landfill opened in 1996. Cells 3 through 6 been constructed.

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10.0 TRANSURANIC MIXED WASTE STREAMS

On the Hanford Site, all newly generated small container CH TRUM is certified through the Hanford Site TRU Program. Functions in support of certification are conducted predominantly at the WRAP Facility, but some functions are performed at other locations, including T Plant Complex, the analytical laboratories, and the generating facilities. Oversized and RH waste generated near term is stored to await processing via the M-091 capability and certification through the Hanford Site TRU Program. The disposition map in Figure 10-1 shows an overview of the anticipated processing of TRUM treatability groups. This figure shows the major waste treatability groups and the planned process for each group.

In accordance with the Settlement Agreement, the applicability of the M-091 contingent milestones is dependent on the outcome of litigation currently in the U.S. District Court for the Eastern District of Washington, Case No. CT-03-5018 AAM. TRUM disposal information provided in this report neither admits nor denies either party's legal positions. The ongoing litigation regarding TRUM waste may result in changes to next years LDR Report.

TRUM Waste Disposition Map

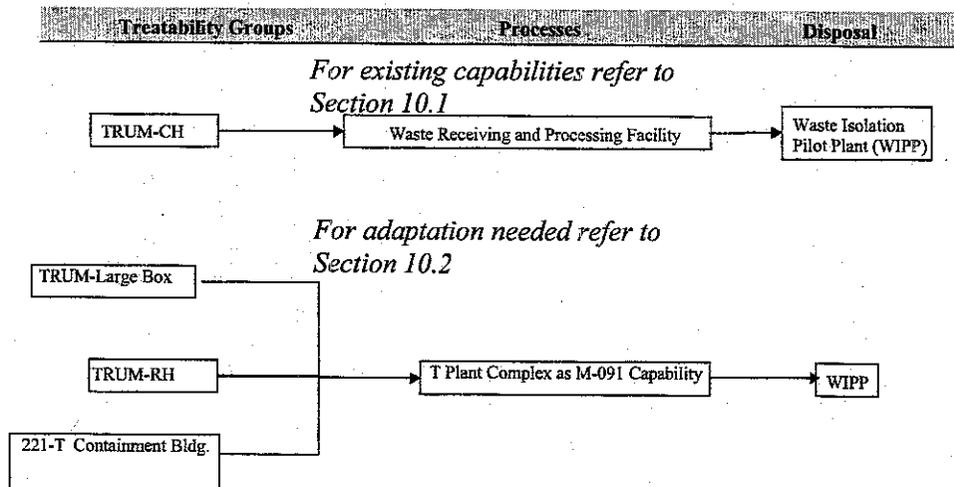


Figure 10-1. Site Disposition Map for TRUM Treatability Groups.

10.1 TRANSURANIC MIXED WASTE STREAMS FOR WHICH PROCESSING TECHNOLOGY EXISTS - WRAP FACILITY

The primary purpose of the WRAP Facility is to certify waste to WIPP waste acceptance criteria for shipment to WIPP. The WRAP Facility provides capabilities to receive waste; confirm contents of drummed and standard waste boxes; repackage, inspect, and certify the waste to WIPP waste acceptance criteria; and provide limited processing of some specific waste types. The WRAP Facility can process only CH waste in drums or standard waste boxes. Table 10-1 provides information concerning the WRAP Facility.

Table 10-1. Information Concerning Processes at the WRAP Facility.

Type of information	Facility-specific information
Treatability group that the process is expected to treat	TRUM-CH.
Tri-Party Agreement milestones related to this treatability group	M-91-02 Completed.
Projected volume of TRUM to be processed between CY 2005 and the end of CY 2009	M-091-042 contingency milestones.
Treatment capacity	Permitted capacity is 13 m ³ /day.
Regulatory status information:	
- Date of RCRA permit application	6/99 and settlement agreement in 2002.
- Date treatment contract established	NA.
- Date facility construction started	Groundbreaking 4/94.
- Date system testing started	Acceptance test procedures initiated on 2/13/96.
- Date for commencement of operations	Phase I operations [shipping and receiving and NDE/NDA] initiated 3/12/97 Phase II operations (Process Area) initiated 9/9/98.
- Current regulatory status	Operating under interim status; transition to final status is pending.
Budget status for continued operations	Funding has been requested in the FY 2005 and FY 2006 budgets and currently is planned to be requested through FY 2009.
Planned completion of treatment using this process	2032.
Alternative processes that could be used in place of this process or to supplement capacity for this process.	No other single facility within the DOE complex embraces the scope of the capabilities of the WRAP Facility. The complete set of processes is available, though, at several other DOE locations: INL, Rocky Flats, Savannah River Site (SRS), and Los Alamos. In addition, repackaging and characterization capabilities have been developed that can be deployed at sites, using temporary rather than permanent installation.

CY	calendar year	NDA	nondestructive assay
DOE	U.S. Department of Energy	NDE	nondestructive examination
INL	Idaho National Laboratory	Tri-Party Agreement	<i>Hanford Federal Facility Agreement and Consent Order</i>
Los Alamos	Los Alamos National Laboratory	SRS	Savannah River Site
		WRAP	Waste Receiving and Processing Facility

10.2 TRANSURANIC MIXED WASTE TREATABILITY GROUPS FOR WHICH CHARACTERIZATION AND PROCESSING TECHNOLOGIES NEED ADAPTATION

Current planning includes modifying the T Plant Complex to provide treatment capability to meet the M-091 Milestone requirements. The requirements are to provide for the processing of RH TRUM and oversize containers of TRUM waste. The T Plant Complex (M-091 Capability) also is anticipated to provide for processing of unique TRUM waste streams. The RH waste processing needs to use remote processing methods and technologies. Existing technologies need to be adapted and better technologies developed to improve operational efficiency. The technology information is needed as the process designs are developed. Table 10-2 provides information for the T Plant Complex modification.

Table 10-2. Information for Modifications of T Plant Complex to Meet M-091 Processing Commitments.

Type of information	Information
Treatability group that the process is expected to treat	TRUM-Large Box; TRUM-RH; 221-T Containment Building.
Tri-Party Agreement milestones related to these treatability groups pending finalization of the TPA M-091 settlement agreement.	M-091-01 and M-091-05-T01.
Technology needed for facility	Remote handling and processing technologies.
Projected volume of TRUM to be processed between CY 2005 and the end of CY 2009	Processing not included in baseline funding through 2009.
Treatment capacity	To be determined by design reports.
Regulatory status information:	
- Design reports	Functional design criteria (RH and boxes) proposed 2007. Conceptual design report (RH and boxes) proposed 2008.
- Submittal of permit application	To be determined during design.
- Date for commencement of operations	2012.
- Current regulatory status	In planning.
Budget status for design, construction, and operations	Included in long-range budgets, but not within the 2009 window of this report.
Estimated date of processing completion of treatability groups with the assumption of available funding.	2032.
Alternatives for processing of this waste.	Construction of a new facility or a set of modules.

Note: TRUM waste processing is anticipated to be performed as necessary to support the results of the LDR Storage and Treatment Claim in Washington vs. Abraham, No. CT-03-5018-AAM.

CY calendar year
RH remote handled
Tri-Party Hanford Federal Facility Agreement and Consent Order Agreement
TRUM transuranic mixed

10.3 TRANSURANIC MIXED WASTE TREATABILITY GROUPS WITH PROCESSING TECHNOLOGY NOT SELECTED

This section covers treatability groups that do not have a processing method. Before a processing method can be specified for these media, additional technology assessments need to be performed and/or further characterization might need to occur. Once a processing method is specified and before waste treatment, the existing TSD record information will be reviewed and characterization corrections will be made as necessary based on existing acceptable knowledge. Process planning for the following treatability groups continues:

- PUREX Plant
- PUREX Storage Tunnel
- 324 Building Radiochemical Engineering Cells (REC) Waste.

The waste associated with these treatability groups needs to be characterized to meet WIPP waste acceptance criteria. RH equipment and techniques are needed to support characterization for most of the waste.

Waste transfers to certain onsite TSD units are performed in accordance with HNF-EP-0063. This document specifies waste characterization criteria necessary to support proper interim storage and future processing, storage, and/or disposal requirements for TRUM waste. Future Hanford Site waste management requirements related to these streams are currently the subject of the M-091 settlement agreement and the LDR Storage and Treatment Claim in *Washington vs. Abraham, No. CT-03-5018-AAM*.

10.3.1 PUREX Storage Tunnels

The PUREX Storage Tunnels are a RCRA-regulated storage unit and are subject to Hanford Facility RCRA permit conditions. Waste in the PUREX Storage Tunnels treatability group is being stored at a final status miscellaneous unit. Under the Hanford Facility RCRA Permit, closure of the PUREX Storage Tunnels must be coordinated with the final closure plan for the PUREX facility which is under S&M provisions of Section 8.0 of the TPA. Therefore, PUREX Storage Tunnels waste disposition will be coordinated with PUREX Plant waste discussed in Section 10.3.2.

10.3.2 PUREX Plant

Ongoing S&M activities for the PUREX Plant treatability group are conducted in accordance with the approved S&M plan and associated Tri-Party Agreement commitments until DOE Headquarters decides to initiate the disposition phase or actions required by the lead regulatory agency pursuant to the terms of the Tri-Party Agreement Action Plan, Sections 8.1 or 8.3.3. The waste included in the PUREX Plant treatability group is stored under a regulator-approved long-term S&M plan. Therefore, active management of the waste is not planned in the near term.

10.3.3 324 Building Radiochemical Engineering Cell Waste

DOE-RL is working with Ecology to modify the closure plan and existing TPA milestones to perform closure of the mixed waste units in parallel with disposition/demolition of the 324 Building.

10.4 DISPOSAL OF TRANSURANIC MIXED WASTE

As noted in Figure 10-1, the current plan is to ship certified TRUM waste to WIPP. Waste being disposed of at WIPP must meet WIPP waste acceptance requirements. Waste is shipped to WIPP in appropriate containers and special packages. Table 10-3 provides specific information on the disposal of TRUM waste.

In accordance with the Settlement Agreement, the applicability of the M-091 contingent milestones is dependent on the outcome of litigation currently in the U.S. District Court for the Eastern District of Washington, Case No. CT-03-5018 AAM. TRUM disposal information provided in this report neither admits nor denies either party's legal positions. The ongoing litigation regarding TRUM waste may result in changes to next years LDR Report.

10.5 RADIONUCLIDE SEPARATION PLANS

No plans exist for radionuclide separation as a processing step for TRUM waste because radionuclide separation is not required for these treatability groups to meet WIPP disposal criteria.

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11.0 HIGH-LEVEL WASTE STREAMS

Figure 11-1 shows an overview of the anticipated treatment of HLW treatability groups. The basic process will be for the SST System waste to be moved to the DST System as space becomes available. The waste will be moved from the DSTs to a waste pretreatment or separation unit where most of the high-activity material will be removed and sent to the high-level vitrification unit. The larger volume of remaining low-activity waste will be sent to a separate low-activity vitrification unit. The vitrification processes will convert the waste into a stable glass-like material for interim storage and eventual disposal. Note that the contents of some SSTs may classify as TRUM, not high-level, waste. If so, these wastes would be expected to follow a different treatment path.

It has been determined per the *Framework Agreement for Management of PCBs in Hanford Tank Waste* (Ecology 2000), dated August 31, 2001, that some DSTs contain PCB remediation waste. The risk-based disposal approval process addresses the disposal of PCB remediation waste through the waste treatment plant (WTP) where PCBs have been addressed as a constituent of concern. Figure 5-1 shows the HLW treatability groups and the planned treatment process.

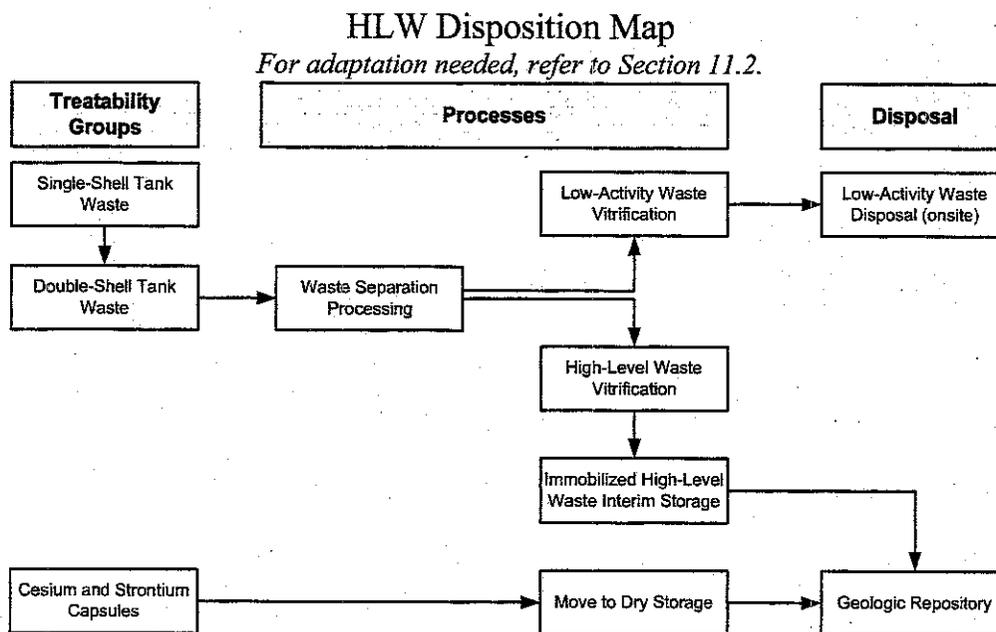


Figure 11-1. High-Level Waste Disposition Map.

11.1 EXISTING TREATMENT PROCESSES

No HLW LDR treatment processes currently are available for treating the Hanford Site waste. The Hanford Site does have HLW evaporators used for many years to concentrate HLW in the tanks and to make tank space available for new or transferred waste. The 242-A Evaporator operation is not LDR treatment; however, operations result in sending a portion of the tank waste (condensate) to LDR treatment at LERF/ETF. The 242-A Evaporator operation is not covered in this LDR report.

11.2 WASTE STREAMS FOR WHICH TREATMENT TECHNOLOGY IS NEEDED

The LDR-specified treatment technology for HLW is vitrification (HLVIT). Planning for vitrification processes for the Hanford Site is ongoing and is a high priority. Details of the contract for completion of the design and construction of the treatment units for the HLW are available on the Internet¹. Additional details of the planning for HLW management also are available on the Internet¹. Table 11-1 summarizes the key information.

Table 11-1. Information for High-Level Waste Vitrification.

Type of information	Information
Treatability groups that the process is expected to treat	DST Waste; SST Waste.
Tri-Party Agreement milestones related to these treatability groups	M-092-00; M-090-00; and M-062-00.
Technology needed for facility	Vitrification technology has been used at both Savannah River Site and West Valley, but needs some modifications to be applicable to Hanford Site waste.
Projected volume of HLW to be treated between CY 2005 through the end of CY 2009	Sustained throughput of HLW vitrification is scheduled for 2011.
Treatment capacity	To be determined by final design.
Regulatory status information:	
- Submittal of RCRA permit application	WTP: Final status obtained September 2002. DST System: Revised Part B Permit Application 8/2003.
- Date design and construction contract established	2000
- Date facility construction began	2002.
- Date complete hot commissioning	2011.
- Current regulatory status	DST: Operating under interim status SST: Operating under interim status WTP: Construction under final status
Budget status for design, construction, and operations	Funding is available for FY 2005 to continue design and plans for construction. Funding for FY 2006 and beyond is contingent on Congressional budgets and actions.
Estimated treatment completion date of treatability group with the assumption of available funding.	<i>Complete Pretreatment Processing and Verification of Hanford HLW and LAW Tank Wastes, Tri-Party Agreement Milestone M-62-00 due 12/31/2028.</i>
Alternatives for treatment of this waste.	None

CY	calendar year	ILAW	immobilized low-activity waste
DST	double-shell tank	SST	single-shell tank
FY	fiscal year	Tri-Party Agreement	<i>Hanford Federal Facility Agreement and Consent Order</i>
HLW	high-level waste	WTP	Waste Treatment Plant
IHLW	immobilized high-level waste		

11.3 RADIONUCLIDE SEPARATION

The tank waste will be sent to the WTP where the waste will be separated into HLW and LAW fractions and treated to meet LDR standards.

¹ Internet addresses are given in the reference list (Chapter 16).

11.4 STORAGE OF HIGH-LEVEL WASTE

Initial canisters of vitrified HLW will be placed in storage in the existing Canister Storage Building, pending final disposal. Additional modules of the Canister Storage Building will be built as needed. The maximum need will be determined at a later date and depends on both the vitrification rate and the ability to ship waste from the Hanford Site to a national repository.

WESF stores the cesium and strontium capsules in pool cells. DOE plans to transfer the capsules from the pool cell to dry storage for shipment to a national repository. Treatment options are still being assessed in order to meet M-092-05. Several details of the plan must be worked out with Ecology including how to address the existing TPA milestones relating to the capsules (see the datasheets in Appendix B) and how to address RCRA permitting of the activity.

11.5 SHIPMENT OF HIGH-LEVEL WASTE TO A NATIONAL REPOSITORY

A national repository is expected to be prepared for the HLW and for the spent nuclear fuel accumulating at commercial nuclear power plants. Shipment dates are uncertain at this time, but will become more specific when the site is licensed and the national repository constructed and prepared to receive the HLW. These activities are beyond the scope of this report.

11.6 DISPOSAL OF THE MIXED LOW-ACTIVITY WASTE ONSITE

Initially, vitrified mixed LAW from the WTP and up to 50 boxes of vitrified mixed LAW from the Demonstration Bulk Vitrification System will be disposed onsite at the Integrated Disposal Facility (IDF). In 2004 it was determined that the IDF will be permitted and constructed in phases. The initial phase will allow disposal of 82,000 cubic meters of mixed LAW. The IDF will be a RCRA, Subtitle C, TSD unit.

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12.0 TREATMENT OF POTENTIAL MIXED WASTE

Potential mixed waste is identified in Appendix C of this report. Some of the materials as managed in the future could result in the generation of mixed waste, which would be assigned to an existing or new treatability group. If the material is assigned to an existing treatability group, treatment can be considered along with that of the other location-specific waste streams within that treatability group. Other potential mixed waste may require new or modified treatment processes. Treatment plans for these waste streams will be defined further when the streams are determined to be mixed waste. Other materials will be determined not to be mixed waste and will be handled accordingly.

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13.0 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. The information must be sufficient to quantify constituents of regulatory concern and to determine waste characteristics and unit-specific waste acceptance criteria.

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 13-1 summarizes the planned characterization activities for each of the treatability groups. Additional detail can be found on the individual location-specific data sheets (Appendix B). One column of information from Table 13-1 is reproduced in Table 2-2.

Table 13-1. Summary of Characterization Information for Each Treatability Group.

Treatability Group Name	Report section	Additional characterization activities	Planned characterization schedule	Related Tri-Party Agreement milestone
221-T Containment Building	10.2	Completed.	Completed	Completed
221-T Tank System	9.3.2	Additional characterization might be required to support waste treatment.	Will be done in conjunction with T Plant Complex Canyon disposition.	Completed.
222-S Laboratory Complex	9.1.8	Characterization performed as generated.	Completed.	Completed.
222-S T8 Tunnel	9.3.2	As required to initiate cleanout of 222-S.	2033	None.
241-CX Tank System	9.3.2	Additional characterization will be required to support 200-IS-1 Operable Unit studies.	To be determined through future negotiations.	Major Milestone M-013-00M and interim Milestone M-020-54.
324 Building REC Waste	10.3.3	No further characterization planned for transfer to CWC. Additional characterization could be required to meet WIPP WAC.	Completed.	M-089-00.
325 HWTU	9.1.7	Characterization performed as generated.	Completed.	None.
B Plant Cell 4	9.3.2	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. Determined via Section 8.0 of the Tri-Party Agreement Action Plan.

Table 13-1. Summary of Characterization Information for Each Treatability Group.

Treatability Group Name	Report section	Additional characterization activities	Planned characterization schedule	Related Tri-Party Agreement milestone
B Plant Containment Building	9.3.2	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. Determined via Section 8.0 of the Tri-Party Agreement Action Plan.
Cesium and Strontium Capsules	11.4	None.	Completed.	None.
DST Waste	11.2	Additional information could be required.	Ongoing.	M-050, M-051, M-061, M-062, M-090.
ERDF – Treatment	9.1.5	Characterized as generated.	Ongoing.	None. Treatment and disposal are performed under CERCLA decision documents.
HSTF	9.3.2	Additional characterization will be required to support 200-IS-1 Operable Unit studies.	To be determined through future negotiations.	Major Milestone M-013-00M.
LERF/ETF Liquid Waste	9.1.6	Characterization performed as generated.	Ongoing.	None.
MLLW-01 – LDR Compliant Waste	9.1.8	Characterization performed as generated ¹ .	M-091 ² .	M-091 ² .
MLLW-02 – Inorganic Non-Debris	9.1.1 and 9.1.4	As necessary to meet treatment facility waste acceptance criteria ¹ .	M-091 ² .	M-091 ² .
MLLW-03 – Organic Non-Debris	9.1.3	As necessary to meet treatment facility waste acceptance criteria ¹ .	M-091-12, M-091-12A, and M-091 ² .	M-091-12, M-091-12A, and M-091 ² .
MLLW-04A – O/C Hazardous Debris	9.1.2	As necessary to meet treatment facility waste acceptance criteria ¹ .	M-091 ² .	M-091 ² .
MLLW-04B – Non-O/C Hazardous Debris	9.1.2 and 9.1.4	As necessary to meet treatment facility waste acceptance criteria ¹ .	M-091 ² .	M-091 ² .
MLLW-05 – Elemental Lead	9.1.2	As necessary to meet treatment facility waste acceptance criteria ¹ .	M-091 ² .	M-091 ² .
MLLW-06 – Elemental Mercury	9.2.2	As necessary to meet treatment facility waste acceptance criteria ¹ .	M-091 ² .	M-091 ² .
MLLW-07 – RH and Large Container	9.2.1	As necessary to meet treatment facility waste acceptance criteria ¹ .	M-091-15 and M-091 ² .	M-091-15 and M-091 ² .
MLLW-08 – Unique Waste	9.3.2	As necessary to meet treatment facility waste acceptance criteria ¹ .	M-091 ² .	M-091 ² .
MLLW-09 – Lead-Acid and Cadmium Batteries	9.1.2	As necessary to meet treatment facility waste acceptance criteria ¹ .	M091 ² .	M-091 ² .

Table 13-1. Summary of Characterization Information for Each Treatability Group.

Treatability Group Name	Report section	Additional characterization activities	Planned characterization schedule	Related Tri-Party Agreement milestone
MLLW-10 – Reactive Metals	9.3.2	As necessary to meet treatment facility waste acceptance criteria ¹ .	M-091 ² .	M-091 ² .
PUREX Plant	10.3.2	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. Determined via Section 8.0 of the Tri-Party Agreement Action Plan.
PUREX Storage Tunnels	10.3.1	To be determined in conjunction with PUREX Plant.	To be determined via Tri-Party Agreement Action Plan, Section 8.0.	None.
Purgewater	9.1.6	Characterization performed as generated.	Ongoing.	None. Addressed in Appendix F of the Tri-Party Agreement (WHC-MR-0039).
SST Waste	11.2	Further information may be required.	Ongoing.	M-045, M-050, M-051, M-061, M-062, M-090.
TRUM-CH	10.1	As necessary to meet WIPP waste acceptance criteria.	M-091 ² .	M-091 ² .
TRUM- Large Box	10.2	As necessary to meet WIPP waste acceptance criteria.	M-091 ² .	M-091 ² .
TRUM-RH	10.2	As necessary to meet WIPP waste acceptance criteria.	M-091 ² .	M-091 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 in accordance with M-091 milestones.

CH	contact handled	RH	remote handled
DST	double-shell tank	SST	single-shell tank
ERDF	Environmental Restoration Disposal Facility	WESF	Waste Encapsulation and Storage Facility
LDR	land disposal restrictions	WIPP	Waste Isolation Pilot Plant
O/C	organic/carbonaceous	WRAP	Waste Receiving and Processing Facility
PCB	polychlorinated biphenyl		
PUREX	plutonium-uranium extraction (facility or process)		

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14.0 SUMMARY OF TREATMENT INFORMATION

This section summarizes the waste treatability groups and the volume of waste that will be treated. Table 14-1 contains information on treatment. The treatability groups are in alphabetical order. Certain information from Table 14-1 is reproduced in Table 2-2.

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Table 14-1. Summary of Treatment Information for Each Treatability Group.

Treatability Group Name	Report section	Treatment process	Volume currently stored (m ³) ¹	Projected generation volume 2005 through 2009 (m ³) ¹	Projected volume to be treated 2005 through 2009 (m ³) ¹	Planned treatment period	Tri-Party Agreement milestone
221-T Containment Building	10.2	M-091 TRUM.	50	0		2025	M-091-01, M-091-05-T01, M-091-15.
221-T Tank System	9.3.2	Not yet determined.	21	0	0	2025	None. T Plant Complex Closure Plan (DOE/RL-95-36).
222-S Laboratory Complex	9.1.8	Commercial-Stabilization, Commercial - Thermal.	12	300	312	2035	None.
222-S T8 Tunnel	9.3.2	Not yet determined.	0.2	0	0	2033	None. 222-S Closure Plan (DOE/RL-91-27).
241-CX Tank System	9.3.2	Not yet determined.	3.0	0	0	To be determined through future negotiations.	To be determined through future negotiations.
324 Building REC Waste	10.3.1	Not yet determined.	5.0	10	0	Before WIPP Closure (~2034).	M-089-00.
325HWTU	9.1.7	HWTU, Commercial-Stabilization, Commercial - Thermal.	11	56	67	Through 2009	None.
B Plant Cell 4	9.3.2	Not yet determined.	1.4	0	0	In accordance with Tri-Party Agreement Action Plan, Section 8.0	None. Determined via Section 8.0 of the Tri-Party Agreement Action Plan
B Plant Containment Building	9.3.2	Not yet determined.	290,000 kilograms	0	0	In accordance with Tri-Party Agreement Action Plan, Section 8.0	None. Determined via Section 8.0 of the Tri-Party Agreement Action Plan
Cesium and Strontium Capsules	11.2	Under evaluation.	2.0	0	0	Treatment options are still being assessed.	M-092-05.
DST Waste	11.2	WTP.	95,000	190	0	2011-2028.	M-050, M-051, M-061, M-062, and M-090.
ERDF - Treatment	9.1.5	ERDF treatment.	81	63,000	63,000	Through 2035.	Treatment and disposal are performed under a CERCLA decision document.

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Table 14-1. Summary of Treatment Information for Each Treatability Group.

Treatability Group Name	Report section	Treatment process	Volume currently stored (m ³) ¹	Projected generation volume 2005 through 2009 (m ³) ¹	Projected volume to be treated 2005 through 2009 (m ³) ¹	Planned treatment period	Tri-Party Agreement milestone
HSTF	9.3.2	Not yet determined.	2.1	0	0	To be determined through future negotiations.	To be determined through future negotiations.
LERF/ETF Liquid Waste	9.1.6	ETF.	47,000	460,000	460,000	Through 2032.	M-026-07A, B, C.
MLLW-01 – LDR-Compliant Waste	9.1.10 & 9.1.6	No treatment required.	210	860	No treatment required.	NA	M-091 ² .
MLLW-02 – Inorganic Non-Debris	9.1.1	Commercial-Stabilization.	920	80	M-091 ²	Through 2035 ³	M-091 ² .
MLLW-03 – Organic Non-Debris	9.1.3	Commercial-Thermal.	1,200	87	M-091 ²	Through 2035 ³	M-091-12a, M-091-12, and M-091 ² .
MLLW-04A – O/C Hazardous Debris	9.1.3	Commercial-Thermal.	3,400	360	M-091 ²	Through 2035 ³	M-091 ² .
MLLW-04B – Non-O/C Hazardous Debris	9.1.2	Commercial-Macro.	1,700	4.1	M-091 ²	Through 2035 ³	M-091 ² .
MLLW-05 – Elemental Lead	9.1.2	Commercial-Macro.	12	70	M-091 ²	Through 2035 ³	M-091 ² .
MLLW-06 – Elemental Mercury	9.2.2	Commercial Amalgamation.	15	1.8	M-091 ²	Through 2035 ³	M-091 ² .
MLLW-07 – RH and Large Container	9.2.1	M-091 MLLW.	230	3.6	M-091 ²	Through 2035 ³	M-091 ² .
MLLW-08 – Unique Waste	9.3.2	Not yet determined.	27	0	M-091 ²	Through 2035 ³	M-091 ² .
MLLW-09 – Lead- Acid and Cadmium Batteries	9.3.2	Not yet determined.	12	7.5	M-091 ²	Through 2035 ³	M-091 ² .
MLLW-10 – Lead Acid and Cadmium Batteries	9.3.2	Not yet determined.	25	0.005	M-091 ²	Through 2035 ³	M-091 ² .
PUREX Plant	10.3.2	Not yet determined.	1.0	0	0	In accordance with Tri-Party Agreement Action Plan, Section 8.0	None. Determined via Section 8.0 of the Tri-Party Agreement Action Plan
PUREX Storage Tunnels	10.3.1	Not yet determined.	2,800	0	0	Coordinated with PUREX Plant waste.	None.
Purgewater	9.1.8	Solar evaporation at PSTF.	3,700	13,000	13,000	Ongoing.	None.

Table 14-1. Summary of Treatment Information for Each Treatability Group.

Treatability Group Name	Report section	Treatment process	Volume currently stored (m ³) ¹	Projected generation volume 2005 through 2009 (m ³) ¹	Projected volume to be treated 2005 through 2009 (m ³) ¹	Planned treatment period	Tri-Party Agreement milestone
SST Waste	11.2	WTP ⁴	120,000	0	0 ⁴	2011-2028.	M-050, M-051, M-061, M-062, and M-090.
TRUM-CH	10.1	WRAP Facility.	4,600	610	M-091 ²	Before WIPP closure (~2034).	None.
TRUM-Large Box	10.2	M-091 TRUM.	6,200	0	M-091 ²	M-091 ² .	None.
TRUM-RH	10.2	M-091 TRUM.	86	4.9	M-091 ²	Before WIPP Closure (~2034).	None.

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

²Treatment is anticipated to be performed in accordance with M-091 milestones.

³2035 is taken as the end of waste processing activities onsite.

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

DST	double-shell tank	SST	single-shell tank
ERDF	Environmental Restoration Disposal Facility	WESF	Waste Encapsulation and Storage Facility
NDA	nondestructive assay	WRAP	Waste Receiving and Processing Facility
PCB	polychlorinated biphenyls	WTP	Waste Treatment Plant
PUREX	plutonium-uranium extraction (facility or process)		

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15.0 TRI-PARTY AGREEMENT INFORMATION

The Tri-Party Agreement is a legal document covering Hanford Site environmental compliance and cleanup activities. The Tri-Party Agreement Action Plan implements the agreements among Ecology, DOE (both the DOE-RL and the DOE- U.S. Department of Energy, Office of River Protection [ORP]), and the EPA.

15.1 DOCUMENTATION AND RECORDS

The Tri Party Agreement Action Plan, Section 9.0, "Documentation and Records", defines the documents to be generated under the Action Plan, the classification and listing of primary and secondary documents, and the record systems to be implemented to preserve and access the documentation. The Action Plan, Section 12, "Changes to the Agreement", establishes a process for the parties to propose and implement changes to elements of the Agreement, the Action Plan, and Appendices, and supporting plans (specifically, the annual update of the LDR report).

15.2 LAND DISPOSAL RESTRICTIONS RELATED TRI-PARTY AGREEMENT MILESTONES

Table 15-1 identifies the current, active Tri-Party Agreement milestone requirements through 2028, with the addition of relevant completed permitting milestones. Pending TPA change control actions are not included.

Table 15-1. Tri-Party Agreement Milestones and Target Dates Through 2028.

Tri-Party Agreement Milestone Requirement Number	Milestone Requirement Title	Due Date
M-015-00	Complete The RI/FS (Or RFI/CMS) Process For All Operable Units	12/31/08
M-015-00C	Complete 200 Area Non-Tank Farm OU Pre-Rod Site Investigations	12/31/08
M-015-39C	Submit Draft A 200-CS-1 Chemical Sewer Group FS And Proposed Plan	11/30/05
M-015-43C	Submit 200-PW-2 OU Feasibility Study And Proposed Plan/Permit Mod	12/31/05
M-015-44A	Submit 200-MW-1 OU Remedial Investigation Report	12/31/05
M-015-44B	Submit 200-MW-1 OU Feasibility Study And Proposed Plan	12/31/06
M-015-45A	Submit Plutonium/Organic-Rich OU Remedial Investigation Report	06/30/06
M-015-45B	Submit Pu/Organic Rich OU Feasibility Study And Proposed Plan	09/30/07
M-015-46A	Submit 200 Area Chemical Laboratory Waste OUs R.I. Report	10/31/05
M-015-46B	Submit 200 Area Chemical Laboratory Waste OUs Feasibility Study	09/30/06
M-015-48A	Submit Draft A 200-ZP-1 CERCLA Remedial Investigation Report	05/31/06
M-015-48B	Submit Draft A 200-ZP-1 CERCLA Feasibility Study/Proposed Plan	05/31/07
M-016-00	Complete Remedial Actions For All Non-Tank Farm Operable Units	09/30/24
M-016-00A	Complete All Interim Response Actions For The 100 Areas	12/31/12
M-016-00B	Complete All Interim 300 Area Remedial Actions	09/30/18
M-016-28B	Initiate In-Field Treatability Test at 100-KR-4	07/01/05
M-016-45	Complete The Interim Remedial Action For The 100 B/C Area	12/31/06
M-016-46	Initiate Remedial Actions For The Remaining 100 D Waste Sites	07/31/06
M-016-47	Complete The Interim Remedial Actions For The 100 D Area	12/31/11
M-016-48	Initiate Remedial Actions For The Remaining 100 F Wastes Sites	07/31/05

Table 15-1. Tri-Party Agreement Milestones and Target Dates Through 2028.

Tri-Party Agreement Milestone Requirement Number	Milestone Requirement Title	Due Date
M-016-49	Complete The Interim Remedial Actions For The 100 F Area	12/31/08
M-016-50	Initiate Remedial Actions For The Remaining 100 H Wastes Sites	07/31/07
M-016-51	Complete The Interim Remedial Actions For The 100 H Area	12/31/10
M-016-52	Initiate Response Actions For The Remaining 100 K Wastes Sites	07/31/09
M-016-53	Complete The Interim Response Actions For The 100 K Area	12/31/12
M-016-54	Initiate Response Actions For The Remaining 100 N Wastes Sites	07/31/08
M-016-55	Complete The Interim Response Actions For The 100 N Area	12/31/12
M-016-56	Complete The Interim Remedial Actions For 100-IU-2 And 100-IU-6	12/31/08
M-016-57	Initiate Soil Remediation at K East Basin	04/30/07
M-016-58	Initiate Soil Remediation at K West Basin	04/30/09
M-016-60	Complete Interim Remedial Actions For 3 Priority Waste Sites	12/31/06
M-016-61	Interim Remedial Actions/High Environmental Priority Waste Sites	12/31/08
M-016-62	Complete Interim Remedial Actions For 300-FF-2 Waste Sites	12/31/12
M-016-63	Submit Schedule & TPA Milestones For 300-FF-2 W.S.	12/31/05
M-016-64	Complete Interim Remedial Actions For 300-FF-2 Waste Sites	09/30/10
M-016-67	Submit Tech Development Summary Report For 618-10 And 618-11	03/31/07
M-016-68	Submit Draft FFS/PP For The 300-FF-5 OU	03/31/05
M-016-69	Complete All Interim 300 Area Remedial Actions	09/30/15
M-016-93	Submit Implementation Workplan To Prepare TRU/TRUM Waste	09/30/06
M-020-00	Submit Part B Permit Application Or Closure Plans/RCRA TSD Units	12/31/08
M-020-00A	Submit Part B Permit Applications Or Closure/Post Closure Plans	02/28/04
M-020-00B	Submit Closure/Post-Closure Plans For 216 & 241 Areas	12/31/08
M-020-01	SUBMIT HWVP PART B TO ECOLOGY AND EPA. (TS-2-5)	07/31/89
M-020-02	SUBMIT 616 STORAGE FACILITY PART B TO ECOLOGY AND EPA	07/31/89
M-020-03	SUBMIT SST SYSTEM CLOSURE/CA WORK PLAN TO ECOLOGY & EPA	09/30/89
M-020-04	SUBMIT 2101-M POND CLOSURE PLAN TO ECOLOGY AND EPA	09/30/89
M-020-05	SUBMIT CENTRAL WASTE COMPLEX-RMW STORAGE PART B TO ECOLOGY/EPA	10/31/91
M-020-06	SUBMIT LOW-LEVEL BURIAL GROUNDS PART B TO ECOLOGY AND EPA	12/31/89
M-020-07	SUBMIT NONRADIOACTIVE DANGEROUS WASTE LANDFILL CLOSURE PLAN	08/31/90
M-020-08	SUBMIT 305-B WASTE STORAGE FACILITY PART B TO ECOLOGY AND EPA	01/31/90
M-020-09	SUBMIT 216-B-3 POND CLOSURE/POSTCLOSURE PLAN TO ECOLOGY AND EPA	03/31/90
M-020-10	SUBMIT 300 AREA WASTE ACID SYSTEM CLOSURE PLAN TO ECOLOGY AND EPA	06/30/90
M-020-10-T01	SUBMIT FOR DOE REVIEW 300 AREA WASTE ACID SYSTEM CLOSURE PLAN	03/31/90
M-020-11	SUBMIT PUREX TUNNELS PART B TO ECOLOGY AND EPA	09/30/90
M-020-11-T01	SUBMIT FOR DOE REVIEW PUREX TUNNELS PART B (TS-2-4)	06/30/90
M-020-12	SUBMIT CENTRAL WASTE COMPLEX - WRAP PART B TO ECOLOGY AND EPA	10/31/91
M-020-13	SUBMIT 303-K STORAGE AREA CLOSURE PLAN TO ECOLOGY AND EPA.	04/30/90
M-020-13-T01	SUBMIT FOR DOE REVIEW 303-K STORAGE AREA CLOSURE PLAN	01/31/90

Table 15-1. Tri-Party Agreement Milestones and Target Dates Through 2028.

Tri-Party Agreement Milestone Requirement Number	Milestone Requirement Title	Due Date
M-020-14	SUBMIT 4843 ALKALI METAL STORAGE FAC CLOSURE PLAN TO ECOLOGY/EPA	06/30/91
M-020-14-T01	SUBMIT FOR DOE REVIEW 4843 ALKALI METAL STORAGE FACILITY CLOSURE PLAN.	03/31/91
M-020-15	SUBMIT 304 CONCRETION FACILITY CLOSURE PLAN TO ECOLOGY AND EPA.	04/30/90
M-020-15-T01	SUBMIT FOR DOE REVIEW 304 CONCRETION FACILITY CLOSURE PLAN	01/31/90
M-020-16	SUBMIT DOUBLE-SHELL TANK PART B TO ECOLOGY AND EPA.	06/30/91
M-020-17	SUBMIT 242-A EVAPORATOR PART B TO ECOLOGY AND EPA	06/30/91
M-020-18	SUBMIT 3718-F ALKALI METAL TREATMENT AND STORAGE FACILITY CLOSURE	12/31/91
M-020-19	SUBMIT SIMULATED HL SLURRY TRTMT/STRG CLOSURE PLAN TO ECOLOGY/EPA	09/30/89
M-020-20	SUBMIT 325 WASTE TREATMENT UNIT, 3100 HAZARDOUS WASTE TREATMENT	06/30/92
M-020-21	ESTABLISH NEW INTERIM MILESTONE DATE FOR SUBMITTAL OF B PLANT	01/31/92
M-020-21A	Submit B Plant Preclosure Work Plan To Ecology	03/31/99
M-020-22	SUBMIT 222-S LABORATORY PART B TO ECOLOGY AND EPA	12/31/91
M-020-23	SUBMIT TRUSAF STORAGE PART B TO ECOLOGY AND EPA	06/30/92
M-020-24A	SUBMIT PUREX PRECLOSURE WORK PLAN	07/31/96
M-020-25	SUBMIT HANFORD PATROL ACADEMY DEMOLITION SITE CLOSURE PLAN	11/30/92
M-020-26	SUBMIT ASH PIT DEMOLITION SITE CLOSURE PLAN TO REGULATORS	11/30/92
M-020-27	SUBMIT U03 HEXONE STORAGE & TREATMENT CLOSURE PLAN	11/30/92
M-020-28	SUBMIT E-8 BORROW PIT DEMOLITION SITE CLOSURE PLAN TO REGULATORS	11/30/92
M-020-29B	Submit Sodium Storage & Sodium Reaction Facilities Closure Plan	06/30/03
M-020-32	SUBMIT 300 AREA PROCESS TRENCHES CLOSURE/POSTCLOSURE PLAN TO WA.	08/15/94
M-020-33	216-A-10/216-A-36B/216-A-37-1 Crib Closure/Postclosure Plans	12/31/05
M-020-36	SUBMIT 216-A-29 DITCH CLOSURE/POSTCLOSURE PLAN TO ECOLOGY AND EPA	06/30/95
M-020-37	SUBMIT 216-U-12 CRIB CLOSURE/POSTCLOSURE PLAN TO ECOLOGY AND EPA.	06/30/95
M-020-39	Submit 216-S-10 Pond And Ditch Closure Plan To Ecology	11/30/05
M-020-40	SUBMIT 100-D POND CLOSURE PLAN TO ECOLOGY AND EPA.	02/28/93
M-020-41	SUBMIT 105-DR CLOSURE PLAN TO ECOLOGY AND EPA	09/30/90
M-020-41-T01	SUBMIT FOR DOE REVIEW 105-DR CLOSURE PLAN.	06/30/90
M-020-42A	SUBMIT THERMAL TREATMENT TEST FACIL CLOSURE PLAN TO EPA & E	09/30/95
M-020-43A	SUBMIT PHYSICAL/CHEMICAL TREATMENT TEST FAC. CLOSURE PLAN	09/30/95
M-020-44	SUBMIT BIOLOGICAL TREATMENT PART B TO ECOLOGY AND EPA	12/31/95
M-020-45	SUBMIT PETITIONS TO ECOLOGY TO WITHDRAW PART A (COMPL 6/30/89)	06/30/89
M-020-46	SUBMIT "TREATMENT BY GENERATOR" PETITIONS	06/30/89

Table 15-1. Tri-Party Agreement Milestones and Target Dates Through 2028.

Tri-Party Agreement Milestone Requirement Number	Milestone Requirement Title	Due Date
M-020-47	SUBMIT PART B PERMIT APPLICATION FOR 200 EAST AREA EFFLUENT.	06/30/91
M-020-48A	Submit A PFP Part B Permit Application Or Closure Plan	12/31/96
M-020-49	SUBMIT RCRA RESEARCH, DEVELOPMENT AND DEMONSTRATION PERMIT.	10/31/91
M-020-50	SUBMIT COMPLETE RCRA PART B PERMIT APPLICATION FOR THE 242-A	08/31/93
M-020-51	SUBMIT T PLANT COMPLEX PART B PERMIT APPLICATION TO ECOLOGY/EPA	12/31/95
M-020-54	Submit 241-CX Tank System Closure/Postclosure Plan	12/31/08
M-020-55	SUBMIT C.P. FOR NON-PERMITTED MW UNITS IN 324 BUILDING	12/31/95
M-020-56	Canister Storage Facility Part B Dangerous Waste Permit App	06/30/03
M-020-57	Submit ILAW Disposal Facility Certified Part B Permit Application	06/30/03
M-020-59	Submit Dangerous Waste Permit Application For Phase I Tank Waste	04/28/00
M-024-000	Complete Well Installations with RCRA/CERCLA Requirements	TBD
M-024-57E	DOE Initiates Discussions Annually To Reaffirm Selected Wells	06/30/05
M-024-57F	Conclude Negotiations & Revise M-024-57 By August 1 Of Each Year	08/01/05
M-024-57G	DOE Shall Install A Cumulative Of 45 Wells By 12/31/2005	12/31/05
M-024-57H	DOE Initiates Discussions Annually To Reaffirm Selected Wells	06/30/06
M-024-57I	Conclude Negotiations & Revise M-024-57 By August 1 Of Each Year	08/01/06
M-024-57J	DOE Shall Install A Cumulative Of 60 Wells By 12/31/2006	12/31/06
M-024-57K	DOE Initiates Discussions Annually To Reaffirm Selected Wells	06/30/07
M-024-57L	Conclude Negotiations & Revise M-024-57 By August 1 Of Each Year	08/01/07
M-024-57M	DOE Shall Install A Cumulative Of 75 Wells By 12/31/2007	12/31/07
M-026-01O	Submit An Annual Hanford Land Disposal Restrictions Report	04/30/05
M-026-01P	Submit An Annual Hanford Land Disposal Restrictions Report	04/30/06
M-026-01Q	Submit An Annual Hanford Land Disposal Restrictions Report	04/30/07
M-026-01R	Submit An Annual Hanford Land Disposal Restrictions Report	04/30/08
M-026-01S	Submit An Annual Hanford Land Disposal Restrictions Report	04/30/09
M-026-01T	Submit An Annual Hanford Land Disposal Restrictions Report	04/30/10
M-026-07B	Evaluation of Tritium Treatment Technology to EPA & Ecology	03/31/09
M-026-07C	Evaluation of Tritium Treatment Technology to EPA & Ecology	03/31/14
M-034-00A	Complete Removal Of The K Basins And Their Content	03/31/09
M-034-21-T01	Initiate Full Scale K West Basin Water Removal	12/31/05
M-034-30	Initiate Sludge Treatment	02/28/07
M-034-31	Complete Sludge Treatment	10/31/07
M-034-32	Complete Removal of the K East Basin Structure	03/31/07
M-034-33B	K East Sludge Containerization Complete	03/01/05
M-034-34	Complete Removal Of K East Sludge	01/31/06
M-034-35	Containerize K West Sludge	06/30/06
M-035-00	Complete Data Management Enhancements	TBD
M-035-09E	Conduct Biennial Assessments Of Information And Data Access Needs	03/31/06
M-035-09F	Conduct Biennial Assessments Of Information And Data Access Needs	03/31/08
M-035-09G	Conduct Biennial Assessments Of Information And Data Access Needs	03/31/10
M-035-09H	Conduct Biennial Assessments Of Information And Data Access Needs	03/31/12
M-042-00	Provide Additional Double-Shell Tank Capacity	TBD
M-043-00	Complete Tank Farm Upgrades	06/30/05

Table 15-1. Tri-Party Agreement Milestones and Target Dates Through 2028.

Tri-Party Agreement Milestone Requirement Number	Milestone Requirement Title	Due Date
M-045-00	Complete Closure Of SST Farms With Retrieval Of Waste	09/30/24
M-045-00B	Complete Specified "Near Term" SST Waste Retrieval Activities	09/30/06
M-045-00B-A	DOE Submits Evaluation Report 90 Days After Testing	TBD
M-045-00B-E	Submit Retrieval Work Plans For 5 100-Series Tanks	01/31/05
M-045-00B-F	Submittal of WMA integration plans for WMA-C and 1 additional WMA	06/30/05
M-045-00C	Initiate Negotiation Of SST Waste Retrieval (9/2006 thru 9/2008)	06/30/05
M-045-00C-A	Ecology And DOE Negotiations Shall Be Completed Within 120 Days	10/28/05
M-045-00D	Initiate Negotiation Of SST Waste Retrieval (9/2008 thru 9/2013)	01/31/08
M-045-00D-A	Ecology And DOE Negotiations Shall Be Completed Within 150 Days	06/28/08
M-045-00E	Initiate Negotiation Of SST Waste Retrieval- Remainder Of Program	10/31/12
M-045-00E-A	Ecology And DOE Negotiations Shall Be Completed Within 120 Days	02/27/13
M-045-02	Submit Annual Updates To SST Retrieval Sequence Document	TBD
M-045-02M	Submit Biennial Update To SST Retrieval Sequence Document	03/01/06
M-045-02M-A	3 Parties Shall Meet To Establish New Milestones Within 60 Days	04/30/06
M-045-02N	Submit Biennial Update To SST Retrieval Sequence Document	03/01/08
M-045-02N-A	3 Parties Shall Meet To Establish New Milestones Within 60 Days	04/30/08
M-045-02O	Submit Biennial Update To SST Retrieval Sequence Document	03/01/10
M-045-02O-A	3 Parties Shall Meet To Establish New Milestones Within 60 Days	04/30/10
M-045-02P	Submit Biennial Update To SST Retrieval Sequence Document	03/01/12
M-045-02P-A	3 Parties Shall Meet To Establish New Milestones Within 60 Days	04/30/12
M-045-02Q	Submit Biennial Update To SST Retrieval Sequence Document	03/01/14
M-045-02Q-A	3 Parties Shall Meet To Establish New Milestones Within 60 Days	04/30/14
M-045-02R	Submit Biennial Update To SST Retrieval Sequence Document	03/01/16
M-045-02R-A	3 Parties Shall Meet To Establish New Milestones Within 60 Days	04/30/16
M-045-02S	Submit Biennial Update To SST Retrieval Sequence Document	03/01/18
M-045-02S-A	3 Parties Shall Meet To Establish New Milestones Within 60 Days	04/30/18
M-045-02T	Submit Biennial Update To SST Retrieval Sequence Document	03/01/20
M-045-02T-A	3 Parties Shall Meet To Establish New Milestones Within 60 Days	04/30/20
M-045-02U	Submit Biennial Update To SST Retrieval Sequence Document	03/01/22
M-045-02U-A	3 Parties Shall Meet To Establish New Milestones Within 60 Days	04/30/22
M-045-02V	Submit Biennial Update To SST Retrieval Sequence Document	03/01/24
M-045-02V-A	3 Parties Shall Meet To Establish New Milestones Within 60 Days	04/30/24
M-045-02W	Submit Biennial Update To SST Retrieval Sequence Document	03/01/26
M-045-02W-A	3 Parties Shall Meet To Establish New Milestones Within 60 Days	04/30/26
M-045-02X	Submit Biennial Update To SST Retrieval Sequence Document	03/01/28
M-045-02X-A	3 Parties Shall Meet To Establish New Milestones Within 60 Days	04/30/28
M-045-02Y	Submit Biennial Update To SST Retrieval Sequence Document	03/01/30
M-045-02Y-A	3 Parties Shall Meet To Establish New Milestones Within 60 Days	04/30/30
M-045-02Z	Submit Biennial Update To SST Retrieval Sequence Document	03/01/32
M-045-02Z-A	3 Parties Shall Meet To Establish New Milestones Within 60 Days	04/30/32
M-045-03C	Complete Full Scale S-112 Saltcake Waste Retrieval Tech Demo	03/31/05
M-045-05	Retrieve Waste From All Remaining Single-Shell Tanks	09/30/18
M-045-05A	Complete Initial Waste Retrieval From Tank S-102	03/31/05
M-045-05N-T01	Final Completion Of Tank C-106 SST Retrieval And Closure Demo	06/30/05
M-045-05-T05	Initiate Tank Retrieval From 5 Additional SSTs	09/30/07
M-045-05-T06	Initiate Tank Retrieval From 5 Additional SSTs	09/30/08

Table 15-1. Tri-Party Agreement Milestones and Target Dates Through 2028.

Tri-Party Agreement Milestone Requirement Number	Milestone Requirement Title	Due Date
M-045-05-T07	Initiate Tank Retrieval From 7 Additional SSTs	09/30/09
M-045-05-T08	Initiate Tank Retrieval From 8 Additional SSTs	09/30/10
M-045-05-T09	Initiate Tank Retrieval From 10 Additional SSTs	09/30/11
M-045-05-T10	Initiate Tank Retrieval From 12 Additional SSTs	09/30/12
M-045-05-T11	Initiate Tank Retrieval From 14 Additional SSTs	09/30/13
M-045-05-T12	Initiate Tank Retrieval From 17 Additional SSTs	09/30/14
M-045-05-T13	Initiate Tank Retrieval From 20 Additional SSTs	09/30/15
M-045-05-T14	Initiate Tank Retrieval From 20 Additional SSTs	09/30/16
M-045-05-T15	Initiate Tank Retrieval From 20 Additional SSTs	09/30/17
M-045-06	Complete Closure Of SST Farms with Approved Closure Plan	09/30/24
M-045-06-T03	Initiate Closure Actions On WMA Basis	03/31/12
M-045-06-T04	Complete Closure Actions On One WMA	03/31/14
M-045-13	Interim Completion Of Tank S-112 SST Waste Retrieval And Closure	12/31/05
M-045-13-T01	Completion Of Tank S-112 SST Retrieval & Closure Demonstration	12/30/06
M-045-15	Interim Completion Of Tank S-102 SST Waste Retrieval And Closure	12/31/05
M-045-15-T01	Final Completion Of Tank S-102 SST Retrieval And Closure Demo	12/31/06
M-045-55	Submit A Phase 1 RFI Report On All SST WMAs	01/31/07
M-045-55-T03	SST WMA Phase 1 RFI/CMS Work Plan Addenda For WMA T And WMA TX-TY	07/31/05
M-045-55-T04	Submit Draft Field Investigation Report For WMAs A-AX, C & U	04/30/06
M-045-56	Complete Implementation Of Agreed-To Interim Measures	TBD
M-045-56A	Ecology And DOE Agree, At A Minimum, To Meet Yearly (By July)	07/01/05
M-045-56B	Ecology And DOE Agree, At A Minimum, To Meet Yearly (By July)	07/01/06
M-045-56C	Ecology And DOE Agree, At A Minimum, To Meet Yearly (By July)	07/01/07
M-045-56D	Ecology And DOE Agree, At A Minimum, To Meet Yearly (By July)	07/01/08
M-045-56E	Ecology And DOE Agree, At A Minimum, To Meet Yearly (By July)	07/01/09
M-045-58	A Corrective Measures Study For Interim Corrective Measures	06/30/07
M-045-59	Control Surface Water Infiltration Pathways As Needed	TBD
M-045-60	Submit DOE's RFI/CMS Work Plan For All SST WMAs	09/30/07
M-046-21	Complete Implementation Of DST Space Optimization Study	12/31/05
M-047-00	Complete Work Supporting Acquisition/Operation Of Waste Treatment	02/28/18
M-047-02	Complete Startup/Turnover For Required Transfer System Upgrades	03/31/09
M-047-03A	Complete Startup/Turnover For Waste Retrieval For Initial Tank	03/31/09
M-047-04	Complete Startup/Turnover For Required Transfer System Upgrades	03/31/09
M-047-05A	Complete Startup And Turnover Activities For Waste Retrieval/LAW	04/30/06
M-047-06	Complete Negotiation Of Agreement Requirements-Treatment Complex	06/30/10
M-048-00	Complete Tank Integrity Assessment Activities For Hanford DSTs	09/30/07
M-048-13	Submit Results Of (4) DSTs Not Previously Examined	09/30/05
M-048-14	Submit Written Integrity Report For The DST System	03/31/06
M-048-15	Submit Report For Re-Examination Of 6 DSTs By Ultrasonic Testing	09/30/07
M-050-00	Complete Pretreatment Processing Of Hanford Tank Waste	12/31/28
M-051-00	Complete Vitrification Of Hanford High Level Tank Waste	12/31/28
M-061-00	Complete Pretreatment And Immobilization Of Hanford LAW	12/31/28
M-062-00	Complete Pretreatment Processing/Vitrification Of HLW & LAW	12/31/28
M-062-00A	Complete WTP Pretreatment Processing/Vitrification Of Hanford HLW	02/28/18
M-062-01J	Submit Semi-Annual Project Compliance Report	01/31/05
M-062-01K	Submit Semi-Annual Project Compliance Report	07/31/05

Table 15-1. Tri-Party Agreement Milestones and Target Dates Through 2028.

Tri-Party Agreement Milestone Requirement Number	Milestone Requirement Title	Due Date
M-062-01L	Submit Semi-Annual Project Compliance Report	01/31/06
M-062-01M	Submit Semi-Annual Project Compliance Report	07/31/06
M-062-03	Submit DOE Petition For RCRA Delisting Of Vitrified HLW	12/31/06
M-062-07B	Complete Assembly Of Low Activity Waste Vitrification Melter #1	12/31/07
M-062-08	Submit Hanford Tank Waste Supp Treatment Technologies Report	01/30/05
M-062-09	Start Cold Commissioning - Waste Treatment Plant	02/28/09
M-062-10	Complete Hot Commissioning - Waste Treatment Plant	01/31/11
M-062-11	Submit A Final Hanford Tank Waste Treatment Baseline	01/30/06
M-081-00A	Complete FFTF Facility Transition And Initiate S&M Phase	02/28/11
M-081-00A-T03	Complete Transfer Of Irradiated Fuel To Secure Onsite Storage	03/31/09
M-081-00A-T04	Complete Special Fuel Transfer To IN For Consolidated Storage	03/31/09
M-081-00A-T05	Complete Auxiliary Plant Systems Deactivation	02/28/11
M-081-10-T01	Submit Final Sodium Disposition Evaluation Report	09/30/05
M-081-11	Submit FFTF End Point Criteria Document	08/31/05
M-081-13	Complete Reactor And Heat Transport System Sodium Drain	06/30/05
M-081-14	Complete FFTF Sodium Drain	09/30/09
M-081-14-T01	Complete Fuel Storage Facility Sodium Drain	04/30/07
M-081-14-T02	Initiate Interim Decay Storage Vessel Sodium Drain	06/30/08
M-081-15	Submit FFTF Surveillance and Maintenance Plan	06/30/10
M-083-00A	PPF Facility Transition And Selected Disposition Activities	09/30/16
M-083-14	Complete 100% of the Legacy Pu Holdup Removal	09/30/06
M-083-22	Submit to Ecology an Engineering Evaluation/Cost Analysis(es)	09/30/08
M-083-23	Complete Negotiations As Needed For Revising PFP Milestones	03/31/09
M-083-24	Submit S&M Plan Pursuant to Agreement Section 8.5.4	06/30/12
M-083-32	Complete Closure of the PFP 241-Z TSD Unit	09/30/11
M-083-40	Complete Transition & Dismantlement of the 232-Z Bldg Incinerator	09/30/06
M-083-41	Complete Transition and Dismantlement of the 216-Z-9 Crib Complex	09/30/10
M-083-42	Transition & Dismantlement of 241-Z Waste Treatment Facility	09/30/11
M-083-43	Complete Transition of 242-Z Waste Treatment Facility & 236-Z PRF	09/30/13
M-083-44	Complete Transition of 234-5Z&ZA/243-Z/291-Z & 291-Z-1 Facilities	09/30/15
M-089-00	Closure Of Non-Permitted MW Units In 324 Bldg REC Cells	10/31/05
M-090-00	Acquire/Modify Facilities For Storage/Disposal of IHLW & ILAW	TBD
M-090-10	Ready To Accept Placement Of ILAW Waste In ILAW Disposal Facility	08/31/08
M-090-11	Complete Canister Storage Facility Construction	08/31/10
M-091-00	Complete All Facilities For Handling TRU/TRUM And LLMW	TBD
M-091-01	Complete Facilities Prior To Disposal Of Post-1970 TRU/TRUM	06/30/12
M-091-03B	Submit 3/31/09 Revision Of TRUM And MLLW PMP To Ecology	03/31/09
M-091-03C	Submit 3/31/13 Revision Of TRUM And MLLW PMP To Ecology	03/31/13
M-091-05-T01	Submit TRU/TRUM Facility ES/FDC To Ecology	12/31/07
M-091-12	Complete Thermal Treatment Of 360 CM OF CH-MLLW	11/16/07
M-091-12A	Complete Thermal Treatment Of 240 CM OF CH-MLLW	09/30/05
M-091-15	Complete Facilities/Initiate Treatment Of RH/CH-MLLW	06/30/08
M-091-40	Complete Retrieval Of CH-RSW	12/31/10
M-091-40C	Retrieve CH-RSW 2700 Cubic Meters (Cumulative)	12/31/05

Table 15-1. Tri-Party Agreement Milestones and Target Dates Through 2028.

Tri-Party Agreement Milestone Requirement Number	Milestone Requirement Title	Due Date
M-091-40D	Retrieve CH-RSW 4700 Cubic Meters (Cumulative)	12/31/06
M-091-40E	Retrieve CH-RSW 7200 Cubic Meters (Cumulative)	12/31/07
M-091-40F	Retrieve CH-RSW 9700 Cubic Meters (Cumulative)	12/31/08
M-091-40G	Retrieve CH-RSW 12,200 Cubic Meters (Cumulative)	12/31/09
M-091-40I	Update 218-W-4B SAP	TBD
M-091-40J	Update 218-W-3A SAP	TBD
M-091-40L	Submit Quarterly Burial Ground Vent/Substrate Sampling Results	TBD
M-091-40L-005	Submit 1st Qtr FY05 Burial Ground Vent/Substrate Sample Results	03/01/05
M-091-40L-006	Submit 2nd Qtr FY05 Burial Ground Vent/Substrate Sample Results	06/01/05
M-091-40L-007	Submit 3rd Qtr FY05 Burial Ground Vent/Substrate Sample Results	09/01/05
M-091-40L-008	Submit 4th Qtr FY05 Burial Ground Vent/Substrate Sample Results	12/01/05
M-091-40L-009	Submit 1st Qtr FY06 Burial Ground Vent/Substrate Sample Results	03/01/06
M-091-40L-010	Submit 2nd Qtr FY06 Burial Ground Vent/Substrate Sample Results	06/01/06
M-091-40L-011	Submit 3rd Qtr FY06 Burial Ground Vent/Substrate Sample Results	09/01/06
M-091-40L-012	Submit 4th Qtr FY06 Burial Ground Vent/Substrate Sample Results	12/01/06
M-091-40L-013	Submit 1st Qtr FY07 Burial Ground Vent/Substrate Sample Results	03/01/07
M-091-40L-014	Submit 2nd Qtr FY07 Burial Ground Vent/Substrate Sample Results	06/01/07
M-091-40L-015	Submit 3rd Qtr FY07 Burial Ground Vent/Substrate Sample Results	09/01/07
M-091-40L-016	Submit 4th Qtr FY07 Burial Ground Vent/Substrate Sample Results	12/01/07
M-091-40L-017	Submit 1st Qtr FY08 Burial Ground Vent/Substrate Sample Results	03/01/08
M-091-40L-018	Submit 2nd Qtr FY08 Burial Ground Vent/Substrate Sample Results	06/01/08
M-091-40L-019	Submit 3rd Qtr FY08 Burial Ground Vent/Substrate Sample Results	09/01/08
M-091-40L-020	Submit 4th Qtr FY08 Burial Ground Vent/Substrate Sample Results	12/01/08
M-091-40L-021	Submit 1st Qtr FY09 Burial Ground Vent/Substrate Sample Results	03/01/09
M-091-40L-022	Submit 2nd Qtr FY09 Burial Ground Vent/Substrate Sample Results	06/01/09
M-091-40L-023	Submit 3rd Qtr FY09 Burial Ground Vent/Substrate Sample Results	09/01/09
M-091-40L-024	Submit 4th Qtr FY09 Burial Ground Vent/Substrate Sample Results	12/01/09
M-091-40N	Designate Boxes & Large Containers Determined To Be LLW	12/31/08
M-091-40O	Designate Boxes/Large Containers Determined To Be TRU Waste	12/31/12

Table 15-1. Tri-Party Agreement Milestones and Target Dates Through 2028.

Tri-Party Agreement Milestone Requirement Number	Milestone Requirement Title	Due Date
M-091-40R	Complete Retrieval Of Trench 4	12/31/06
M-091-41	Initiate Full Scale Retrieval Of RH RSW	01/01/11
M-091-41A	Complete Retrieval Of Non-Caisson RH RSW	12/31/14
M-091-41B	Complete Retrieval Of The 200A Caisson RH RSW In 218-W-4B	12/31/18
M-091-42	Designate All Newly Generated CH Waste At The Point Of Generation	12/31/09
M-091-42B	Treat 3260 Cubic Meters CH-MLLW (Cumulative)	12/31/05
M-091-42C	Treat 4890 Cubic Meters CH-MLLW (Cumulative)	12/31/06
M-091-42D	Treat 6520 Cubic Meters CH-MLLW (Cumulative)	12/31/07
M-091-42E	Treat 8150 Cubic Meters CH-MLLW (Cumulative)	12/31/08
M-091-42E-1	Complete Treatment of all CH-MLLW	12/31/09
M-091-43A	Designate All Above Ground RH LLW	12/31/08
M-091-43B	Begin Treating RH MLLW & Boxes & Large Containers Of CH MLLW	06/30/08
M-091-44	Designate All RH TRU & Boxes Of CH TRU Above Ground	12/31/12
M-091-45B	Submit Report For RH Waste & Boxes Of RH/CH Waste	09/30/05
M-091-45C	Submit Report For RH Waste & Boxes Of RH/CH Waste	09/30/06
M-091-45D	Submit Report For RH Waste & Boxes Of RH/CH Waste	09/30/07
M-091-45E	Submit Report For RH Waste & Boxes Of RH/CH Waste	09/30/08
M-091-45F	Submit Report For RH Waste & Boxes Of RH/CH Waste	09/30/09
M-091-45G	Submit Report For RH Waste & Boxes Of RH/CH Waste	09/30/10
M-091-45H	Submit Report For RH Waste & Boxes Of RH/CH Waste	09/30/11
M-091-45I	Submit Report For RH Waste & Boxes Of RH/CH Waste	09/30/12
M-091-45J	Submit Report For RH Waste & Boxes Of RH/CH Waste	09/30/13
M-092-00	Acquire Facilities For Cs/Sr, Na & SCW	TBD
M-092-01	Commercial Disposition/Acquisition-Facilities For Consolidation	12/31/09
M-092-05	Include Cs/Sr Treatment &/Or Repackaging Parameters In DOE RFP	06/30/07
M-092-06-T02	Complete Disposal Of 135 MT Of Fuel & 5 MT Of U Source Materials	09/30/06
M-092-09	Establish Milestones And/Or Target Dates For Sodium Facilities	07/30/09
M-092-10	Submit Hanford Site Sodium Disposition Evaluation Report	09/30/05
M-092-12	Complete Acquisition Of Storage Facilities Prior To SCW Disposal	09/30/06
M-092-16	Complete Removal/Transfer/Initiate Storage Of PH-III 300 Area SCW	09/30/06
M-093-00	Final Disposal Of 100 Area Surplus Production Reactor Buildings	TBD
M-093-18	Complete 105-H Reactor Interim Safe Storage	12/31/05
M-093-19	Submit 105/109-N Reactor Interim Safe Storage Design Report	09/30/09
M-093-20	Complete 105-N Reactor Interim Safe Storage	09/30/12
M-093-22	Complete 105-KE And 105-KW Reactor Interim Safe Storage	09/30/11
M-093-23	Submit Engineering Evaluation/Cost Analysis For KE/KW Reactor ISS	07/31/06
M-093-25	Submit Engineering Evaluation - Final Surplus Reactor Disposition	09/30/05
M-094-00	Complete Disposition Of 300 Area Surplus Facilities	09/30/15
M-094-01	Submit A Schedule And TPA Milestones For Facility Disposition	12/31/05
M-094-03	Complete Disposition Of Surplus Facilities	09/30/10
M-094-05	Complete D4 Of 313 And 314 Facilities	09/30/06

Table 15-1. Tri-Party Agreement Milestones and Target Dates Through 2028.

Tri-Party Agreement Milestone Requirement Number	Milestone Requirement Title		Due Date
CDD	conceptual design document	PMP	project management plan
CH	contact handled	RCRA	Resource Conservation and Recovery Act of 1976
DOE	U. S. Department of Energy		
DST	double-shell tank	REC	Radiochemical Engineering Cells
EIS	Environmental Impact Statement	RFI	RCRA facility investigation
ERDF	Environmental Restoration Disposal Facility	RH	remote handled
F&R	Functions and requirements	RI/FS	remedial investigation/feasibility study
FDC	Functional Design Criteria	ROD	Record of Decision
HL	high level	SCW	special-case waste
HLW	high-level waste	SNF	spent nuclear fuel
IHLW	immobilized high-level waste	SST	single-shell tank
ILAW	immobilized low-activity waste	TBD	to be determined
LAW	low-activity waste	TRUM	transuranic mixed
LLMW	low-level mixed waste	TSD	treatment, storage, and/or disposal
LLW	low-level waste	TWRS	Tank Waste Remediation System
MW	mixed waste	WIRD	waste information requirements document
NPL	National Priorities List		
OU	operable unit	WMA	Waste Management Area
PFP	Plutonium Finishing Plant		

16.0 REFERENCES

- BHL-00139, *ERDF Waste Acceptance Criteria*, Bechtel Hanford, Inc., Richland, Washington.
- DOE/EA-1189, 1998, *Non-Thermal Treatment of Hanford Site Low-Level Mixed Waste*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/EIS-0113, 1987 *Disposal of Hanford Defense High-Level Transuranic and Tank Wastes Environmental Impact Statement*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/EIS-0189, 1996, *Final Environmental Impact Statement for the Tank Waste Remediation System*, U.S. Department of Energy, Washington, D.C.
- DOE/EIS-0286F, 2004, *Final Hanford Site Solid (Radioactive and Hazardous) Waste Program Environmental Impact Statement*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-91-27, *Hanford Facility Dangerous Waste Permit Application, 222-S Laboratory Complex*, U.S. Department of Energy, Richland Operations Office, Richland, Washington, latest revision.
- DOE/RL-91-31, Rev. 5, 2001, *Hanford Site Waste Minimization and Pollution Prevention Awareness Program Plan*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-95-35, *Direct Disposal Team Report*, U.S. Department of Energy, Richland, Washington.
- DOE/RL-95-36, *Hanford Facility Dangerous Waste Permit Application, T Plant Complex*, U.S. Department of Energy, Richland Operations Office, Richland, Washington, latest revision.
- DOE/RL-95-103, Rev. 6, 2001, *Hanford Site Guide for Preparing and Maintaining Generator Group Pollution Prevention Program Documentation*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-96-73, *324 Building Radiochemical Engineering Cells, High-Level Vault, Low Level Vault, and Associated Areas Closure Plan*, U.S. Department of Energy, Richland Operations Office, Richland, Washington, latest revision.
- 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-98-28, *200 Areas Remedial Investigation/Feasibility Study Implementation Plan-Environmental Restoration Program*, 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.
- DOE/RL-2000-39, 2000, *Interim Report on Hanford Site Land Disposal Restrictions for Mixed Waste*, three volumes, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/WIPP-89-004, *TRUPACT-II Content Codes (TRUCON)*, Rev. 12, U.S. Department of Energy, Carlsbad Field Office, Carlsbad, New Mexico, available at <http://www.wipp.carlsbad.nm.us/library/caolib.htm#containers>.
- DOE/WIPP-90-045, *Remote-Handled Transuranic Content Codes (TRUCON)*, Rev. 1, U.S. Department of Energy, Carlsbad Field Office, Carlsbad, New Mexico, available at <http://www.wipp.carlsbad.nm.us/library/caolib.htm#containers>.
- DOE/WIPP-93-1001, *TRUPACT II Operating and Maintenance Instructions*, Rev. 4, U.S. Department of Energy, Carlsbad Field Office, Carlsbad New Mexico, available at <http://www.wipp.carlsbad.nm.us/library/caolib.htm#containers>
- DOE/WIPP-069, *Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, Rev. 7, U.S. Department of Energy, Carlsbad Field Office, Carlsbad, New Mexico, available at <http://www.wipp.carlsbad.nm.us/library/wac/chwac.pdf>.
- Ecology, 2000, Washington State Department of Ecology, U.S. Environmental Protection Agency, U.S. Department of Energy, Richland Operations Office, U.S. Department of Energy, Office of River Protection, *Framework Agreement for Management of Polychlorinated Biphenyls (PCBs) in Hanford Tank Waste*, dated August 31, 2000.
- Ecology, EPA, 2000, *Final Determination*, March 29, 2000, Washington State Department of Ecology and U.S. Environmental Protection Agency, Region 10.
- Ecology, EPA, and DOE, 2003, *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, 2003, "M-026 LDR Report Project Manager Meeting Minutes", October 21, 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, 2004, "M-026 LDR Report Project Manager Meeting Minutes", January 20, 2004, 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.

FH, *Electronic Reporting Forms for Waste Reduction Accomplishments and Status*, database maintained by the Fluor Hanford, Inc., Pollution Prevention Group, Internet address <http://apsql05.rl.gov/polprev/areport/report.htm>.

FH, 2004, *Solid Waste Integrated Forecast Technical (SWIFT) System Report 2004.1 (HNF-EP-0918): FY 2004 to FY 2035*, Fluor Hanford, Richland, Washington, available at <http://www.hanford.gov/docs/ep0918/index.htm>.

French, R. T., 2000, "Submittal of Sixty-Day Notifications Required by Final Determination", letter number 00-ORL-055 to T. C. Fitzimmons, Washington State Department of Ecology, dated May 23, 2000, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Proposed Modifications and Reference Documents for 100 Area and 300 Area Waste Sites and Facilities Cleanup Milestones, December 31, 2001, U.S. Department of Energy, Richland Operations Office, Richland, Washington, State of Washington Department of Ecology, Olympia, Washington, and U.S. Environmental Protection Agency, Region 10, Seattle, Washington.

HNF-1982, 1998, *Historical Records for 221-T Facility*, Rev. 0, Fluor Daniel Hanford, Inc., Richland, Washington.

HNF-3617, 2002, *Integrated Program Management Plan for Decommissioning of the Plutonium Finishing Plant Nuclear Material Stabilization Project*, Fluor Daniel Hanford, Inc., Richland, Washington.

HNF-4293-1, 1999, *Project Management Plan for Low-Level Mixed Waste and Greater-Than Category Waste per Tri-Party Agreement M-091-10*, prepared by Waste Management Federal Services of Hanford, Inc., for Fluor Hanford, Richland, Washington.

HNF-6287-1, 2000, *Project Management Plan for Transuranic and Transuranic Mixed Waste per Tri-Party Agreement M-091-03*, prepared by Waste Management Federal Services of Hanford, Inc., for Fluor Hanford, Richland, Washington.

HNF-EP-0063, *Hanford Site Waste Acceptance Criteria*, Revision 11, Fluor Hanford, Richland, Washington, available at (<http://www.hanford.gov/wastemgt/wac/whatsnew.htm>)

HNF-EP-0182, *Waste Tank Summary Report for the Month Ending December 31, 2004*, Rev. 201, CH2M HILL Hanford Group, Inc., Richland, Washington.

HNF-SD-WM-ER-730, *Long-Length Contaminated Equipment Disposal Process path Document*, Fluor Hanford, Richland, Washington.

HNF-SD-WM-PLN-119, *Tank Farm Solid Waste Characterization Guide with Sampling and Analysis Attachment*, Fluor Hanford, Richland, Washington.

HNF-SD-WM-PMP-025, *Cesium/Strontium Project Management Plan*, Rev. 0, Fluor Hanford, Richland, Washington.

INL, *STCG Need and Technical Response*, Idaho National Laboratory, available at <http://MWFadata.inel.gov/needcomp.asp?id=126>.

- NRC, 1999a, *TRUPACT-II Certificate of Compliance (C of C)*, NRC-Docket-71-9218, Rev. 11, U.S. Nuclear Regulatory Commission, Washington, D.C., available at <http://www.wipp.carlsbad.nm.us/library/caolib.htm#containers>.
- NRC, 1999b, *TRUPACT-II Safety Analysis Report*, NRC-Docket-71-9218, Rev. 18, U.S. Nuclear Regulatory Commission, Washington, D.C., available at <http://www.wipp.carlsbad.nm.us/library/caolib.htm#containers>.
- NRC, 1999c, *Safety Analysis Report for the RH-72B Waste Shipping Package*, NRC-Docket-71-9212, Rev. 1, U.S. Nuclear Regulatory Commission, Washington, D.C., available at <http://www.wipp.carlsbad.nm.us/library/caolib.htm#containers>.
- NRC, 2000, *RH-TRU Certificate of Compliance*, NRC-Docket-71-9212, Rev. 0, U.S. Nuclear Regulatory Commission, Washington, D.C. available at <http://www.wipp.carlsbad.nm.us/library/caolib.htm#containers>.
- ORP, 2000, *Response to Requirement for Report to Congress under Floyd D. Spence National Defense Authorization Act for FY 2001*, U.S. Department of Energy, Office of River Protection, Richland, Washington, available at (http://www.hanford.gov/orp/documents/report_to_congress.PDF)
- ORP, 2001, *Bechtel National, Inc., Design, Construction, and Commissioning of the Hanford Tank Waste Treatment and Immobilization Plant*, Contract No. DE-AC27-01RV14136, U.S. Department of Energy, Office of River Protection, Richland, Washington, available at (<http://www.hanford.gov/orp/contracts/de-ac27-01rv14136/index.html>).
- PNNL-12040, *Regulatory Data Quality Objectives*, Pacific Northwest National Laboratory, Richland, Washington.
- RPP-21753, *C-Farm 100 Series Tanks, Retrieval Process Flowsheet Description*, Rev. 1, CH2M HILL Hanford Group, Richland, Washington.
- RPP-8093, *Fiscal Year 2002 Tank Characterization Technical Sampling Basis and Waste Information Requirements Document*, CH2M HILL Hanford Group, Richland, Washington.
- WHC-MR-0039, *Strategy for Handling and Disposing of Purgewater at the Hanford Site, Washington*, Westinghouse Hanford Company, Richland, Washington, available at (http://www.rl.gov/docs/wa7890008967/att05/Attachment_05.PDF).
- WHC-MR-0227, *Tank Waste Discharged Directly to the Soil at the Hanford Site*, April 1991, Westinghouse Hanford Company, Richland, Washington.

APPENDIX A

LAND DISPOSAL RESTRICTIONS REPORTING REQUIREMENTS

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APPENDIX A

LAND DISPOSAL RESTRICTIONS REPORTING REQUIREMENTS

The LDR reporting requirements and requirements of the Final Determination (Ecology, EPA 2000) are presented in Table A-1. Table A-1 is a crosswalk linking the requirements for this document to the location in the document where these requirements are addressed. Some of the items identified in the table were one-time requirements from the Final Determination that have been met already. For those items, the table indicates how the one-time requirements were closed out.

Additional LDR reporting requirements are established through monthly Tri-Party Agreement Project Manager Meetings.

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Table A-1. Land Disposal Restrictions Requirements.

Item ¹	Section ID ²	Requirement ³	Location of information ⁴
1	1.a (1990) IV.3.A.1, pg 16 (FD) IV.3.A.1.a, pg 16 (FD) IV.3.A.1, pg 17 (FD) IV.3.A.3, pg 18 (FD) IV.3.B.a, pg 19 (FD) 23 items (Ltr)	Identification of mixed waste	TGDS 1.1 and 1.2, as well as LSDS 1.1. LDR mixed waste is presented by a combination of treatment path forward and storage location on the two types of waste stream data sheets. In addition, the Potential Mixed Waste Table (Appendix C) presents PMW that have the potential to be reported in the data sheets in future years, but currently are reported in a format that resulted from discussions with Ecology and EPA.
2	1.a (1990) IV.3.A.1, pg 16 (FD) IV.3.A.1.a, pg 16 (FD) IV.3.B.a, pg 19 (FD)	Description of mixed waste	Identification and description are included as part of Items 3 through 11 of this table. TGDS 1.2 and portions of 3.0, as well as LSDS 1.3.1 and other portions of 1.0
3	1.a (1990) IV.3.A.1.b, pg 16 (FD)	RCRA hazardous waste code	TGDS 3.3.2
4	IV.3.A.1.c, pg 16 (FD)	Applicable LDR treatment standard(s) and underlying hazardous constituents	TGDS 3.3.2
5	1.a (1990) IV.3.A.1, pg 16 (FD) IV.3.A.1.a, pg 16 (FD) IV.3.A.1.c, pg 16 (FD)	Process information necessary for waste identification and LDR determinations	LSDS 1.3 and 2.12, applicable profiles referenced in LSDS 1.2
6	1.a (1990) IV.3.A.1.c, pg 16 (FD)	History of how the waste was generated	LSDS 1.3 and 2.12
7	1.a (1990) IV.3.A.1.c, pg 16 (FD)	Source of the hazardous constituents	LSDS 1.3 and 2.12
8	1.a (1990) IV.3.A.1.c, pg 16 (FD)	How the waste was managed before storage	LSDS 2.1.1
9	1.a (1990) IV.3.A.1.c, pg 16 (FD)	General timeframe determination that serves to categorize when the waste was placed in storage	LSDS 2.1.2 and portions of 1.3

Table A-1. Land Disposal Restrictions Requirements.

Item ¹	Section ID ²	Requirement ³	Location of information ⁴
10	1.a (1990) IV.3.A.1.d, pg 16 (FD)	Radioactivity type	TGDS 3.1.1 and 3.1.2.
11	1.a (1990) IV.3.A.1.e, pg 16 (FD)	Physical form of the waste	TGDS 3.2.1 and 3.3.2.
12	1.b (1990) IV.3.A.1.f, pg 16 (FD)	Quantity of waste	TGDS 2.1, as well as LSDS 2.3.
13	1.c (1990) IV.3.A.1.g, pg 16 (FD) IV.3.A.1, pg 17 (FD)	Physical location	LSDS 2.1 and 2.2
14	1.c (1990) IV.3.A.1.g, pg 16 (FD)	Method of storage	LSDS 2.1 and 2.2.
15	1.c (1990) IV.3.A.1.g, pg 16 (FD)	List of areas permitted for storage	LSDS 2.5.
16	1.d (1990) IV.3.A.1.h, pg 16 (FD) IV.3.A.2, pg 17 (FD) IV.3.A.2, pg 17 (FD) IV.3.A.2, pg 17 (FD)	DOE assessment of the compliance status	LSDS 2.7, Potential Mixed Waste Table (Appendix C), and Chapter 3.0.
17	IV.3.A.2, pg 17 (FD)	Notification of which DOE organization is responsible for assessment within 60 days of final determination issuance.	Timely notification was provided by letter (French 2000) and attachment. Item complete.
18	IV.3.A.2, pg 17 (FD)	Procedure used for assessments must meet minimum regulatory requirements (WAC 173-303 and 40 CFR 265)	Timely notification was provided by letter (French 2000) and attachment. Item complete.
19	IV.3.A.2, pg 17 (FD)	Opportunity for Ecology review and comment must be provided while developing assessment schedules and procedures	Timely notification was provided by letter (French 2000) and attachment. Item complete.

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Table A-1. Land Disposal Restrictions Requirements.

Item ¹	Section ID ²	Requirement ³	Location of information ⁴
20	1.e (1990) IV.3.A.1.i, pg 17 (FD)	Identification of any releases	LSDS 2.9, as well as in Chapter 5.0.
21	1.f (1990) IV.3.A.1.j, pg 17 (FD)	Generation rates	TGDS 2.2, as well as LSDS 2.6, Table 2-1 and Table 2-2 contains estimates for the next 5 years.
22	1.f (1990) IV.3.A.1.j, pg 17 (FD)	Estimate of the storage capacity	LSDS 2.4, and Section 4.1.
23	1.f (1990) IV.3.A.1.j, pg 17 (FD)	When storage capacity will be reached	LSDS 2.4, and Section 4.1.
24	1.f (1990) IV.3.A.1.j, pg 17 (FD)	Identification of the bases and assumptions used in making the estimate	LSDS 2.4, 2.12, and Chapter 4.0 text when applicable.
25	1.g (1990) IV.3.A.1.k, pg 17 (FD)	Plans to submit requests for variances, case-by-case extensions of the LDR requirements, or other exemptions	TGDS 4.8 and 5.0, and LSDS 2.10, and Section 4.3.
26	2 (1990) IV.3.A.1.k, pg 17 (FD)	Provide for the submittal of requests for case-by-case extensions, variances, and other exemptions of the LDR requirements in accordance with Section 3004 of RCRA	TGDS 4.8 and 5.0, and LSDS 2.10, and Section 4.3.
27	3 (1990) IV.3.A.3.a, pg 19 (FD) IV.3.A.3.a, pg 19 (FD)	Plan and schedule to characterize all waste	LSDS 2.11, Chapter 9.0 Chapter 10.0, Chapter 11.0, Chapter 13.0, and Chapter 14.0.
28	IV.3.A.3, pg 19 (FD)	Reporting of waste characterization plan must delineate steps necessary to confirm which streams are subject to LDR	LSDS 2.11, Chapter 9.0 Chapter 10.0, Chapter 11.0, Chapter 13.0, and Chapter 14.0.
29	3 (1990) IV.3.A.3, pg 19 (FD)	Report characterization results to EPA and Ecology	Chapter 8.0
30	3 (1990)	Steps necessary to confirm which waste and which waste streams are subject to the LDR	TGDS 3.3.6

Table A-1. Land Disposal Restrictions Requirements.

Item ¹	Section ID ²	Requirement ³	Location of information ⁴
31	4.a (1990)	Treatment and disposal technologies	TGDS 3.3.2, and 5.0, Sections 4.2 and 4.3, Chapter 9.0, Chapter 10.0, Chapter 11.0, Chapter 13.0, and Chapter 14.0.
32	4.a (1990)	Treatment capacity	TGDS 4.3, Chapter 9.0, Chapter 10.0, Chapter 11.0, Chapter 13.0, and Chapter 14.0.
33	4.b (1990)	Commercial treatment technologies	Chapter 9.0.
34	4.b (1990)	Capacity currently available	Chapter 9.0, Chapter 10.0, Chapter 11.0, Chapter 13.0, and Chapter 14.0.
35	4.c (1990)	DOE treatment technologies	Chapter 9.0, Chapter 10.0, and Chapter 11.0
36	4.c (1990)	Extent of capacity currently available	Chapter 9.0, Chapter 10.0, and Chapter 11.0
37	4.d (1990)	Whether any new commercial or DOE treatment capacity is scheduled to be available	Chapter 9.0, Chapter 10.0, and Chapter 11.0
38	4.d (1990)	When such new capacity will be available	Chapter 9.0, Chapter 10.0, and Chapter 11.0
39	4.e (1990)	Alternate technologies which are in development and which may be used to manage these LDR wastes	Chapter 9.0, Chapter 10.0, and Chapter 11.0
40	4.e (1990)	Assessment of when such alternate technologies may become available	Chapter 9.0, Chapter 10.0, and Chapter 11.0
41	4.f (1990)	Basis and assumptions used	TGDS 4.9 and Chapter 9.0, Chapter 10.0, and Chapter 11.0.
42	4.f (1990)	Foreseeable contingencies	Chapter 9.0, Chapter 10.0, and Chapter 11.0.
43	5 (1990) IV.3.A.3, pg 18 (FD)	Milestones and schedules for the development and implementation of treatment technologies	TGDS 4.4, 4.5, and 4.6, Chapter 9.0, Chapter 10.0, Chapter 11.0, Chapter 13.0, and Chapter 14.0.
44	5 (1990) IV.3.A.3, pg 18 (FD) IV.3.A.3.a, pg 18 (FD)	All applicable milestones and associated schedules for developing and implementing treatment or management technologies	TGDS 4.4, 4.5, and 4.6, Chapter 9.0, Chapter 10.0, Chapter 11.0, Chapter 13.0, and Chapter 14.0.

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Table A-1. Land Disposal Restrictions Requirements.

Item ¹	Section ID ²	Requirement ³	Location of information ⁴
45	IV.3.A.3.a, pg 18 (FD)	Schedules for submitting applicable permit applications, initiating construction, conducting systems testing, commencing operations, and processing backlogged and currently generated waste, for those waste types for which treatment technologies exist	TGDS 4.4, 4.5, and 4.6, Chapter 9.0, Chapter 10.0, Chapter 11.0, and Chapter 15.0.
46	IV.3.A.3.b, pg 18 (FD)	Schedules for identifying and developing treatment technologies for those waste types for which no treatment technologies currently exist, to include identification of funding requirements for the identification and development of such technologies, submitting treatability study exemptions, and submitting research and development permit applications	TGDS 4.4, 4.5, and 4.6, Chapter 9.0, Chapter 10.0, Chapter 11.0, and Chapter 15.0.
47	IV.3.A.3.c, pg 18 (FD)	Requirements for all cases where DOE proposes radionuclide separation of mixed waste or materials derived from mixed waste	Section 9.4, Section 10.5, and Section 11.3.
48	6 (1990)	Provide that DOE may treat LDR waste in accordance with applicable law in advance of approved milestone dates	Activities always can be completed in advance of the milestone date, and are whenever possible.
49	IV.3.A.3, pg 18 (FD)	Propose milestones and associated schedules for known waste not covered by the report to be incorporated and established in accordance with the Tri-Party Agreement Action Plan (Section 12)	TGDS 4.6, Section 1.3. Chapter 9.0, Chapter 10.0, Chapter 11.0, and Chapter 15.0.
50	7 (1990)	Identified methods for minimizing the generation of LDR waste	LSDS 3.2 and Chapter 6.
51	7 (1990)	Process changes that can be made to reduce or eliminate LDR waste	LSDS 3.2 and Chapter 6.

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Table A-1. Land Disposal Restrictions Requirements.

Item 1	Section ID ²	Requirement ³	Location of information ⁴
52	7 (1990)	Methods to minimize the volume of regulated and restricted waste through segregation and avoidance of commingling	LSDS 3.2, 3.3.3, and Chapter 6.
53	7 (1990)	Substitution of less toxic materials for materials currently used at the Hanford Site	LSDS 3.2, 3.3.3, and Chapter 6.
54	7 (1990)	Schedule for implementing waste minimization procedures	LSDS 3.3.2 and 3.3.3.
55	7 (1990)	Projections for reducing newly generated waste	LSDS 3.3.2.
56	7 (1990)	Basis for developing projections	LSDS 3.3.3.
57	7 (1990)	Assumptions used in developing the projections	LSDS 3.3.3 (LSDS) and Chapter 6.0.
58	7 (1990)	Annually revise and submit as part of the annual report that portion of the storage report associated with Item 1 of this table, to conform with the generation projections contained in the Waste Minimization Plan	The LDR report is revised annually, including the waste minimization content.
59	7 (1990)	As part of the annual report, DOE shall submit an amendment to the Waste Minimization Plan	Chapter 6.0.
60	7 (1990)	Annually, DOE shall revise and submit that portion of the Storage Report associated with Item 1 (and the "1990" reference) of this table, to conform with generation projections contained in the update to the Waste Minimization Plan	LSDS 3.1, 3.2, 3.3, and Chapter 6.
61	IV.3.A.3, pg 18 (FD) IV.3.A.3, pg 18-19 (FD)	The annual LDR report must include a waste characterization plan and associated schedules based on the waste identified in accordance with the final determination.	Chapter 9.0, Chapter 10.0, Chapter 11.0, Chapter 13.0, and Chapter 14.0.
62	8 (1990)	Describe how information, plans, and schedules contained in the LDR Plan will be updated as part of the annual report	Section 1.3

Table A-1. Land Disposal Restrictions Requirements.

Item 1	Section ID ²	Requirement ³	Location of information ⁴
63	8 (1990)	Describe how and when the LDR Plan will be revised and reissued	Section 1.3.
64	IV.3.B.c, pg 19 (FD)	Each waste stream has an associated statement by DOE documenting whether sufficient work has been performed for continued compliance	Not applicable, based on Pollution Control Hearings Board stipulations.
65	IV.3.B.d, pg 19 (FD)	The Annual LDR report will serve as a vehicle to propose schedules for newly discovered or to be generated mixed waste not yet covered by the report or the Tri-Party Agreement	Newly identified waste has been and continues to be added to the report each year, subject to scope of the report and waste stream definition.
66	IV.3.B.e, pg 19 (FD)	Annual LDR report will serve as vehicle to propose modified Tri-Party Agreement schedules as necessary to achieve compliance with LDR treatment requirements in a manner equivalent to STPs as required by FFCA	Section 1.3.
67	IV.3.A.3.a, pg 19 (FD)	Proposed plans and schedules to sufficiently characterize mixed waste, including an inventory of mixed waste not sufficiently characterized by sampling and analysis	LSDS 2.11, Chapter 9.0, Chapter 10.0, and Chapter 11.0.
68	IV.3.B.b, pg 19 (FD) IV.3.B.f, pg 20 (FD)	LDR report will be published as a primary document and will propose new waste streams as necessary	Signature page states that this report is a primary document, Section 1.1, and Section 1.3.
69	IV.3.B.b, pg 19 (FD)	LDR report will support equivalency to FFCA STPs	M-026-01 Milestone description. While not identical to an STP, the LDR report is equivalent to an STP.
70	IV.3.B.c, pg 19 (FD)	LDR report will serve as unified sitewide document detailing requirements of LDR Requirements Document ²	This table delineates how the LDR report meets these requirements; refer to all items in second column of this table marked with "(1990)"

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Table A-1. Land Disposal Restrictions Requirements.

Item 1	Section ID ²	Requirement ³	Location of information ⁴
71	IV.3.B.c, pg 19 (FD)	LDR report will report DOE actions planned and taken to achieve and maintain full compliance with LDR and associated Tri-Party Agreement requirements in effect as of LDR report submittal date	This table delineates how the LDR report meets these requirements, refers to all items in second column of this table.
72	IV.3.B.f, pg 20 (FD)	Inclusion of specific statement regarding the LDR report being a primary document, and regarding binding and enforceable nature of contents: "This document has been prepared, submitted, revised and approved as a primary document in response to the requirements of Tri-Party Agreement Milestone Series M-26-01 and related RCRA Land Disposal Restriction (LDR) and Tri-Party Agreement requirements. As such, this document serves as a binding and enforceable document under the Tri-Party Agreement."	The signature page states that this report is a primary document and includes the required language.
73	IV.3.B.f, pg 20 (FD)	Inclusion of specific statement regarding approval by DOE and Ecology: "Approval of DOE's annual LDR Report as a Tri-Party Agreement primary document shall be by written approval of DOE and Ecology IAMIT representatives." Signature blocks are to follow the above statement.	The signature page states that this report is a primary document, and includes signature blocks.

Table A-1. Land Disposal Restrictions Requirements.

Item ¹	Section ID ²	Requirement ³	Location of information ⁴
74	IV.3.C, pg 20 (FD)	The LDR report submitted in 2000 is an interim report documenting known information, and detailing actions planned to fully comply with the final determination.	Completed by issuing DOE/RL-2000-39, Volumes 1 through 3, July 2000.

¹Item number supplied for the convenience of the reader.

²The notation "(1990)" refers to the four-page "Requirements for the Hanford LDR Plan"(LDR Requirements Document) signed by EPA and Ecology in 1990. The notation "(FD)" refers to the "Director's Final Determination" issued by Ecology on March 29, 2000. The notation "(Ltr)" refers to the January 25, 2000 clarification letter from Ecology delineating the wastes required to be reported. Additional modifications to requirements have been made in the Resolution of Dispute dated March 14th, 2002, and during the monthly Tri-Party Agreement Project Managers Meeting for M-026-01.

³The text in this column is a brief summary of the requirement(s).

⁴The information in this column refers to the location of the information within this annual LDR report; For information presented on the data sheets of Appendix B "(TGDS)" refers to the treatability group data sheet, and "(LSDS)" refers to the location-specific data sheet. A brief description of how the two types of data sheets are related can be found in Section 1.2 (see also Figure B-1 of Appendix B)

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CFR	Code of Federal Regulations	PUREX	plutonium-uranium extraction
CWC	Central Waste Complex	RCRA	<i>Resource Conservation and Recovery Act of 1976</i>
DOE	U.S. Department of Energy	STP	Site Treatment Plan
Ecology	Washington State Department of Ecology	Tri-Party Agreement	<i>Hanford Federal Facility Agreement and Consent Order</i>
EPA	U.S. Environmental Protection Agency	TGDS	treatability group data sheet
FD	Final Determination	TSD	treatment, storage, and/or disposal
FFCA	Federal Facility Compliance Agreement	WAC	<i>Washington Administrative Code</i>
LDR	land disposal restrictions	WRAP	Waste Receiving and Processing Facility
LSDS	location-specific data sheet		

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APPENDIX B

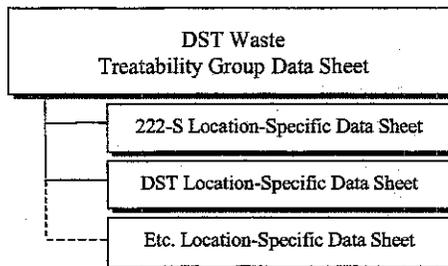
WASTE STORAGE REPORT DATA SHEETS

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APPENDIX B

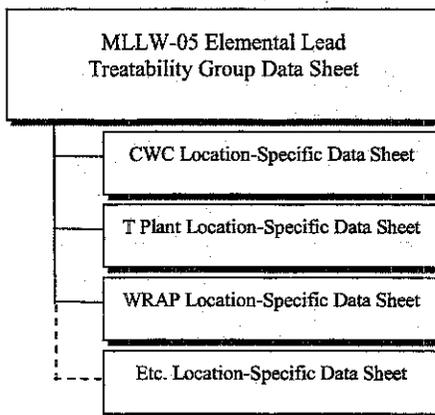
WASTE STORAGE REPORT DATA SHEETS

Relationship Between LDR Treatability Group and Location-Specific Data Sheets



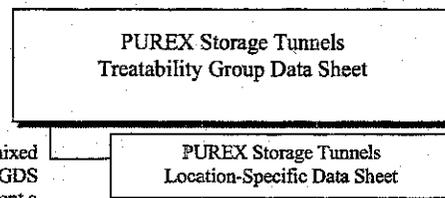
Treatability group data sheets (TGDSs) describe the common physical and chemical characteristics of the waste streams. They also provide a quantitative summary of some data in the associated location-specific data sheets (LSDSs).

Each TGDS has one or more LSDS associated with it. The LSDS describe on a plant/unit/project basis how, where, and how much of the waste is stored, and give a glimpse of the waste's past and future. Unique information is included on LSDSs that is not reflected on TGDS. The LDR report requires both to provide a clear picture of each waste stream.



In this example, the CWC LSDS would contain the CWC inventory and projected generation for any waste generated at CWC and coming from offsite directly to CWC.

LSDSs for generating locations contain the current facility inventory of this waste (if any, because SAA/90-day waste is not part of stored inventory), plus 5-year generation projections (including SAA/90-day waste).



This is an example of data sheets for mixed waste stored "long-term". Both a TGDS and a LSDS are required to present a complete picture of the waste.

Figure B-1. Example Relationship Between Location-Specific and Treatability Group Data Sheets.

Each treatability group data sheet is followed by one or more location-specific data sheets that fall within that treatability group. Refer to Figure B-1 of this document for details of how the two types of sheets relate to each other. Refer to Table B-1 of this document for the index of data sheets.

GENERAL INSTRUCTIONS FOR ALL DATA SHEETS:

The basis for LDR reporting in this document is CY 2004, unless stated otherwise.

B1.0 TREATABILITY GROUP DATA SHEET DATA FIELD DESCRIPTIONS

The following items are numbered to correspond to the numbers on the treatability group data sheets (i.e., the numbers refer to the data field locations in the data sheets).

1.0 Waste Stream Identification

1.1 Treatability group name: Supplies a short, descriptive name for the waste within the treatability group.

1.2 Description of waste (list WSRd [waste specification record] numbers for this waste stream, as applicable): Provides an overall description of the waste streams reported under the treatability group. WSRd numbers indicate a waste treatment and/or disposal pathway, and are used principally for waste stored at the CWC or received from offsite. Note that the grouping of waste into a treatability group can be based on any of the following: proposed treatment technology, storage location, or waste source. If there is no WSRd applicable to the treatability group, a description must still be provided.

2.0 Waste Stream Inventory and Generation

2.1 Current total inventory for this waste stream (stored waste only, not accumulation areas). Total volume (cubic meters): Automatically summed from stored inventory reported in individual location-specific data sheets contributing to the treatability group data sheet.

2.2 Estimated generation projection by calendar year: Listed by year, and m³ and/or kg: Also automatically summed from individual location-specific data sheets contributing to the treatability group data sheet.

3.0 Waste Stream Characterization

3.1 Radiological characteristics

3.1.1 Mixed waste type. Lists three options, one of which must be selected. The choice indicates radiological classification (either high-level, transuranic, or low-level). If more than one selection applies to the treatability group data sheet, select the most appropriate one and enter explanatory comments in section 3.1.3.

3.1.2 Handling (as package contents would need to be handled during treatment). Lists two options, one of which must be selected. The choice differentiates between contact- and remote-handled waste types. The choice made reflects the waste as if no longer packaged for storage, but

instead as if it were unpackaged and handled for treatment. If more than one selection applies to the treatability group data sheet, select the most appropriate one and enter explanatory comments in section 3.1.3.

3.1.3 Comments on radiological characteristics (e.g., more specific information on content, treatment concerns caused by radiation, confidence level): Provides space for explanatory information on radiological characteristics of the waste that cannot be supplied in the multiple-choice format used in previous sections of this data sheet. (Refer to explanations above for previous sections of the treatability group data sheet.)

3.2 Physical form

3.2.1 Physical form of the waste. Lists five options, one or more of which must be selected. The choice indicates the physical form (either solid, liquid, semi-solid, debris, or other). If the "Other" choice is selected or if there are any comments on the physical form, enter explanatory comments in section 3.2.2.

3.2.2 Comments on physical form: Indicate any comments on the physical form of the waste within the treatability group data sheet. If there are no comments, enter "None."

3.3 Regulated constituents and wastewater/nonwastewater category

3.3.1 Wastewater/non-wastewater under RCRA. Lists three options, one of which must be selected. The choice indicates whether, under federal LDR requirements defined in 40 CFR 268.2, the waste stream is considered wastewater, non-wastewater, or is of an unknown type. For state-only dangerous waste select unknown.

3.3.2 Regulated constituent table including treatment requirements and UHCs, if applicable. Provides the following information in a table. Note that underlying hazardous constituent (UHC) information is included in this table. Footnotes provide further explanation for the table, as applicable:

- The EPA or state-only "EPA/State numbers" indicate the listed or characteristic waste numbers such as D001, F005, etc. Note that not all waste numbers listed in the table for waste reported on any particular treatability group data sheet will be applicable to all subcategories of waste in the treatability group (nor, therefore, will all waste numbers apply to each location-specific data sheet contributing to a particular treatability group). Note also that for waste for which more than one subcategory applies, the waste number appears in this table once for each of the applicable LDR subcategories.
- The "Waste description" indicates the characteristics of the waste or constituents of concern (e.g., "ignitable" or "methyl ethyl ketone").
- The "LDR subcategory" indicates any applicable subcategory of the assigned waste number (e.g., "corrosive characteristic waste" or "radioactive high level waste" for D002). The LDR subcategory applies only to D001 through D011. Some data sheets could show the constituent of concern in this field for F-coded waste. Note that if more than one subcategory applies, the waste number appears in this table once for each of the applicable LDR subcategories.

- “Concentration (typical or range)” of the constituent, if known, is included in the table as a range or a single value. In some cases, the concentration might not be known; in that case, this field is labeled “TBD” or explained with a footnote to the table or elsewhere in the data sheet.
- “Basis” explains how the concentration information was determined (i.e., “process knowledge” and/or “analytical data”).
- The final column, “LDR Treatment Concentration Standard or Technology Code”, lists either the regulatory-required method for treating the waste, or the required final concentration, as obtained from the applicable regulations. Note that transuranic mixed waste is a special case.

3.3.3 List any waste numbers from Section 3.3.2 for which the waste stream already meets established LDR treatment standards. Lists three options, one of which must be selected, that indicates the treatment status of the waste in the treatability group. When the “list” option is selected, the waste numbers from the 3.3.2 table must be entered meeting treatment standards.

3.3.4 Does this waste stream contain PCBs? Lists three options, one of which must be selected regarding PCB content. The basis for the choice made can be process knowledge or laboratory analysis.

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs? Implies applicability as determined by *Toxic Substance Control Act* (TSCA) regulations. Only answer this question when 3.3.4 is answered as “yes.”

3.3.4.2 Indicate the PCB concentration range (ppm). Lists three options in a multiple choice format for reporting the appropriate PCB concentration range. Only answer this question when 3.3.4 is answered as “yes.”

3.3.5 What is the confidence level for the regulated constituents? Lists three options, one of which must be selected. This assigns a subjective rating to the accuracy of the information presented on regulated constituents.

3.3.6 Comments on regulated constituents and wastewater/nonwastewater category: Provides space for explanatory information on regulated constituents and wastewater/nonwastewater category of the waste and confidence in the accuracy of the information that cannot otherwise be supplied in the format provided for the other sections of the treatability group data sheet.

4.0 Waste Stream Treatment

4.1 Is this waste stream currently being treated? Lists two options, one of which must be selected. Details are provided only if treatment currently is under way. When no is selected, “N/A” will be entered.

4.2 Planned treatment. Lists four options in a multiple-choice format. The appropriate box(es) is/are checked to indicate the status of existing plans for treating the waste to meet applicable regulations. When no treatment is required, skip to Section 5.0.

- 4.3 Planned treatment method, facility, and extent of treatment capacity available:** Describes details of planned treatment for onsite treatment, storage, and/or disposal (TSD) units and offsite facilities, as well as details of how much of the required treatment capacity is available.
- 4.4 Treatment schedule information:** Provides space to include such information as start date of treatment, end date of treatment, and how much waste will be treated each year. Either treatment schedule information or other schedule-related information is provided, or if none exists as of the status reporting date for the treatability group, the current status of any active negotiations or applicable actions are described instead.
- 4.5 Applicable Tri-Party Agreement treatment milestone numbers (including permitting):** Provides table with Tri-Party Agreement milestone drop down menu to list appropriate existing milestone numbers related to treatment. "N/A" will be indicated when the table is empty. Milestones cited as commitments for treatment must be the specific milestone(s) that on completion will satisfy the LDR requirements for treatment.
- 4.6 Proposed new Tri-Party Agreement treatment milestones:** Provides space to list appropriate proposed new treatment milestones. If applicable, make reference to any active Tri-Party Agreement negotiations.
- 4.7 If treating or planning to treat onsite, was or will waste minimization be addressed in developing and/or selecting the treatment method?** If the corresponding box is selected in Section 4.2, three options for a multiple choice answer are provided to describe any waste minimization plans for the waste during treatment. **If yes, describe:** Self-explanatory. If the corresponding box in Section 4.2 is not checked, insert "N/A based on 4.2" in the comment field.
- 4.8 List or describe treatability equivalency petitions, rulemaking petitions, and case-by-case exemptions needed for treatment already in place:** Space provided for supplying details of any existing or future treatability variances (40 CFR 268.44), equivalency petitions (40 CFR 268.42(b)), rulemaking petitions (WAC 173-303-910, 40 CFR 260.20), and case-by-case exemptions [WAC 173-303-140(6)]. If there are none, insert "None."
- 4.9 Key assumptions:** Provides space to list assumptions concerning treatment that cannot otherwise be supplied in the format provided. If there are no key assumptions, insert "None."
- 5.0 Waste Stream Disposal**
- After treatment, how will the waste stream be disposed of (include locations, milestone numbers, variances required, etc., as applicable)?** Provides space to describe disposal methods, locations, variances required, etc., as applicable.

B2.0 LOCATION-SPECIFIC DATA SHEET DATA FIELD DESCRIPTIONS

The following items are numbered to correspond to their numbers on the location-specific data sheets (i.e., the numbers refer to the data field locations in the data sheets). The numbers have no relation to their position in this document appendix. Note that the term "storage" is used throughout the location-specific data sheets based upon the definition of WAC 173-303-040. "Accumulation" or management in a CERCLA area of contamination is not considered "storage".

1.0 Waste Stream Identification and Source

- 1.1 Unit/Plant Name:** Uniquely identifies the generating location of the waste.
Waste Stream. Supplies a short, descriptive name for the waste.
Treatability group name. Supplies the short, descriptive name for the waste treatability group to which the waste described in the particular location-specific data sheet is assigned.
- 1.2 Applicable profile number(s) for this waste stream:** Lists waste profile numbers applicable to the waste if any. Waste profile numbers are used principally for waste that is transferred to the CWC or that is received from offsite generators. If there are no waste profiles, indicate "None."
- 1.3 Waste stream source information**
- 1.3.1 General description of the waste (e.g., spill cleanup waste, discarded lab materials, maintenance waste):** Describes where the waste came from, the general matrix, and constituents.
- 1.3.2 History of how and where the waste was/is generated:** Describes how and where the waste was generated.
- 1.3.3 Source of the regulated constituents.** Describes where the regulated constituents came from.
- 1.3.4 Source of information (e.g., analytical data, process knowledge, document number, etc.).** Information sources include analytical data, process knowledge, document number, etc.
- 1.3.5 Additional notes:** Includes any information that would be helpful in identifying the waste and its generation. If no additional a notes apply, indicate "None."

2.0 Waste Stream Storage, Inventory, and Generation Information

- If the waste stream reported is managed in satellite accumulation areas, 90-day accumulation areas, or CERCLA area of contamination; skip to Section 2.6. The comment field in section 2.3 can be used if necessary.
- 2.1 Current storage method.** Lists seven options in multiple choice format to describe the type of storage used. No box is chosen if the waste reported on the data sheet is only managed in accumulation areas or a CERCLA area of contamination. Storage pursuant to the Tri-Party Agreement must be addressed by checking the appropriate boxes. Note that as used here, "container (pad)" indicates drums or other containers such as boxes that are sitting on a concrete or other pad or area; "container (covered)" indicates drums or other containers such as boxes sitting under a roof or inside a building. Provide additional information about the storage location if other is checked (e.g., containment building).

- 2.1.1 How was the waste managed prior to storage?** Describes routine and special management of the waste. Note: For waste in accumulation areas or CERCLA areas of contamination, the answer provided is "N/A".
- 2.1.2 Timeframe when waste was placed into storage:** Supplies the date or dates the waste was placed in storage (waste storage history). Examples might be, "This waste has been generated and stored at this location from 1987 to the present" for waste continuously generated and stored, or "The waste currently in storage was generated in 1999" for waste no longer generated and stored. Note: For reporting of waste in accumulation areas or CERCLA areas of contamination, the answer provided is "N/A".
- 2.2 Storage Inventory locations:** Lists the building and/or room number, as appropriate, with the number of storage containers/tanks for each storage location in a table format. Note: This section of this data sheet does not include satellite or 90-day accumulation areas. For reporting of waste in accumulation areas or CERCLA areas of contamination, the answer provided is "N/A" in both table cells.
- 2.3 Current stored inventory for this stream.** Volume of waste (cubic meters) and reporting date in mm/dd/yyyy format of the volume is supplied. The default reporting date is December 31, 2003. In some cases, the date shown will be different if the volume is known only for another date. The volume information for each location-specific data sheet is summed to the reported volume for its associated treatability group data sheet. Note that for reporting of waste in accumulation areas or CERCLA areas of contamination, the answer provided here is "N/A" or zero. Accumulated waste or CERCLA areas of contamination volume is reported only in Section 2.6 of the location-specific data sheet as an estimated generation projection, as applicable. Note also that the volume will display three decimal points in the database. If necessary, comments on waste inventory can be entered in this section even if the waste is managed in a satellite accumulation area, 90-day accumulation area, or a CERCLA area of contamination. If there are no comments, enter "None."
- 2.4 Is storage capacity at this location potentially an issue for this waste stream?** The two multiple choice options are "yes" and "no." If "yes," what is the total estimated storage capacity? Self-explanatory. Do not answer this question when no is selected, "N/A" will be displayed. When is this capacity expected to be reached? Self-explanatory. Do not answer this question when no is selected, "N/A" will be displayed. **Bases and assumptions used:** Lists any bases and assumptions used in estimating storage capacity limitations. Note: For waste reported in accumulation areas or CERCLA areas of contamination, the answer provided here is "NA".
- 2.5 Planned storage areas for this waste:** Five types of storage areas are provided in a multiple-choice format. More than one choice could apply. If the waste was in its current location as of 12/31/04, or will remain in its current location for a finite period of time, the "current location" box in addition to any other known planned storage location indicates where the waste is intended to be stored. Note: For waste reported in accumulation areas or CERCLA areas of contamination, an answer can be provided here but is not required.
- 2.6 Estimated generation projection by calendar year (includes waste in satellite accumulation areas, 90-day accumulation areas, or CERCLA areas of contamination):** Lists the estimated volume (m³) or mass (kg) of the mixed waste or matrices projected to be generated as mixed waste in the next 5 years. When a volume is entered, the mass can be left blank. Waste volumes in satellite accumulation areas, 90-day accumulation area, or CERCLA areas of contamination at

the end of the calendar year are reported in a location-specific data sheet for the first year's forecast. Note that the volume will display three decimal points.

- 2.7 DOE Storage Compliance Assessment information:** Three options are provided in a multiple choice format. In some cases, more than one option is appropriate. The chosen option shows whether the assessment either has been or will be completed, and references the appropriate assessment end date or planned assessment date; or, it explains why neither of the other two options is an appropriate answer. For accumulation areas, CERCLA areas of contamination, or waste that has not been generated, check the "other" box and insert "N/A" for the explanation. When selecting "assessment has been completed," the assessment document number and the assessment date (e.g., transmittal letter date) must be entered into the table. The assessment schedule can be found in Section 3.2 of the report.
- 2.8 Applicable Tri-Party Agreement milestones related to storage at this location:** Provides table with Tri-Party Agreement milestone drop down menu with associated due dates. Lists any applicable Tri-Party Agreement milestone(s) for storage. "N/A" indicates that this question is not applicable (i.e., waste is only in accumulation areas or there are no milestones) For TSD units, identifying the M-20 milestone or other permitting related milestone is appropriate. Milestones cited as commitments must be the specific milestone(s) that on completion will satisfy the LDR requirements.
- 2.9 Has there ever been any non-permitted, unauthorized release of this waste stream from this storage unit to the environment?** Lists two options, one of which must be selected -- "yes" and "no" -- to report known spills, such as those reported in accordance with WAC 173-303-145, and -360 and the tank waste release status reports. Note: For waste reported in accumulation areas, select "No." **If yes, summarize releases and quantities and provide date:** Provide information or reference the Section of the LDR report that discusses the releases.
- 2.10 Are there any plans to submit requests for variances or other exemptions related to storage?** Lists two options, one of which must be selected, "yes" and "no." **If yes, explain:** If "yes" is chosen, an explanation is provided. (Variances and/or exemptions associated with waste treatment are addressed in treatability group data sheets, Section 4.8.).
- 2.11 Characterization:**
- 2.11.1 Is further characterization needed about the waste prior to acceptance for storage?** Three options, one of which must be selected: "yes," "no," and "unknown at this time." Answer the question as whether further information is needed about the waste before acceptance for storage. Use the explanation area of question 2.12 if additional space is necessary.
- Answer yes if characterization is required for any parameter or aspect (e.g., LDR information, waste designation information, packaging information, radionuclide information). If the answer is Yes, an explanation is required. The explanation either will reference to the milestone table or make reference to an agreement to obtain the information, reference active negotiations addressing the commitment, include a commitment to obtain the information, or the text will describe why a commitment is not necessary. The following are examples of characterization information needs that do not require a commitment:
- Radioactive characterization issues
 - Characterization required as normal process when a cradle to grave process is being implemented (e.g., waste being sent to 200 Area Liquids)

- Unit-specific waste acceptance data not required for LDR waste characterization (e.g., total suspended solids for sending waste to the 200 Area Liquids, or Real-Time radiography)

Answer the question No, if the mixed waste is in a satellite accumulation area or 90-day accumulation area and is ready to be placed into storage, or that the waste is already in storage.

Answer the question "unknown at this time," if characterization requirements for storage cannot be determined at this time. An explanation in the comment field is necessary. The explanation needs to identify what step(s) needs to be completed before the question can be answered.

If the answer is yes and Tri-Party Agreement milestones exist that address characterization, provide Tri-Party Agreement milestone number(s) in the table provided. If no milestones are selected from the drop down menu provided in the database, "N/A" will be automatically inserted. Milestones cited as commitments for characterization must be the specific milestone(s) that on completion will satisfy the LDR requirements for characterization.

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

Three options, one of which must be selected, are provided: "yes," "no," and "unknown at this time." Answer the question as whether further information is needed about the waste before acceptance for treatment. Use the explanation area of question 2.12 if additional space is necessary. Treatment is defined as any activity meeting the definition of treatment in WAC 173-303-040 (broader than LDR treatment) which states:

"Treatment" means the physical, chemical, or biological processing of dangerous waste to make such wastes nondangerous or less dangerous, safer for transport, amenable for energy or material resource recovery, amenable for storage, or reduced in volume, with the exception of compacting, repackaging, and sorting as allowed under WAC 173-303-400(2) and 173-303-600(3).

Answer the question "yes" if any information is needed for any parameter or aspect to allow treatment of the mixed waste. If the answer is Yes, an explanation is required in the comment field. The explanation will reference to the milestone table, make reference to an agreement to obtain the information, reference active negotiations addressing the commitment, include a commitment to obtain the information, or the text will describe why a commitment is not necessary. Refer to the example circumstances in 2.11.1 for situations where a commitment is not required.

Answer the question "no" if the mixed waste is ready for treatment or if no treatment is required.

Answer the question "unknown at this time" if uncertainty exists about whether treatment is required for the mixed waste. An explanation in the comment field is necessary. The explanation needs to identify what step(s) needs to be completed before the question can be answered

If the answer is yes and Tri-Party Agreement milestones exist that address characterization, provide Tri-Party Agreement milestone number(s) in the table provided. If no milestones are selected from the drop down menu provided in the database, "N/A" will be automatically inserted. Milestones cited as commitments for characterization must be the specific milestone(s) that on completion will satisfy the LDR requirements for characterization.

2.11.3 Is further characterization needed about the waste prior to acceptance for disposal? Three options, one of which must be selected, are provided: "yes," "no," and "unknown at this time."

Answer the question as whether further information is needed about the waste before acceptance for disposal. Use the explanation area of question 2.12 if additional space is necessary.

Answer the question "yes" if any LDR treatment standard for the mixed waste is a concentration based standard that requires sampling and analysis to confirm that the treatment standard has been met after treatment. In addition, answer "yes" if information about other parameters (e.g., voids) needs to be obtained. If the answer is Yes, an explanation is required in the comment field. The explanation will reference to the milestone table, make reference to an agreement to obtain the information, reference active negotiations addressing the commitment, include a commitment to obtain the information, or the text will describe why a commitment is not necessary. Refer to the example circumstances in 2.11.1 for situations where a commitment is not required.

Answer the question "no" if all the LDR treatment standards for the mixed waste are a performance based treatment standard (e.g., a specified technology, debris rule macroencapsulation) or if the waste is TRUM destined for WIPP.

Answer the question "unknown at this time" if uncertainty exists about disposal location waste acceptance requirements. An explanation in the comment field is necessary. The explanation needs to identify what step(s) needs to be completed before the question can be answered

If the answer is yes and Tri-Party Agreement milestones exist that address characterization, provide Tri-Party Agreement milestone number(s) in the table provided. If no milestones are selected from the drop down menu provided in the database, "N/A" will be automatically inserted. Milestones cited as commitments for characterization must be the specific milestone(s) that on completion will satisfy the LDR requirements for characterization.

- 2.12 Other key assumptions related to storage, inventory and generation information:** Explains anything about this waste that will provide greater understanding and clarification, or that cannot otherwise be supplied in the format provided. Also identifies assumptions that, if incorrect, would affect information in the data sheet or elsewhere in the report.
- 3.0 Waste Minimization**
- 3.1 Has a waste minimization assessment been completed for this stream?** Lists two options, one of which must be selected. "yes" and "no." **If yes, provide date assessment conducted:** If "yes" is chosen, provide date the assessment was conducted. **If yes, provide document number or other identification:** Provides the document number or other identification of the assessment and/or results. The information provided is sufficient for a reader to find the document. **If no, provide date assessment will be completed, or if waste stream is no longer generated then indicate N/A:** If "no" is chosen, provide a future date assessment is planned to be completed. "N/A" is used only if the waste is no longer generated or if yes was selected. Note that if the waste is not generated at this location (i.e., if the location is for storage only), then this space can be used to explain that fact.
- 3.2 Provide details of current and proposed methods for minimizing the generation of this stream (e.g., process changes to reduce or eliminate LDR waste, methods to reduce volume through segregation and avoidance of commingling, substitution of less-toxic materials):** Space is provided for the explanation.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year (volume or mass): How much waste has the facility avoided generating this past year as part of the waste minimization program?

3.3.2 Projected future waste volume reductions: Lists the next 5 years in volume (m³) or mass (kg). The database will automatically add the individual years' entries to supply the location-specific data sheet total.

3.3.3 Bases and assumptions used in above estimates: Provide the bases and assumptions used to answer Sections 3.3.1 and 3.3.2 of the location-specific data sheet, if any estimates or schedules were provided. Note that any other explanation that will provide greater understanding and clarification about waste minimization activities for this waste can also be provided, in addition to the bases and assumptions required to support Sections 3.3.1 and 3.3.2 of the location-specific data sheet.

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Table B-1. Data Sheet Index. (6 sheets)

Treatability Group Data Sheets	Location Specific Data Sheets		
Treatability Group Name	Unit/plant	Waste Stream	Contractor
221-T Containment Building			FH
	T Plant Complex	221-T Containment Building	FH
221-T Tank System			FH
	T Plant Complex	RCRA Tank System	FH
222-S Laboratory Complex			CH2M HILL
	222-S	Containerized mixed waste	CH2M HILL
	Tank Farm Facilities	Mixed waste from 616	CH2M HILL
222-S T8 Tunnel			CH2M HILL
	222-S Laboratory Complex	T8 Tunnel RH-MLLW	CH2M HILL
241-CX Tank System			FH
	241-CX Tank System	CX Tank System	FH
324 Building REC Waste			FH
	324 Building	Radiochemical Engineering Cells	FH
325 HWTU			PNNL
	325 HWTU	325 HWTU	PNNL
B Plant Cell 4			FH
	B Plant Complex	Cell 4	FH
B Plant Containment Building			FH
	B Plant Complex	Containment Building Storage	FH
Cesium and Strontium Capsules			FH
	WESF	Cs and Sr Capsules	FH
DST Waste			CH2M HILL
	222-S Laboratory Complex/219-S Waste Handling Facility	Bulk Aqueous Liquids	CH2M HILL
	DST System	DST System	CH2M HILL

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Table B-1. Data Sheet Index. (6 sheets)

Treatability Group Data Sheets	Location Specific Data Sheets		
Treatability Group Name	Unit/plant	Waste Stream	Contractor
ERDF—Treatment			BHI
	100-HR-3	CERCLA Resin	FH
	200 Areas D&D waste	Miscellaneous CERCLA waste	FH
	CERCLA Waste	CERCLA Waste	BHI
HSTF			FH
	HSTF	HSTF 276-S-141/142	FH
LERF/ETF Liquid Waste			FH
	200-UP-1	200-UP-1	FH
	242-A Evaporator	Evaporator Process Condensate	CH2M HILL
	LERF	Wastewater	FH
	LLBG/MW Trench	TR34 Leachate	FH
	T Plant Complex/2706-T Tank System	2706-T Tank System	FH
	WSCF	LERF/ETF	FH
MLLW-01 – LDR Compliant Waste			FH
	200 ETF	RCRA Powder, LDR Compliant	FH
	CWC	LDR compliant	FH
		Lab Chemicals/Reagents, LDR Compliant	FH
	PFP		
	T Plant Complex	LDR Compliant	FH
	WRAP	LDR Compliant	FH

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Table B-1. Data Sheet Index. (6 sheets)

Treatability Group Data Sheets	Location Specific Data Sheets		
Treatability Group Name	Unit/plant	Waste Stream	Contractor
MLLW-02 - Inorganic Non-Debris			FH
	200 ETF	RCRA Powder, Inorganic Non-Debris Non-LDR Compliant	FH
	324	Inorganic Non-Debris Discarded Chemical/Waste	FH
	327	Inorganic Non-Debris Discarded Chemical/Waste	FH
	CWC	Inorganic Non-Debris Solids And Labpacks	FH
	PFP	Laboratory Chemical Wastes, Inorganic Non-Debris	FH
	T Plant Complex	Inorganic Non-Debris	FH
	WRAP	Inorganic Non-Debris	FH
	WSCF	Inorganic Non-Debris	FH
MLLW-03 - Organic Non-Debris			FH
	100-Area Reactors	Waste Oil from reactors	FH
	324	Organic Non-Debris Discarded Chemical/Waste	FH
	327	Organic Non-Debris Discarded Chemical/Waste	FH
	CWC	Organic Non-Debris Solids and Labpacks	FH
	LLBG	MLLW Retrieval Organic Non-Debris	FH
	PFP	Lab Chemicals/Waste, Organic Non-Debris	FH
	T Plant Complex	Organic Non-Debris	FH
	WRAP	Organic Non-Debris	FH
	WSCF	Organic Non-Debris	FH

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Table B-1. Data Sheet Index. (6 sheets)

Treatability Group Data Sheets	Location Specific Data Sheets		
Treatability Group Name	Unit/plant	Waste Stream	Contractor
MLLW-04A - O/C Hazardous Debris			FH
	200 ETF	Acid O/C Hazardous Debris	FH
	200 ETF	Caustic O/C Hazardous Debris	FH
	200 ETF	RCRA O/C Hazardous Debris	FH
	202-S	202-S O/C Hazardous Debris	FH
	324	O/C Hazardous Debris	FH
	CWC	O/C Hazardous Debris	FH
	LLBG	MLLW Retrieval Debris	FH
	PFP	Operations and D&D Wastes O/C Hazardous Debris	FH
	T Plant Complex	O/C Hazardous Debris	FH
	Well Maintenance Debris	O/C Hazardous Debris Well Debris	FH
	WRAP	O/C Hazardous Debris	FH
	WSCF	O/C Hazardous Debris	FH
MLLW-04B - Non-O/C Hazardous Debris			FH
	200 Areas D&D Waste	Miscellaneous debris	FH
	CWC	Non-O/C Inorganic Hazardous Debris	FH
	LLBG	MLLW Retrieval Non O/C Hazardous Debris	FH
	T Plant Complex	Non-O/C Hazardous Debris	FH
	WRAP	Non-O/C Inorganic Hazardous Debris	FH
MLLW-05 - Elemental Lead			FH
	324	Elemental Lead	FH
	327	Elemental Lead	FH
	CWC	Elemental Lead	FH
	PFP	Elemental Lead	FH
	T Plant Complex	Elemental Lead	FH

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Table B-1. Data Sheet Index. (6 sheets)

Treatability Group Data Sheets	Location Specific Data Sheets		
Treatability Group Name	Unit/plant	Waste Stream	Contractor
MLLW-06 - Elemental Mercury			FH
	327	Elemental Mercury	FH
	CWC	Elemental Mercury	FH
	PFP	Hg, Elemental	FH
	WRAP	Elemental Mercury	FH
MLLW-07 - RH and Large Container			FH
	325 HWTU	MLLW-07 RH	FH
	CWC	MLLW-07	FH
	T Plant Complex	RH and Large Container	FH
MLLW-08 - Unique Waste			FH
	CWC	Unique Waste	FH
	T Plant Complex	MW Requiring Special Processing	FH
	WRAP	Unique Waste	FH
MLLW-09 - Lead-Acid and Cadmium Batteries			FH
	200 Areas D&D waste	Lead-acid batteries	FH
	324	Pb & Cd Batteries	FH
	327	Pb & Cd Batteries	FH
	CWC	Pb & Cd Batteries	FH
	PFP	Batteries, Lead	FH
MLLW-10 - Reactive Metals			FH
	324	Reactive Metals	FH
	CWC	Alkali Metals	FH
	FFTF	Reactive Metals	FH
PUREX Plant			FH
	PUREX Plant	PUREX Containment Building	FH
PUREX Storage Tunnels			FH
	PUREX Storage Tunnels	Tunnels 1 and 2	FH
Purgewater			FH
	600 Area PSTF	Purgewater Modu-tanks	FH

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Table B-1. Data Sheet Index. (6 sheets)

Treatability Group Data Sheets	Location Specific Data Sheets		
Treatability Group Name	Unit/plant	Waste Stream	Contractor
SST Waste			CH2M HILL
	SST System	Past Practice Units	CH2M HILL
	SST System	SST System	CH2M HILL
TRUM - CH			FH
	200 Area Investigation	200 Area Investigation	FH
	325 HWTU	TRUM-CH	PNNL
	CWC	CH TRUM	FH
	LLBG	TRUM Retrieval	FH
	PFP	Lead Lined Containers	FH
	PFP	Legacy Holdup Waste	FH
	PFP	TRUM Debris	FH
	T Plant Complex	TRUM-CH	FH
	WRAP	TRUM-CH	FH
TRUM - Large Box			FH
	CWC	TRUM Boxes	FH
	LLBG	TRUM Retrieval Boxes	FH
TRUM - RH			FH
	325 HWTU	TRUM-RH	PNNL
	CWC	RH TRUM	FH

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

- 1.1 **Treatability Group Name:** 221-T Containment Building
- 1.2 **Description of waste (list WSRd numbers for this waste stream, as applicable)**
647

2.0 WASTE INVENTORY AND GENERATION

- 2.1 **Current total inventory for this waste stream (stored waste only, not accumulation areas). [Equals sum of location-specific data sheets for this treatability group.]**
Total volume (cubic meters): 50.000
- 2.2 **Estimated generation projection by calendar year: [equals annual sums of location-specific data sheets for this treatability group].**

Year	m ³	and/or	kg
2005	6.300		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	6.300		

3.0 WASTE STREAM CHARACTERIZATION

- 3.1 **Radiological Characteristics**
- 3.1.1 **Mixed waste type:** High-level Transuranic Low-level
- 3.1.2 **Handling (as package contents would need to be handled during treatment):**
 Contact-handled Remote-handled
- 3.1.3 **Comments on radiological characteristics (e.g., more specific information on content, treatment concerns caused by radiation, confidence level):**
Typically remote handled waste but can also be contact handled large equipment/debris.
- 3.2 **Physical Form**
- 3.2.1 **Physical form of the waste:**
 Solid Liquid Semi-solid Debris
 Other (Describe in comments.)
- 3.2.2 **Comments on physical form:**
Large equipment and/or debris.

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

Wastewater
 Non-wastewater
 Unknown

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

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D005	Barium	N/A	unknown	Process knowledge	unknown
D006	Cadmium	N/A	unknown	Process knowledge	unknown
D007	Chromium	N/A	unknown	Process knowledge	unknown
D008	Lead	N/A	unknown	Process knowledge	unknown
D009	Mercury	N/A	unknown	Process knowledge	260 mg/K
F001	1,1,1-trichloroethane	spent solvent	unknown	Process knowledge	6.0 mg/kg
F002	Methylene chloride	spent solvent	unknown	Process knowledge	30.0 mg/kg
F003	Acetone, MIK	spent solvent	unknown	Process knowledge	160 & 33 mg/kg
F004	Cresols	spent solvent	unknown	Process knowledge	5.6 mg/kg
F005	MEK	spent solvent	unknown	Process knowledge	36 mg/kg

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

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

Waste typically consists of remote handled and/or contacted handled equipment/debris waste. This waste will either be treated under M-91, macroencapsulated, or treated with other approved methods.

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

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

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3.4 Does this waste stream contain PCBs?

Yes No Unknown

If no or unknown, skip to Section 3.3.5.

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

Yes No Unknown

3.3.4.2 Indicate the PCB concentration range.

< 50 ppm \$ 50 ppm Unknown

3.3.5 What is the confidence level for the regulated constituents?

Low Medium High

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

N/A

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

Yes No

If yes, provide details: N/A

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

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

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

Waste will be processed per M-91, macroencapsulated, or other approved treatment methods.

4.4 Treatment schedule information:

Dependent upon M-091 capability, canyon deck and process cell cleanout continues, or in support of other missions.

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

Milestone Number	Due Date
M-091-01	06/30/2012
M-091-05-T01	12/31/2007
M-091-15	06/30/2008

LDR REPORT TREATABILITY GROUP DATA SHEET

4.6 Proposed new Tri-Party Agreement treatment milestones:

None.

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

Yes

No

Unknown

If yes, describe:

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

Unknown.

4.9 Key Assumptions:

All efforts to segregate low-level from mixed and transuranic from low-level and/or mixed waste. In addition, size reduction techniques will also be used.

5.0 WASTE STREAM DISPOSAL

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

Dependent upon M-91 as well as ongoing and future missions (e.g., K Basin sludge storage, etc.), and canyon/process cell cleanout.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant name: T Plant Complex **Waste Stream:** 221-T Containment Building
Treatability Group Name: 221-T Containment Building

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

N/A

1.3 Waste stream source information

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

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.

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

Waste generated as a result of decontamination, treatment, and/or canyon deck and process cell cleanout.

1.3.3 Source of the regulated constituents:

F listed (F001 through F005) based upon process knowledge from decontaminating of tank farms equipment.

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

Process knowledge.

1.3.5 Additional notes:

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

- Container (pad) Container (covered) Container (retrievably buried)
 Tank DST SST
 Other (explain): 221-T Containment Building in the T Plant Complex.

2.1.1 How was the waste managed prior to storage?

Stored on the canyon deck, railroad tunnel, or in process cells (process cells 7L, 13R, 8R, 9L, 14R, 16R, and 17R).

2.1.2 Timeframe when waste was placed to storage?

Waste was generated during canyon deck, cell cleanout activities and in support of other operational activities (e.g., decontamination). This process is ongoing as T Plant Complex continues to prepare for current as well as future missions.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
221-T Canyon (RR, Deck)	3 cells (7L, 13R, 8R, 9L, 14R, 16R, 17R), deck, RR

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 50.000

Date of inventory values: 12/31/2004

Comments on waste inventory:

Waste contents placed into process cells is documented in HNF-17211 as well as video taped.

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

Yes No

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

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

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list):

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	6.300		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	6.300		

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

Document Number	Date
01-A&E-012	11/28/2000

Assessment has been scheduled. Scheduled date: 3rd quarter CY2005.

Other. Explain:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Milestone Number	Due Date
N/A	N/A

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

Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

Yes No

If yes, explain: N/A

2.11 Characterization

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Process knowledge for dangerous waste designation is adequate to store waste for long-term.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

Waste reduction and minimization will be addressed when canyon deck and/or cell clean out resumes (e.g., size reduction, etc.) in support of operational needs and/or future needed missions.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.3.3 Bases and assumptions used in above estimates:

None; however, this will be evaluated to reduce where possible mixed waste (e.g., separate low-level from mixed).

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

- 1.1 **Treatability Group Name:** 221-T Tank System
- 1.2 **Description of waste (list WSRd numbers for this waste stream, as applicable)**
Liquid mixed waste with settled solids/sludge (waste also contains PCBs at TSCA regulated concentrations).

2.0 WASTE INVENTORY AND GENERATION

- 2.1 **Current total inventory for this waste stream (stored waste only, not accumulation areas). [Equals sum of location-specific data sheets for this treatability group.]**
Total volume (cubic meters): 20.520
- 2.2 **Estimated generation projection by calendar year: [equals annual sums of location-specific data sheets for this treatability group].**

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.0 WASTE STREAM CHARACTERIZATION

- 3.1 **Radiological Characteristics**
- 3.1.1 **Mixed waste type:** High-level Transuranic Low-level
- 3.1.2 **Handling (as package contents would need to be handled during treatment):**
 Contact-handled Remote-handled
- 3.1.3 **Comments on radiological characteristics (e.g., more specific information on content, treatment concerns caused by radiation, confidence level):**

The contents of the 221-T tank system are evaporating so that the concentration of radionuclides will be increasing over time. According to best information, at least one tank could be considered transuranic waste. Because a majority of the tanks are still considered to contain low-level waste, question 3.1.1 is answered as low-level waste.

3.2 Physical Form

- 3.2.1 **Physical form of the waste:**
 Solid Liquid Semi-solid Debris
 Other (Describe in comments.)
- 3.2.2 **Comments on physical form:**

LDR REPORT TREATABILITY GROUP DATA SHEET

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

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

Wastewater Non-wastewater Unknown

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

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

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

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

UHCs have not been determined for this waste stream.

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

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

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3.4 Does this waste stream contain PCBs?

Yes No Unknown

If no or unknown, skip to Section 3.3.5.

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

Yes No Unknown

3.3.4.2 Indicate the PCB concentration range.

< 50 ppm \$ 50 ppm Unknown

3.3.5 What is the confidence level for the regulated constituents?

Low Medium High

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

There is a potential for additional sampling to evaluate waste for long term storage and underlying hazardous constituents.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

Yes No

If yes, provide details: N/A

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

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

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

To be determined.

4.4 Treatment schedule information:

Dispositioning of the 221-T RCRA Tank System has been accomplished and agreed to by Ecology through the Part B workshop process and reflected in the "Hanford Facility Dangerous Waste Permit Application, T Plant Complex," DOE/RL-95-36, Revision 1.

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

Milestone Number	Due Date
N/A	N/A

LDR REPORT TREATABILITY GROUP DATA SHEET

4.6 Proposed new Tri-Party Agreement treatment milestones:

None.

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

Yes

No

Unknown

If yes, describe:

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

None.

4.9 Key Assumptions:

The liquid fraction of the waste will continue to evaporate. Dispositioning of the 221-T RCRA Tank System has been accomplished through the T Plant Complex Part B workshop/negotiations with Ecology and documented in "Hanford Facility Dangerous Waste Permit Application, T Plant Complex," DOE/RL-95-36, Revision 1.

5.0 WASTE STREAM DISPOSAL

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

NOTE: Discussions with Ecology regarding the waste within the 221-T RCRA Tank System have been concluded and the agreed upon pathway for managing this waste is documented in the "Hanford Facility Dangerous Waste Permit Application, T Plant Complex," DOE/RL-95-36, Revision 1.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 **Unit/Plant name:** T Plant Complex **Waste Stream:** RCRA Tank System
Treatability Group Name: 221-T Tank System

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

None.

1.3 **Waste stream source information**

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

Liquid mixed waste with settled solids. See Section 1.3.2 for additional description. NOTE: Discussions with Ecology regarding storage of existing waste within the 221-T RCRA Tank System have been discussed with Ecology during the Part B workshop process and is documented in the Part B. Closure currently is planned for 2025.

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

Waste resulting from decontamination activities at the 221-T and 2706-T, including precipitation run-on and direct additions from other onsite and offsite generators (e.g., FFIF condensate, laboratory returns, etc.). These canyon tanks were permanently removed from service in June of 1999. Engineering and administrative measures have been taken to ensure that no additional liquids are placed into this tank system. New tanks have been installed in 2706-T/2706-TA for newly generated waste. See the 2706-T location specific data sheet.

1.3.3 **Source of the regulated constituents:**

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

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

Process knowledge, analytical data.

1.3.5 **Additional notes:**

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 **Current storage method**

- | | | |
|---|--|---|
| <input type="checkbox"/> Container (pad) | <input type="checkbox"/> Container (covered) | <input type="checkbox"/> Container (retrievably buried) |
| <input checked="" type="checkbox"/> Tank | <input type="checkbox"/> DST | <input type="checkbox"/> SST |
| <input type="checkbox"/> Other (explain): | N/A | |

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

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed to storage?

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

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
221-T Building	7 tanks

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 20.520

Date of inventory values: 12/31/2004

Comments on waste inventory:

The liquid fraction of this waste will continue to evaporate.

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

Yes No

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

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

Bases and assumptions used:

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

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list): Refer to DOE/RL Letter 01-RCA-192 for discussion on proposed management of this waste and the "Hanford Facility Dangerous Waste Permit Application, T Plant Complex," DOE/RL-95-36. Revision 1.

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

Document Number	Date
01-A&E-012	11/28/2000

Assessment has been scheduled. Scheduled date: 3rd quarter CY2005.

Other. Explain:

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

Milestone Number	Due Date
N/A	N/A

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

Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

Yes No

If yes, explain: N/A

2.11 Characterization

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

Dispositioning of the 221-T RCRA Tank has been accomplished and agreed upon with Ecology during Part B workshops and documented in "Hanford Facility Dangerous Waste Permit Application, T Plant Complex," DOE/RL-95-36, Revision 1. Additional characterization might be necessary to support long-term storage.

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If yes or unknown, comment on characterization for treatment.

The treatment capability must be established to make this determination.

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

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

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

Negotiations on closure approach of the 221-T RCRA Tanks System have been accomplished with Ecology during the Part B workshop process. The disposition of the 221-T RCRA Tank System is documented in "Hanford Facility Dangerous Waste Permit Application, T Plant Complex," DOE/RL-95-36, Revision 1. The liquid fraction of the waste will continue to evaporate due to ventilation of the cells in 221-T Building containing the tank system. Information on evaporation has been discussed with Ecology. Administrative and engineering controls have been put in place to prevent additional liquids from entering this tank system.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

N/A - stream is no longer generated (see 2.12 of this data sheet).

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m3

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.3.3 Bases and assumptions used in above estimates:

N/A

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 **Treatability Group Name:** 222-S Laboratory Complex

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

This waste stream consists of many different inorganic and organic solids and liquids that are RCRA regulated or have been contaminated with inorganic and organic regulated dangerous waste constituents, including PCBs. This waste stream also includes hazardous debris. WSRDs- 400, 4001, 4002, 404, 420, 500, 503, 504, 525, 627, 820, 900, 921

2.0 WASTE INVENTORY AND GENERATION

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

Total volume (cubic meters): 12.477

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

Year	m ³	and/or	kg
2005	59.000		
2006	59.000		
2007	59.000		
2008	59.000		
2009	59.000		
Total	295.000		

3.0 WASTE STREAM CHARACTERIZATION

3.1 **Radiological Characteristics**

3.1.1 **Mixed waste type:** High-level Transuranic Low-level

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

Contact-handled Remote-handled

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

Due to process improvements (Debris Treatment/Decon) in the hot cell, it is unlikely that Remote Handled waste will be generated

LDR REPORT TREATABILITY GROUP DATA SHEET

3.2 Physical Form

3.2.1 Physical form of the waste:

Solid Liquid Semi-solid Debris

Other (Describe in comments.)

3.2.2 Comments on physical form:

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

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

Wastewater Non-wastewater Unknown

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

LDR REPORT TREATABILITY GROUP DATA SHEET

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D001	Ignitable	High TOC	***	***	RORGS; CMBST; POLYM
D001	Ignitable	Low TOC	***	***	DEACT & meet 268.48
D002	Corrosive	Corrosive Charac.	***	***	DEACT & meet 268.48
D003	Reactive	multiple	***	***	DEACT & meet 268.48
D004	TC-Arsenic	N/A	***	***	5.0 mg/L TCLP & meet 268.48
D005	TC-Barium	N/A	***	***	100 mg/L TCLP & meet 268.48
D006	TC-Cadmium	Cadmium Charac.	***	***	1.0 mg/L TCLP & meet 268.48
D007	TC-Chromium	N/A	***	***	5.0 mg/L TCLP & meet 268.48
D008	TC-Lead	Lead Charac.	***	***	5.0 mg/L TCLP & meet 268.48
D009	TC-Mercury	Low Mercury	<260 mg/kg	***	0.2 mg/L TCLP & meet 268.48
D010	TC-Selenium	N/A	***	***	5.7 mg/L TCLP & meet 268.48
D011	TC-Silver	N/A	***	***	5.0 mg/L TCLP & meet 268.48
D018	Benzene	N/A	***	***	10 mg/kg & meet 268.48
D019	Carbon Tetrachloride	N/A	***	***	6.0 mg/kg & meet 268.48
D021	Chlorobenzene	N/A	***	***	6.0 mg/kg & meet 268.48
D022	Chloroform	N/A	***	***	6.0 mg/kg & meet 268.48
D027	p-Dichlorobenzene	N/A	***	***	6.0 mg/kg & meet 268.48
D028	1,2-Dichlorethane	N/A	***	***	6.0 mg/kg & meet 268.48
D029	1,1-Dichloroethylene	N/A	***	***	6.0 mg/kg & meet 268.48
D030	2,4-Dinitrotoluene	N/A	***	***	140.0 mg/kg & meet 268.48
D033	Hexachlorobutadiene	N/A	***	***	5.6 mg/kg & meet 268.48
D035	Methyl Ethyl Ketone	N/A	***	***	36 mg/kg & meet 268.48
D038	Pyridine	N/A	***	***	16 mg/kg & meet 268.48

LDR REPORT TREATABILITY GROUP DATA SHEET

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D039	Tetrachloroethane	N/A	***	***	6.0 mg/kg & meet 268.48
D040	Trichloroethylene	N/A	***	***	6.0 mg/kg & meet 268.48
D043	Vinyl Chloride	N/A	***	***	6.0 mg/kg & meet 268.48
F001	1,1,1-Trichloroethane	Spent Solvent	***	***	6.0 mg/kg
F002	Methylene Chloride	Spent Solvent	***	***	30 mg/kg
F003	Acetone & Hexone	Spent Solvent	***	***	160 mg/kg
F004	o-Cresol & p-Cresol	Spent Solvent	***	***	5.6 mg/kg
F005	Methyl Ethyl Ketone	Spent Solvent	***	***	36 mg/kg
F027	Unused Formulations containing Pentachlorophenol	N/A	***	***	Multiple
F039	Leachate (F001-F005)	N/A	***	***	Multiple
P106	Cyanide	Total	***	***	1.2
U133	Hydrazine	N/A	***	***	CHOXD; CHRED OR CMBST
WP01	Persistent, EHW	N/A	***	***	None (1)
WP02	Persistent, DW	N/A	***	***	N/A
WP03	Persistent, EHW	N/A	***	***	None (1)
WSC2	Solid Corrosive	N/A	***	***	Remove solid-acid characteristic
WT01	Toxic, EHW	N/A	***	***	N/A
WT02	Toxic, DW	N/A	***	***	N/A

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

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

*** The concentration varies and is based on process knowledge and/or analytical data.

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

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

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

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3.4 Does this waste stream contain PCBs?

Yes No Unknown

If no or unknown, skip to Section 3.3.5.

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

Yes No Unknown

3.3.4.2 Indicate the PCB concentration range.

< 50 ppm ≥ 50 ppm Unknown

3.3.5 What is the confidence level for the regulated constituents?

Low Medium High

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

Some of the waste does contain PCBs subject to TSCA regulation. If a waste package is regulated by TSCA, it is identified as such on the storage records. In Section 3.3.4.2 of this data sheet, the PCB concentration range is marked as both "<50" and "≥50" because concentrations occur below and above 50 ppm in individual waste packages. In Section 3.3.1 of this data sheet, waste may be either wastewater or non-wastewater at the point of generation but is most likely to be non-wastewater at the time of shipment.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

Yes No

If yes, provide details: N/A

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

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

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

Waste requiring treatment will be treated using off-site commercial treatment facilities; facilities planned to be used are Pacific EcoSolutions in Richland and PermaFix/DSSI in Oak Ridge, Tennessee. For wastes that cannot be treated by either of the above means to meet LDR standards, the waste will be shipped to Central Waste Complex under an exception to current requirements to only receive LDR-compliant waste from CH2M Hill.

4.4 Treatment schedule information:

LDR REPORT TREATABILITY GROUP DATA SHEET

The goal of the 222-S Laboratory Complex is to treat waste off-site at commercial treatment facilities generally within one year. Waste that cannot be treated off-site will be shipped to CWC and will be subject to the schedules for treatment set forth in proposed TPA milestone M-091-42 (for contact-handled waste). For waste at the 222-S Laboratory Complex that is the responsibility of FH, off-site waste treatment will be attempted.

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

Milestone Number	Due Date
N/A	N/A

4.6 Proposed new Tri-Party Agreement treatment milestones:

See Section 4.4.

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

Yes No Unknown

If yes, describe: N/A

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

N/A

4.9 Key Assumptions:

None

5.0 WASTE STREAM DISPOSAL

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

Subject waste will ultimately be disposed of in mixed waste trenches located on the Hanford Site or at commercial facilities.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 **Unit/Plant name:** 222-S **Waste Stream:** Containerized mixed waste
Treatability Group Name: 222-S Laboratory Complex

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

Profile numbers are associated with the WSRD categories: 400, 401, 402, 404, 420, 500, 503, 504, 525, 627, 820, 900, and 921

1.3 **Waste stream source information**

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

Waste is generated from analytical procedures, unused or expired standards and reagents, tank farm samples and maintenance.

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

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

1.3.3 **Source of the regulated constituents:**

Analytical procedures, standards, reagents, tank samples and maintenance.

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

Waste Stream Fact Sheets (WSFS), Container Disposal Request Database (CDRD), Inventory sheets, MSDSs, Request for Sample Analysis, Analysis and Waste Planning Checklists

1.3.5 **Additional notes:**

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 **Current storage method**

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

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

Per the Hanford Facility Dangerous Waste Permit Application, 222-S Laboratory Complex (DOE/RL-91-27 Rev. 1).

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

8/95

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
HS-00082 A&B	22
HS-00083 A&B	30
Room 4E	130
N/A	N/A
N/A	N/A

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 12.000

Date of inventory values: 12/31/2004

Comments on waste inventory:

Mixed Waste managed by FH is sent to CWC for storage until shipped to an offsite TSDF.

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

Yes No

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

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

Bases and assumptions used:

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list): Offsite treatment facilities.

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	58.000		
2006	58.000		
2007	58.000		
2008	58.000		
2009	58.000		
Total	290.000		

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Assessment has been scheduled. Scheduled date:

Other. Explain:

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

Milestone Number	Due Date
M-020-22	12/31/1991

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

Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

Yes No

If yes, explain: N/A

2.11 Characterization

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

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

Yes No Unknown at this time

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Milestone Number N/A	Due Date N/A
-------------------------	-----------------

If yes or unknown, comment on characterization for disposal.

N/A

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

This waste will be managed under current operational procedures

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted:

If yes, provide document number or other identification:

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

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

Proper planning is used prior to waste generation through AJHA's, pre-job meetings and consistent review of routine operations to minimize waste generation where possible. The Laboratory constantly seeks innovative opportunities to reduce waste by being aware of current waste minimizing technology.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.833 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.3.3 Bases and assumptions used in above estimates:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

DOE/RL-2000-79 - "Pollution Prevention Accomplishments" document reported waste reductions for CY 2000. The waste reduction volume reported in Section 3.3.1 is a total waste minimization volume for similar waste streams across the 222-S Laboratory; this waste stream may be a portion of what was reported. 222-S has no waste minimization goals for this waste stream; therefore, no projected future waste volume reductions are reported in Section 3.3.2. However, the analytical process generating this stream is continuously evaluated for waste minimization opportunities.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 **Unit/Plant name:** Tank Farm Facilities **Waste Stream:** Mixed waste from 616
Treatability Group Name: 222-S Laboratory Complex

1.2 **Applicable profile number(s) for this waste stream:**
607, 627-03.

1.3 Waste stream source information

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

Organic non-debris contaminated soil, sand, rocks, gravel and spill clean up. The waste is contaminated with tank waste. The waste matrix may include small amount of debris such as plastic, and cloth. The containers may also include shielding material such as rubber or lead when necessary. There is also a container that contains contaminated Ni-Cad batteries.

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

Waste is generated at DST and SST tank farms and associated facilities. It can be generated by some of the following activities: sampling (core sampling, grab sampling), maintenance, surveillance, clean up and upgrades/construction, tank stabilization and tank waste transfers.

1.3.3 **Source of the regulated constituents:**

Non-debris from tank farms is considered mixed waste when it contains (as described by RCRA "contained-in policy" provisions) tank waste. Debris may also be hazardous due to regulated chemical products.

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

MSDS, process knowledge and analytical data. The document "Tank Farms Solid Waste Characterization Guide with Sampling and Analysis Attachment", HNF-SD-WM-PLN-119, Rev.1, describes the basis for historical and process knowledge used for designation.

1.3.5 **Additional notes:**

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

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

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed to storage?

The waste was placed onto the 222S TSD on 12/11/03.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
222S	4

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.477

Date of inventory values: 12/31/2004

Comments on waste inventory:

Managed in TSD storage.

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

Yes No

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

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

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list): N/A

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	1,000		
2006	1,000		
2007	1,000		
2008	1,000		
2009	1,000		
Total	5,000		

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

Document Number	Date

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

- Assessment has been scheduled. Scheduled date:
 Other. Explain: Storage assessment not required.

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

Milestone Number	Due Date
N/A	N/A

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

- Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

- Yes No

If yes, explain: N/A

2.11 Characterization

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If yes or unknown, comment on characterization for disposal.

Analyze to verify compliance with LDR requirements.

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

None.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

Unknown at this time.

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

1) Segregation of LLW from mixed waste; 2) Minimize the use of regulated products; 3) Encourage the use non-regulated products; 4) Minimize the volume of regulated chemicals used in Rad. Zone; and 5) Release items by sampling and analysis. 6) Perform a Contained In Determination

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

5.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	5.000		
2006	5.000		
2007	5.000		
2008	5.000		
2009	5.000		
Total	25.000		

3.3.3 Bases and assumptions used in above estimates:

The site goal is 10% of forecasted volumes. At this time, construction and upgrade activities are being performed for preparation of feed delivery to the waste treatment plant. No waste reduction is expected.

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

- 1.1 **Treatability Group Name:** 222-S T8 Tunnel
- 1.2 **Description of waste (list WSRd numbers for this waste stream, as applicable)**

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.

2.0 WASTE INVENTORY AND GENERATION

- 2.1 **Current total inventory for this waste stream (stored waste only, not accumulation areas). [Equals sum of location-specific data sheets for this treatability group.]**
- Total volume (cubic meters): 0.200
- 2.2 **Estimated generation projection by calendar year: [equals annual sums of location-specific data sheets for this treatability group].**

Year	m ³	and/or	kg
2005	0.000		0.000
2006	0.000		0.000
2007	0.000		0.000
2008	0.000		0.000
2009	0.000		0.000
Total	0.000		0.000

3.0 WASTE STREAM CHARACTERIZATION

- 3.1 **Radiological Characteristics**
- 3.1.1 **Mixed waste type:** High-level Transuranic Low-level

- 3.1.2 **Handling (as package contents would need to be handled during treatment):**
- Contact-handled Remote-handled

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

RH waste must be shielded down to contact-handled (CH) levels before accepted into a Hanford Site TSD unit; therefore, RH waste packages in a Hanford Site TSD unit are actually input into SWITS as CH. To determine if a waste package contains RH waste, the radionuclide, dose rate, physical form, and generator information in SWITS are reviewed for clues that might lead a reviewer to believe a waste may be RH. Since the T-8 Tunnel waste may be high dose, RH will apply to this waste stream.

LDR REPORT TREATABILITY GROUP DATA SHEET

3.2 Physical Form

3.2.1 Physical form of the waste:

- Solid Liquid Semi-solid Debris
 Other (Describe in comments.)

3.2.2 Comments on physical form:

This waste matrix is hazardous debris containing 219-S WHF waste.

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

- Wastewater Non-wastewater Unknown

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

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
F001	1,1,1-Trichloroethane	Spent Solvent	<6 mg/kg	***	6.0 mg/kg
F002	Methylene Chloride	Spent Solvent	< 30 mg/kg	***	30 mg/kg
F003	Acetone & Hexone	Spent Solvent	<160 mg/kg	***	160 mg/kg
F004	o-Cresol & p-Cresol	Spent Solvent	< 5.6 mg/kg	***	5.6 mg/kg
F005	Methyl Ethyl Ketone	Spent Solvent	< 36 mg/kg	***	36 mg/kg

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

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

***generator knowledge based on the process that generated this waste.

UHCs do not apply to debris.

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

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

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3.4 Does this waste stream contain PCBs?

Yes No Unknown

If no or unknown, skip to Section 3.3.5.

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

Yes No Unknown

3.3.4.2 Indicate the PCB concentration range.

< 50 ppm \$ 50 ppm Unknown

3.3.5 What is the confidence level for the regulated constituents?

Low Medium High

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

Characterization of the waste is based on characterization of the 219-S waste. Only F and D waste codes originally applied to the piping before it was taken out of service. The piping was rinsed prior to placement in the tunnel. Therefore, the piping no longer carries D waste codes, and only F waste codes apply. Underlying hazardous constituents do not apply.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

Yes No

If yes, provide details: N/A

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

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

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

TBD.

4.4 Treatment schedule information:

Treatment will be scheduled to coincide with the 222-S Laboratory Complex closure.

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

Milestone Number	Due Date
N/A	N/A

LDR REPORT TREATABILITY GROUP DATA SHEET

4.6 Proposed new Tri-Party Agreement treatment milestones:

None.

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

Yes No Unknown

If yes, describe: N/A

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

TBD

4.9 Key Assumptions:

N/A

5.0 WASTE STREAM DISPOSAL

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

Disposal will be discussed as a part of the 222-S Laboratory Complex closure.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 **Unit/Plant name:** 222-S Laboratory Complex **Waste Stream:** T-8 Tunnel RH-MLLW
Treatability Group Name: 222-S T8 Tunnel

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

None.

1.3 **Waste stream source information**

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

Waste was generated from removal of pipelines and other debris used in the transfer of aqueous analytical waste from the 222-S Laboratory Complex to the 219-S WHF.

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

The waste consists of debris (used pipes that transferred chemicals, unused samples, standards and reagents during analytical procedures).

1.3.3 **Source of the regulated constituents:**

The source of the hazardous constituents is 222-S Laboratory waste entering 219-S WHF.

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

Approval of waste entering 219-S WHF is in accordance 222-S Waste Analysis Plan (WAP), DOE/RL-91-27.

1.3.5 **Additional notes:**

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 **Current storage method**

- Container (pad) Container (covered) Container (retrievably buried)
 Tank DST SST
 Other (explain): This debris waste stream is currently in the T8 tunnel.

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

This waste was being staged in the T-8 tunnel per Ecology approval ("Request for Approval to Stage Out of Service Ancillary Drain Piping in the 222-S Laboratory Service Tunnels", dated October 10, 1997) until closure of the 222-S Laboratory Complex.

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

10/1997.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
219-S T8 Tunnel	0

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.200

Date of inventory values: 12/31/2004

Comments on waste inventory:

None.

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

Yes No

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

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

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list): This waste has been staged in a shielded area of T-8 tunnel. Final disposition will be determined at the time of 222-S Laboratory Complex closure.

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	0.000		0.000
2006	0.000		0.000
2007	0.000		0.000
2008	0.000		0.000
2009	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

Document Number	Date
A&E-SEC-01-018	12/03/2001

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Assessment has been scheduled. Scheduled date:

Other. Explain:

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

Milestone Number	Due Date
M-020-22	12/31/1991

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

Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

Yes No

If yes, explain: N/A

2.11 Characterization

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If yes or unknown, comment on characterization for disposal.

N/A

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

None.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

N/A

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		0.000
2006	0.000		0.000
2007	0.000		0.000
2008	0.000		0.000
2009	0.000		0.000
Total	0.000		0.000

3.3.3 Bases and assumptions used in above estimates:

N/A

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

- 1.1 **Treatability Group Name:** 241-CX Tank System
- 1.2 **Description of waste (list WSRd numbers for this waste stream, as applicable)**
Residual tank waste resulting from REDOX, PUREX, and Semiworks processes.

2.0 WASTE INVENTORY AND GENERATION

- 2.1 **Current total inventory for this waste stream (stored waste only, not accumulation areas). [Equals sum of location-specific data sheets for this treatability group.]**
Total volume (cubic meters): 3.000
- 2.2 **Estimated generation projection by calendar year: [equals annual sums of location-specific data sheets for this treatability group].**

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.0 WASTE STREAM CHARACTERIZATION

- 3.1 **Radiological Characteristics**
- 3.1.1 **Mixed waste type:** High-level Transuranic Low-level
- 3.1.2 **Handling (as package contents would need to be handled during treatment):**
 Contact-handled Remote-handled
- 3.1.3 **Comments on radiological characteristics (e.g., more specific information on content, treatment concerns caused by radiation, confidence level):**
None.
- 3.2 **Physical Form**
- 3.2.1 **Physical form of the waste:**
 Solid Liquid Semi-solid Debris
 Other (Describe in comments.)
- 3.2.2 **Comments on physical form:**
Little information is available on the contents of the waste in the 241-CX-72. Waste in the CX-72 tank was heated until nearly dry, and later, 24 feet of grout was placed over the 11-foot deep heel of non-liquid mixed waste.

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

Wastewater Non-wastewater Unknown

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

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D002	corrosivity	corrosive char	**	process knowledge	DEACT, meet 268.48
D004	arsenic	N/A	**	process knowledge	5.0 mg/L TCLP, meet 268.48
D005	barium	N/A	**	process knowledge	21 mg/L TCLP, meet 268.48
D006	cadmium	cadmium char.	**	process knowledge	0.11 mg/l TCLP, meet 268.48
D007	chromium	N/A	**	process knowledge	0.60 mg/l TCLP, meet 268.48
D008	lead	Lead char.	**	process knowledge	5.0 mg/L TCLP, meet 268.48
D009	mercury	Low mercury	**	process knowledge	0.2 mg/l TCLP, meet 268.48
D010	selenium	N/A	**	process knowledge	5.7 mg/l TCLP, meet 268.48
D011	silver	N/A	**	process knowledge	0.14 mg/l TCLP, meet 268.48

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

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

Not all the codes apply to all three vessels (see the Part A). Only tank 241-CX-72 currently contains mixed waste.

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

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

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3.4 Does this waste stream contain PCBs?

Yes No Unknown

If no or unknown, skip to Section 3.3.5.

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

Yes No Unknown

3.3.4.2 Indicate the PCB concentration range.

< 50 ppm \$ 50 ppm Unknown

3.3.5 What is the confidence level for the regulated constituents?

Low Medium High

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

Assume treatment will be required for this waste stream as no information is available about the concentration levels of the waste.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

Yes No

If yes, provide details: N/A

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

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

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

To be determined.

4.4 Treatment schedule information:

Waste will be dispositioned with the TSD unit closure.

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

Milestone Number	Due Date
M-020-54	12/31/2008

4.6 Proposed new Tri-Party Agreement treatment milestones:

None.

LDR REPORT TREATABILITY GROUP DATA SHEET

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

Yes No Unknown

If yes, describe: N/A

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

Unknown at this time.

- 4.9 **Key Assumptions:**

Unknown at this time.

5.0 WASTE STREAM DISPOSAL

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

No active processing or waste generation is being done on these tanks.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant name: 241-CX Tank System Waste Stream: CX Tank System
Treatability Group Name: 241-CX Tank System

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

N/A

1.3 Waste stream source information

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

241-CX-70, -71, and -72 were used to store process waste from REDOX, PUREX, and Strontium Semiworks Complex.

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

Tanks were in operation beginning in early 1950's. On December 21, 1991, the remaining waste in Tank 241-CX-70 was placed in containers and transferred to 224-T TRUSAF and then Central Waste Complex. The tank was dried and is considered empty. Only tank 241-CX-72 contains mixed waste.

1.3.3 Source of the regulated constituents:

Hazardous constituents resulted from past operations in REDOX, PUREX, and Strontium Semiworks Complex.

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

Process knowledge.

1.3.5 Additional notes:

All of the tanks have been out of service for at least 30 years. Further details can be found in the Part A, Form 3, permit application.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

- | | | |
|---|--|---|
| <input type="checkbox"/> Container (pad) | <input type="checkbox"/> Container (covered) | <input type="checkbox"/> Container (retrievably buried) |
| <input checked="" type="checkbox"/> Tank | <input type="checkbox"/> DST | <input type="checkbox"/> SST |
| <input type="checkbox"/> Other (explain): | N/A | |

2.1.1 How was the waste managed prior to storage?

Waste was placed directly into storage from operations.

2.1.2 Timeframe when waste was placed to storage?

Waste was placed in storage between 1950 and 1967. Grout was added to the CX-72 tank in 1986.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
241-CX-72	1 tank

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 3.000

Date of inventory values: 12/31/2004

Comments on waste inventory:

11 feet of non-liquid mixed waste is located in tank CX-72. The volume assumes a 3.3 foot tank diameter.

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

Yes No

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

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

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list):

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

Document Number	Date

Assessment has been scheduled. Scheduled date: 1st quarter CY 2005

Other. Explain:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Milestone Number	Due Date
M-020-54	12/31/2008

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

Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

Yes No

If yes, explain: N/A

2.11 Characterization

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

Yes No Unknown at this time

Milestone Number	Due Date
M-013-00M	12/31/2002

If yes or unknown, comment on characterization for storage.

N/A

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

Characterization needs will be determined and coordinated with remediation of the 200-IS-1 Operable Unit.

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

None.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A. Waste stream is no longer generated.

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

N/A

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.3.3 Bases and assumptions used in above estimates:

The facility is inactive. No waste is being generated.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

- 1.1 **Treatability Group Name:** 324 Building REC Waste
- 1.2 **Description of waste (list WSRd numbers for this waste stream, as applicable)**
 WSRd# 324X-20J-0001. High activity radioactive waste containing regulated quantities of toxic heavy metals. Mixed waste residue will be generated from the future REC decontamination and deactivation activities.

2.0 WASTE INVENTORY AND GENERATION

- 2.1 **Current total inventory for this waste stream (stored waste only, not accumulation areas). [Equals sum of location-specific data sheets for this treatability group.]**
 Total volume (cubic meters): 5.000
- 2.2 **Estimated generation projection by calendar year: [equals annual sums of location-specific data sheets for this treatability group].**

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	5.000		
2008	5.000		
2009	0.000		
Total	10.000		

3.0 WASTE STREAM CHARACTERIZATION

- 3.1 **Radiological Characteristics**
- 3.1.1 **Mixed waste type:** High-level Transuranic Low-level
- 3.1.2 **Handling (as package contents would need to be handled during treatment):**
 Contact-handled Remote-handled
- 3.1.3 **Comments on radiological characteristics (e.g., more specific information on content, treatment concerns caused by radiation, confidence level):**
 Waste is highly contaminated.
- 3.2 **Physical Form**
- 3.2.1 **Physical form of the waste:**
 Solid Liquid Semi-solid Debris
 Other (Describe in comments.)
- 3.2.2 **Comments on physical form:**
 None.

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

Wastewater Non-wastewater Unknown

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

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D005	Barium	N/A	420 ppm	Sample analysis	Exempt (61 FR 60704)
D006	Cadmium	TC-Cadmium	1.0 ppm	Sample analysis	Exempt (61 FR 60704)
D007	Chromium	N/A	6.3 ppm	Sample analysis	Exempt (61 FR 61704)
D008	Lead	Rad. Lead Solids	>5.0	Process knowledge	Exempt (61 FR 60704)
D008	Lead	TC-Lead	34.6 ppm	Sample analysis	Exempt (61 FR 61704)

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

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

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

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

3.3.4 Does this waste stream contain PCBs?

Yes No Unknown

If no or unknown, skip to Section 3.3.5.

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

Yes No Unknown

3.3.4.2 Indicate the PCB concentration range.

< 50 ppm \$ 50 ppm Unknown

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3.5 What is the confidence level for the regulated constituents?

Low Medium High

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

None.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

Yes No

If yes, provide details: N/A

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

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

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

TBD

4.4 Treatment schedule information:

Any treatment on this waste matrix will be performed by the Hanford Site TRU Program. Treatment is anticipated to be performed as necessary by the TRU program to support the results of the M-091 TPA settlement agreement.

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

Milestone Number	Due Date
M-089-00	10/31/2005
M-094-03	09/30/2010

4.6 Proposed new Tri-Party Agreement treatment milestones:

Through the 324 REC Tri-Party Agreement Project Manager Meetings, a modified M-089-00 has been discussed to match the proposed amended closure plan.

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

Yes No Unknown

If yes, describe: N/A

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

TBD.

LDR REPORT TREATABILITY GROUP DATA SHEET

4.9 Key Assumptions:

None.

5.0 WASTE STREAM DISPOSAL

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

Waste will be disposed of at WIPP.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant name: 324 Building Waste Stream: Radiochemical Engineering Cells

Treatability Group Name: 324 Building REC Waste

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

None.

1.3 Waste stream source information

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

Waste residue from further REC deactivation and decontamination activities.

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

Waste was generated during hot cell operations in the past, as described in the "324 Building Radiochemical Engineering Cells, High Level Vault, Low Level Vault, and Associated Areas Closure Plan", DOE/RL-96-73. Waste is being collected and containerized from the clean-up of the hot cells, pipe trench, and tank vault.

1.3.3 Source of the regulated constituents:

The hazardous constituents came from feed materials to support various research and development projects that were performed in the REC. This information is discussed in detail in DOE/RL-96-73, Rev.1, "324 Building Radiochemical Engineering Cells, High-Level Vault, Low-Level Vault, and Associated Areas Closure Plan".

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

Analytical data, process knowledge.

1.3.5 Additional notes:

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

Tank DST SST

Other (explain): The waste is in the form of radioactive contamination within the hot cells, pipe trench and tank vault.

2.1.1 How was the waste managed prior to storage?

In accordance with the "324 Building Radiochemical Engineering Cells, High Level Vault, Low Level Vault, and Associated Areas Closure Plan", DOE/RL-96-73.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed to storage?

As addressed in the 324 REC Closure Plan (DOE/RL-96-73), the waste is in the form of hot cell contamination from pre-1996 research and development operations.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
324 REC	6 tanks
N/A	N/A

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 5.000

Date of inventory values: 12/31/2004

Comments on waste inventory:

Waste volume is estimated based on the container volume.

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

Yes No

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

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

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list): N/A

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	5.000		
2008	5.000		
2009	0.000		
Total	10.000		

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Document Number	Date
324-LDR-S/A	02/26/2003

- Assessment has been scheduled. Scheduled date:
 Other. Explain:

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

Milestone Number	Due Date
M-089-00	10/31/2005
M-094-03	09/30/2010

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

- Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

- Yes No

If yes, explain: N/A

2.11 Characterization

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

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

None.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

Not scheduled at this time.

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

Waste minimization is accomplished through waste segregation. Waste minimization will be considered during the development and/or selection of the treatment method.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3.3 Bases and assumptions used in above estimates:

None.

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 **Treatability Group Name:** 325 HWTU

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

This waste stream consists of many different inorganic and organic solids and liquids that are 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-501-0001-02; PNNL-505-0001-03; PNNL-800-0001-02; PNNL-930-05; and PNNL-931-04.

2.0 WASTE INVENTORY AND GENERATION

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

Total volume (cubic meters): 10.630

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

Year	m ³	and/or	kg
2005	15.750		
2006	10.000		
2007	10.000		
2008	10.000		
2009	10.000		
Total	55.750		

3.0 WASTE STREAM CHARACTERIZATION

3.1 **Radiological Characteristics**

3.1.1 **Mixed waste type:** High-level Transuranic Low-level

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

Contact-handled Remote-handled

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

The majority of these wastes are contact handled, thus CH is chosen above. Some items may be RH within containers that are packaged to meet CH limits, thus only CH is indicated. The radiological constituents are characterized using methods approved in PNNL's waste stream profiles for the waste currently being stored.

LDR REPORT TREATABILITY GROUP DATA SHEET

3.2 Physical Form

3.2.1 Physical form of the waste:

Solid Liquid Semi-solid Debris

Other (Describe in comments.)

3.2.2 Comments on physical form:

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

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

Wastewater Non-wastewater Unknown

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

LDR REPORT TREATABILITY GROUP DATA SHEET

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D001	Ignitable	High TOC	***	***	RORGS; CMBST; POLYM
D001	Ignitable	Low TOC	***	***	DEACT & meet 268.48
D002	Corrosive	Corrosive Charac.	***	***	DEACT & meet 268.48
D003	Reactive	multiple	***	***	DEACT & meet 268.48
D004	TC-Arsenic	N/A	***	***	5.0 mg/L TCLP & meet 268.48
D005	TC-Barium	N/A	***	***	100 mg/L TCLP & meet 268.48
D006	TC-Cadmium	Cadmium Charac.	***	***	1.0 mg/L TCLP & meet 268.48
D007	TC-Chromium	N/A	***	***	5.0 mg/L TCLP & meet 268.48
D008	TC-Lead	Lead Charac.	***	***	5.0 mg/L TCLP & meet 268.48
D009	TC-Mercury	Low Mercury	<260 mg/kg	***	0.2 mg/L TCLP & meet 268.48
D010	TC-Selenium	N/A	***	***	5.7 mg/L TCLP & meet 268.48
D011	TC-Silver	N/A	***	***	5.0 mg/L TCLP & meet 268.48
D018	Benzene	N/A	***	***	10 mg/kg & meet 268.48
D019	Carbon Tetrachloride	N/A	***	***	6.0 mg/kg & meet 268.48
D021	Chlorobenzene	N/A	***	***	6.0 mg/kg & meet 268.48
D022	Chloroform	N/A	***	***	6.0 mg/kg & meet 268.48
D027	p-Dichlorobenzene	N/A	***	***	6.0 mg/kg & meet 268.48
D028	1,2-Dichloroethane	N/A	***	***	6.0 mg/kg & meet 268.48
D029	1,1-Dichloroethylene	N/A	***	***	6.0 mg/kg & meet 268.48
D030	2,4-Dinitrotoluene	N/A	***	***	140.0 mg/kg & meet 268.48
D033	Hexachlorobutadiene	N/A	***	***	5.6 mg/kg & meet 268.48
D035	Methyl Ethyl Ketone	N/A	***	***	36 mg/kg & meet 268.48
D038	Pyridine	N/A	***	***	16 mg/kg & meet 268.48

LDR REPORT TREATABILITY GROUP DATA SHEET

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D039	Tetrachloroethane	N/A	***	***	6.0 mg/kg & meet 268.48
D040	Trichloroethylene	N/A	***	***	6.0 mg/kg & meet 268.48
D043	Vinyl Chloride	N/A	***	***	6.0 mg/kg & meet 268.48
F001	1,1,1-Trichloroethane	Spent Solvent	***	***	6.0 mg/kg
F002	Methylene Chloride	Spent Solvent	***	***	30 mg/kg
F003	Acetone & Hexone	Spent Solvent	***	***	160 mg/kg
F004	o-Cresol & p-Cresol	Spent Solvent	***	***	5.6 mg/kg
F005	Methyl Ethyl Ketone	Spent Solvent	***	***	36 mg/kg
WP01	Persistent, EHW	N/A	***	***	None (1)
WP02	Persistent, DW	N/A	***	***	N/A
WP03	Persistent, EHW	N/A	***	***	None (1)
WSC2	Solid Corrosive	N/A	***	***	Remove solid-acid characteristic
WT01	Toxic, EHW	N/A	***	***	N/A
WT02	Toxic, DW	N/A	***	***	N/A

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

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

*** The concentration varies and is based on process knowledge and/or analytical data.

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

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

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

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3.4 Does this waste stream contain PCBs?

Yes No Unknown

If no or unknown, skip to Section 3.3.5.

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

Yes No Unknown

3.3.4.2 Indicate the PCB concentration range.

< 50 ppm ≥ 50 ppm Unknown

3.3.5 What is the confidence level for the regulated constituents?

Low Medium High

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

The subject waste has been characterized as prescribed in the waste profiles for the various WSRds listed in Section 1.2 of this data sheet. Some of the waste does contain PCBs subject to TSCA regulation. If a waste package is regulated by TSCA, it is identified as such on the storage records. In Section 3.3.4.2 of this data sheet, the PCB concentration range is marked as both "<50" and "≥50" because concentrations occur below and above 50 ppm in individual waste packages. In Section 3.3.1 of this data sheet, waste may be either wastewater or non-wastewater at the point of generation but is most likely to be non-wastewater at the time of shipment.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

Yes No

If yes, provide details:

Some of the contents of individual waste containers will be treated to meet acceptance criteria for other Hanford Site waste management units and/or to allow for bulking and absorbing larger volumes of waste into each container. Occasionally the results of this treatment produce waste that meets all LDR treatment standards.

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

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

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

LDR REPORT TREATABILITY GROUP DATA SHEET

Elements of this waste stream will be managed in one (or more) of three ways. Some LDR-compliant treatment will be performed at the 325 HWTUs. Some waste that can be treated using off-site commercial treatment will be treated at those facilities; facilities planned to be used are Pacific EcoSolutions in Richland and PermaFix/DSSI in Oak Ridge, Tennessee. For wastes that cannot be treated by either of the above means to meet LDR standards, the waste will be shipped to Central Waste Complex under an exception to current requirements to only receive LDR-compliant waste from PNNL.

4.4 Treatment schedule information:

Waste to be treated in the 325 HWTUs or at commercial treatment facilities will generally be treated within one year. Waste that cannot be treated by these options will be shipped to CWC and will be subject to the schedules for treatment set forth in TPA milestone M-091-42 (for contact-handled waste).

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

Milestone Number	Due Date
M-091-42F	12/31/2011

4.6 Proposed new Tri-Party Agreement treatment milestones:

None.

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

Yes No Unknown

If yes, describe: Waste treatment techniques are sometimes chosen due to external requirements. Where alternate treatment methods are considered, these are evaluated in accordance with PNNL's Waste Minimization and Pollution Prevention management standards to incorporate pollution prevention into daily activities. The standards are based on PNNL's environmental policy and Pollution Prevention Plan, regulatory and contract requirements, and objectives set in PNNL's Environmental Management System.

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

N/A

4.9 Key Assumptions:

None

5.0 WASTE STREAM DISPOSAL

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

Subject waste will ultimately be compliantly disposed of in waste disposal trenches located on the Hanford Site or at commercial facilities.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 **Unit/Plant name:** 325 HWTU **Waste Stream:** 325 HWTU
Treatability Group Name: 325 HWTU

1.2 **Applicable profile number(s) for this waste stream:**
PNNL-501-0001-02; PNNL-505-0001-03; PNNL-800-0001-02; PNNL-930-05; PNNL-931-04

1.3 Waste stream source information

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

Subject waste was generated from PNNL laboratory and facility operations.

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

Waste is continually generated from routine operations at PNNL.

1.3.3 **Source of the regulated constituents:**

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

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

Wastes are characterized as specified in PNNL Waste Stream Profiles.

1.3.5 **Additional notes:**

The waste profile numbers listed in 1.2 represent all mixed waste profiles that PNNL is approved to ship waste to CWC. Other wastes to be treated in the unit or at commercial TSD facilities may not have approved CWC profile numbers reflected in Section 1.2.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

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

The waste was managed in 90 day or satellite accumulation areas prior to being transferred to this storage facility.

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

The waste inventoried below and currently stored at 325 building were placed in storage between 5/29/01 and 12/28/04.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
325/520	126
325/528	128
325/524	192
325/SAL	3

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 10.630

Date of inventory values: 12/31/2004

Comments on waste inventory:

None.

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

Yes No

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

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

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list): Commercial TSD facilities storing before or after treatment

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	15.750		
2006	10.000		
2007	10.000		
2008	10.000		
2009	10.000		
Total	55.750		

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Document Number	Date
A&E-DWR-02-004	05/31/2002

- Assessment has been scheduled. Scheduled date:
 Other. Explain:

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

Milestone Number	Due Date
N/A	N/A

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

- Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

- Yes No

If yes, explain: N/A

2.11 Characterization

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

PNNL Waste Management requests full chemical and radiological characterization from the laboratory generators prior to receiving the waste into the HWTU.

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

To meet concentration based LDR treatment standards applicable for the residues, sampling and analysis is required after treatment (see 40 CFR 268.7(b).)

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

The inventory information is for what is currently in storage in the specified HWTU Location(s).

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

To be determined.

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

Laboratory staff routinely evaluate their processes to determine if less reagent volume or a less hazardous reagent can be used in the process. The Radioactive Waste Operations Group routinely assesses the possibility of bulking and absorbing wastes to minimize the number of containers shipped to CWC. Additionally, some tank waste contaminated debris streams have been compacted to minimize the number of containers shipped to CWC.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

2.000 m3

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	6,000		
2006	6,000		
2007	6,000		
2008	6,000		
2009	6,000		
Total	30,000		

3.3.3 Bases and assumptions used in above estimates:

Reductions indicated reflect only those achieved through consolidation in the 325 HWTUs, not minimization efforts done in the laboratory prior to packaging. Thus the reduction is in shipping volume, not generation volume. The reductions projected are based upon historical reductions achieved through unit operations.

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

- 1.1 **Treatability Group Name:** B Plant Cell 4
- 1.2 **Description of waste (list WSRd numbers for this waste stream, as applicable)**

Waste resulted from WESF hot cell maintenance waste (i.e. manipulator boots, light bulbs, HEPA filters, misc. debris). B Plant, including Cell 4, was placed in long term surveillance and maintenance in 1998. No additional waste will be stored in this location as B Plant is under long term S&M.

2.0 WASTE INVENTORY AND GENERATION

- 2.1 **Current total inventory for this waste stream (stored waste only, not accumulation areas). [Equals sum of location-specific data sheets for this treatability group.]**
Total volume (cubic meters): 1.400
- 2.2 **Estimated generation projection by calendar year: [equals annual sums of location-specific data sheets for this treatability group].**

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.0 WASTE STREAM CHARACTERIZATION

- 3.1 **Radiological Characteristics**
- 3.1.1 **Mixed waste type:** High-level Transuranic Low-level

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

- Contact-handled Remote-handled

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

High personnel dose potential, remote handled. Range from 200 mR to 500 R at 30 cm. Confidence high. No additional waste will be placed in storage.

3.2 **Physical Form**

3.2.1 **Physical form of the waste:**

- Solid Liquid Semi-solid Debris

Other (Describe in comments.)

3.2.2 **Comments on physical form:**

LDR REPORT TREATABILITY GROUP DATA SHEET

Lead component represents <1% of the entire waste matrix as it is mixed with other miscellaneous non-hazardous radioactive materials in the drum due to packaging constraints in WESF. The lead component is lead solder from contaminated light bulbs. However, due to the packaging constraints, if a drum contains lead in any proportions, the entire drum is managed appropriately for the lead component.

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

Wastewater Non-wastewater Unknown

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

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D008	Lead-contaminated	Waste Lead Char	>5 mg/L	Process knowledge	5.0 MG/L

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

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

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

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

3.3.4 Does this waste stream contain PCBs?

Yes No Unknown

If no or unknown, skip to Section 3.3.5.

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

Yes No Unknown

3.3.4.2 Indicate the PCB concentration range.

< 50 ppm \$ 50 ppm Unknown

3.3.5 What is the confidence level for the regulated constituents?

Low Medium High

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

None.

LDR REPORT TREATABILITY GROUP DATA SHEET

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

Yes No

If yes, provide details: N/A

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

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

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

Disposition of B-Plant waste will be determined after a decision is made on the Canyon Disposition Initiative.

4.4 **Treatment schedule information:**

Schedule will be determined after a final decision has been made on the Canyon Disposition Initiative.

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

Milestone Number	Due Date
N/A	N/A

4.6 **Proposed new Tri-Party Agreement treatment milestones:**

None.

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

Yes No Unknown

If yes, describe: N/A

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

N/A

4.9 **Key Assumptions:**

B-Plant is under long term surveillance and maintenance in accordance with Section 8.0 of the Tri-Party Agreement Action Plan, Facility Decommissioning Process.

LDR REPORT TREATABILITY GROUP DATA SHEET

5.0 WASTE STREAM DISPOSAL

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

Disposition of B-Plant Cell 4 waste will be determined after a final decision has been made on the Canyon Disposition Initiative. If waste is not left in place, waste will be dispositioned according to TPA agreements.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant name: B Plant Complex Waste Stream: Cell 4
Treatability Group Name: B Plant Cell 4

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

1.3 Waste stream source information

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

WESF hot cell maintenance waste (i.e., manipulator boots, light bulbs, HEPA filters, misc. debris).

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

Waste in Cell 4 was generated in the WESF hot cells and packaged into 55 gallon drums. When lights in the hot cells were replaced, the old ones were packaged into the drums along with the other waste. There are 7 drums of mixed waste and 36 drums of highly radioactive LLW. The sole hazardous constituent in the mixed waste drums is lead solder on incandescent lamps from the hot cells.

1.3.3 Source of the regulated constituents:

The sole hazardous constituent in the mixed waste drums is lead solder on incandescent lamps from the WESF hot cells.

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

Based on multiple sample results for waste matrices with lead solder, including similar incandescent bulbs, these bulbs will likely yield an extract containing greater than 5.0 milligrams/liter of lead when exposed to a leachate. The amount of lead solder on the incandescent lamps from the WESF hot cells was provided by the vendor who supplies the light bulbs. An inventory of the waste is prepared as the drum is packed in the hot cell.

1.3.5 Additional notes:

Waste volumes are from past operations. The facility is now under long term surveillance and maintenance in accordance with the Tri-Party Agreement. No additional waste volumes are generated or stored at this location.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.1 How was the waste managed prior to storage?

Waste was located in WESF hot cells.

2.1.2 Timeframe when waste was placed to storage?

Drums placed in storage between 1988 to 1997

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
B-Plant Cell 4	7 drums

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 1.400

Date of inventory values: 12/31/2004

Comments on waste inventory:

No additional waste will be stored at B-Plant, Cell 4.

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

Yes No

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

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

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list):

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

Document Number	Date
12/2000, A&E-00-ASS-075	02/23/2001

Assessment has been scheduled. Scheduled date:

Other. Explain:

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

Milestone Number	Due Date
N/A	N/A

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

Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

Yes No

If yes, explain: N/A

2.11 Characterization

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

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

No additional waste will be stored at this location. B-Plant is under long term surveillance and maintenance in accordance with Section 8.0 of the Tri-Party Agreement.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A - The waste stream is no longer generated.

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

No additional waste is being generated at this location.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3.3 Bases and assumptions used in above estimates:

No additional waste is being placed in Cell 4.

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 **Treatability Group Name:** B Plant Containment Building

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

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. This waste was placed in long term surveillance and maintenance in accordance with Section 8.0 of the Tri-Party Agreement in 1999. The current waste inventory is 294,000 kg, and no additional waste will be stored at this location. B Plant is under long term S&M.

2.0 WASTE INVENTORY AND GENERATION

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

Total volume (cubic meters):

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

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.0 WASTE STREAM CHARACTERIZATION

3.1 **Radiological Characteristics**

3.1.1 **Mixed waste type:** High-level Transuranic Low-level

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

Contact-handled Remote-handled

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

Waste requires remote handling due to radioactivity level. Confidence high.

LDR REPORT TREATABILITY GROUP DATA SHEET

3.2 Physical Form

3.2.1 Physical form of the waste:

- Solid Liquid Semi-solid Debris
 Other (Describe in comments.)

3.2.2 Comments on physical form:

Waste inventories are currently maintained by estimates of mass. A more detailed determination of waste volume would require extensive item identification and specific drawing information. At this time, obtaining this information is cost and schedule prohibitive.

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

- Wastewater Non-wastewater Unknown

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

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
F001	1,1,1-Trichloroethane	Solvent Wastes	unknown	Process knowledge	DEBRIS STDS IN 40 CFR 268.45
F002	Methylene Chloride	Solvent Wastes	unknown	Process knowledge	DEBRIS STDS IN 40 CFR 268.45
F003	Acetone & Hexone	Solvent Wastes	unknown	Process knowledge	DEBRIS STDS IN 40 CFR 268.45
F004	o-Cresol & p-Cresol	Solvent Wastes	unknown	Process knowledge	DEBRIS STDS IN 40 CFR 268.45
F005	Methyl Ethyl Ketone	Solvent Wastes	unknown	Process knowledge	DEBRIS STDS IN 40 CFR 268.45

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

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

UHCs are not applicable to this waste.

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

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

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3.4 Does this waste stream contain PCBs?

Yes No Unknown

If no or unknown, skip to Section 3.3.5.

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

Yes No Unknown

3.3.4.2 Indicate the PCB concentration range.

< 50 ppm \$ 50 ppm Unknown

3.3.5 What is the confidence level for the regulated constituents?

Low Medium High

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

An assumption has been made that it is unlikely additional waste codes will be required.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

Yes No

If yes, provide details: N/A

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

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

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

Until a final decision is made on the Canyon Disposition Initiative, no commitments will be made for waste treatment and disposal.

4.4 Treatment schedule information:

Treatment schedule will be determined after a final decision has been made on the Canyon Disposition Initiative.

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

Milestone Number	Due Date
N/A	N/A

LDR REPORT TREATABILITY GROUP DATA SHEET

4.6 Proposed new Tri-Party Agreement treatment milestones:

None.

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

Yes No Unknown

If yes, describe: N/A

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

N/A

4.9 Key Assumptions:

B-Plant is under long term surveillance and maintenance in accordance with Section 8.0 of the Tri-Party Agreement Action Plan, Facility Decommissioning Process.

5.0 WASTE STREAM DISPOSAL

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

Disposition of B-Plant waste will be determined after a final decision has been made on the Canyon Disposition Initiative. If waste is not left in place, waste will be dispositioned according to TPA agreements.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant name: B Plant Complex Waste Stream: Containment Building Storage
Treatability Group Name: B Plant Containment Building

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

None.

1.3 Waste stream source information

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

Failed equipment (e.g., process jumpers, pumps, etc.) used in the 221-B canyon.

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

Waste was generated during B Plant operations and facility deactivation.

1.3.3 Source of the regulated constituents:

B Plant process operations.

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

Process knowledge.

1.3.5 Additional notes:

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

- Container (pad) Container (covered) Container (retrievably buried)
 Tank DST SST
 Other (explain): Containment building.

2.1.1 How was the waste managed prior to storage?

Failed process equipment located in the containment building.

2.1.2 Timeframe when waste was placed to storage?

Waste was generated until September 1998 and stored in the B Plant Canyon.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
221-B	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters):

Date of inventory values: 12/31/2004

Comments on waste inventory:

Quantity estimated at 294,000 kg. A more detailed determination of waste volume would require extensive item identification and specific drawing information. At this time, obtaining this information is cost and schedule prohibitive.

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

Yes No

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

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

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list):

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

Document Number	Date
12/2000, A&E-00-ASS-075	02/23/2001

Assessment has been scheduled. Scheduled date:

Other. Explain:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Milestone Number	Due Date
N/A	N/A

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

Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

Yes No

If yes, explain: N/A

2.11 Characterization

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

Additional characterization could be required for treatment or disposal of the waste located in the facility. Milestones will be established as necessary in accordance with Section 8.7 of the Tri-Party Agreement Action Plan.

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

Additional characterization could be required for treatment or disposal of the waste. Milestones will be established as necessary in accordance with Section 8.7 of the Tri-Party Agreement Action Plan.

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If yes or unknown, comment on characterization for disposal.

Additional characterization could be required for treatment or disposal of the waste. Milestones will be established as necessary in accordance with Section 8.7 of the Tri-Party Agreement Action Plan.

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

No additional waste will be stored at this location. B Plant is under long term surveillance and maintenance in accordance with Section 8.0 of the Tri-Party Agreement.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

N/A

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.3.3 Bases and assumptions used in above estimates:

The facility is inactive. No additional waste will be generated.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

- 1.1 **Treatability Group Name:** Cesium and Strontium Capsules
- 1.2 **Description of waste (list WSRd numbers for this waste stream, as applicable)**

Cesium and strontium were reclaimed from Tank Farms waste as a product, separated and purified at B Plant, and converted to dry salt for storage in capsules 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 WASTE INVENTORY AND GENERATION

- 2.1 **Current total inventory for this waste stream (stored waste only, not accumulation areas). [Equals sum of location-specific data sheets for this treatability group.]**
Total volume (cubic meters): 2.000
- 2.2 **Estimated generation projection by calendar year: [equals annual sums of location-specific data sheets for this treatability group].**

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.0 WASTE STREAM CHARACTERIZATION

- 3.1 **Radiological Characteristics**
- 3.1.1 **Mixed waste type:** High-level Transuranic Low-level

- 3.1.2 **Handling (as package contents would need to be handled during treatment):**
- Contact-handled Remote-handled

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

The contents consist of purified cesium and strontium salts in the form of cesium chloride and strontium fluoride. The curie content of each capsule varies depending on when it was reclaimed and the amount of impurities it contains. With the daughter products included, it is estimated that there are 88.6 mega curies of cesium and 38.7 mega curies of strontium as of 12/31/2002.

LDR REPORT TREATABILITY GROUP DATA SHEET

3.2 Physical Form

3.2.1 Physical form of the waste:

- Solid Liquid Semi-solid Debris
 Other (Describe in comments.)

3.2.2 Comments on physical form:

None.

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

- Wastewater Non-wastewater Unknown

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

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D005	TC-Barium	Radioactive	0.55-0.94%	(1), (2)	HLVIT
D005	TC-Barium	Radioactive	0.1-2%	(2), (3)	HLVIT
D006	TC-Cadmium	Radioactive	<0.1%	(2), (3)	HLVIT
D006	TC-Cadmium	Radioactive	0.02%	(1), (2)	HLVIT
D007	TC-Chromium	Radioactive	0.02-1.4%	(1), (2)	HLVIT
D007	TC-Chromium	Radioactive	<0.2%	(2), (3)	HLVIT
D008	TC-Lead	Radioactive	<0.2%	(2), (3)	HLVIT
D008	TC-Lead	Radioactive	0.14-1.4%	(1), (2)	HLVIT
D011	TC-Silver	Radioactive	N/A	(1), (2)	HLVIT
D011	TC-Silver	Radioactive	Unknown	(2), (3)	HLVIT
WT02	Toxic, DW	N/A		(3)	N/A
WT02	Toxic, DW	N/A		(1)	N/A

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

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

- (1) Cesium capsules
- (2) Process knowledge (flowsheets and history)
- (3) Strontium capsules

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

- List:

LDR REPORT TREATABILITY GROUP DATA SHEET

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

3.3.4 Does this waste stream contain PCBs?

- Yes No Unknown

If no or unknown, skip to Section 3.3.5.

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

- Yes No Unknown

3.3.4.2 Indicate the PCB concentration range.

- < 50 ppm \$ 50 ppm Unknown

3.3.5 What is the confidence level for the regulated constituents?

- Low Medium High

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

None.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

- Yes No

If yes, provide details: N/A

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

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

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

Treatment options are still being assessed because of the uncertainty associated with the waste acceptance criteria at Yucca mountain.

4.4 Treatment schedule information:

The treatment schedule is tied to the resolution of M-092-05.

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

LDR REPORT TREATABILITY GROUP DATA SHEET

Milestone Number	Due Date
M-092-01	12/31/2009
M-092-05	06/30/2007

4.6 Proposed new Tri-Party Agreement treatment milestones:

None. See response to 4.4.

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

Yes No Unknown

If yes, describe: N/A

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

To be determined based on review of yucca mountain waste acceptance criteria.

4.9 Key Assumptions:

Discussions with Ecology have been initiated and will address existing milestones.

5.0 WASTE STREAM DISPOSAL

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

Disposal in a national geologic repository.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant name: WESF Waste Stream: Cs and Sr Capsules
Treatability Group Name: Cesium and Strontium Capsules

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

1.3 Waste stream source information

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

The capsules contain cesium chloride and strontium fluoride salts that are contaminated with barium, cadmium, chromium, lead, and silver from process impurities. The maximum outer container height is approximately 53 centimeters (~21 inches) and a maximum diameter of 8 centimeters (~3 inches).

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

Cesium and strontium were separated from Tank Farms waste, converted to solid cesium chloride and strontium fluoride salts, and encapsulated for storage at WESF. The capsules were declared waste on 7/14/1997.

1.3.3 Source of the regulated constituents:

Process impurities and decay products from reclamation of DST and SST wastes.

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

HNF-7342 "Waste Encapsulation and Storage Facility Waste Analysis Plan", Process knowledge

1.3.5 Additional notes:

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

Tank DST SST

Other (explain): Underwater capsule storage in indoor pool cells until 2018 where they will be transferred for treatment or shipped to a national repository.

2.1.1 How was the waste managed prior to storage?

The salts were considered a product and used as irradiation sources.

2.1.2 Timeframe when waste was placed to storage?

The capsules were declared waste June 14, 1997.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
225B/Pool cells	1936 Capsules

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 2.000

Date of inventory values: 12/31/2004

Comments on waste inventory:

There are 1,335 cesium capsules and 601 strontium capsules stored in the pool cells.

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

Yes No

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

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

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list): The waste will be stored at their current location until 2018 when they will be shipped for treatment or transferred to a national repository.

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

Document Number	Date
A&E-SEC-02-002, ltr# 02-A&E-0043	03/14/2002

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Assessment has been scheduled. Scheduled date:

Other. Explain:

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

Milestone Number	Due Date
M-092-01	12/31/2009
M-092-05	06/30/2007

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

Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

Yes No

If yes, explain: N/A

2.11 Characterization

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If yes or unknown, comment on characterization for disposal.

N/A

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

Yucca mountain waste acceptance criteria will be reviewed to determine the management pathway for the capsules.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

N/A

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.3.3 Bases and assumptions used in above estimates:

None.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

1.1 **Treatability Group Name:**

DST Waste

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

Basic aqueous solution that may 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. Wastes have been stored in the DST System from 1970 to the present.

2.0 WASTE INVENTORY AND GENERATION

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

Total volume (cubic meters): 95,014.373

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

Year	m ³	and/or	kg
2005	38,000		
2006	38,000		
2007	38,000		
2008	38,000		
2009	38,000		
Total	190,000		

3.0 WASTE STREAM CHARACTERIZATION

3.1 **Radiological Characteristics**

3.1.1 **Mixed waste type:** High-level Transuranic Low-level

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

Contact-handled Remote-handled

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

DST System waste contains the following major radionuclides: 3H, 14C, 60Co, 63Ni, 90Sr, 90Y, 93Zr, 93mNb, 99Tc, 106Ru, 113mCd, 125Sb, 126Sn, 129I, 134Cs, 137Cs, 137mBa, 151Sm, 152Eu, 154Eu, 155Eu, 234U, 235U, 238U, 238Pu, 239Pu, 240Pu, 241Am, and 241Pu.

LDR REPORT TREATABILITY GROUP DATA SHEET

3.2 Physical Form

3.2.1 Physical form of the waste:

Solid Liquid Semi-solid Debris

Other (Describe in comments.)

3.2.2 Comments on physical form:

The major constituents of DST System waste are water and sodium salts of aluminates, nitrate, nitrite, phosphate, hydroxide, carbonate, and sulfate. Some calcium and potassium salts are also present. Chemically complexed waste in the DSTs contain sodium salts of chelating agents ethylenediamine-tetraacetic acid and n-hydroxyethylenediamine-tetraacetic acid. There may also be detectable concentrations of halogenated and nonhalogenated organic compounds and heavy metals such as lead, chromium and cadmium.

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

Wastewater Non-wastewater Unknown

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

LDR REPORT TREATABILITY GROUP DATA SHEET

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D001	Ignitability	Low TOC Ignitable char liquid	(5)	(5)	DEACT(2); RORGS; COMBST
D002	Corrosivity	(1)	(5)	(5)	HLVIT
D003	Reactivity	Reactive Cyanides	(5)	(5)	590/30 mg/kg
D004	Arsenic	(1)	(5)	(5)	HLVIT
D005	Barium	(1)	(5)	(5)	HLVIT
D006	Cadmium	(1)	(5)	(5)	HLVIT
D007	Chromium	(1)	(5)	(5)	HLVIT
D008	Lead	(1)	(5)	(5)	HLVIT
D009	Mercury	(1)	(5)	(5)	HLVIT
D010	Selenium	(1)	(5)	(5)	HLVIT
D011	Silver	(1)	(5)	(5)	HLVIT
D018	Benzene	N/A	(5)	(5)	10 mg/kg (2)
D019	Carbon Tetrachloride	N/A	(5)	(5)	6.0 mg/kg (2)
D022	Chloroform	N/A	(5)	(5)	6.0 mg/kg (2)
D028	1,2-Dichloroethane	N/A	(5)	(5)	6.0 mg/kg (2)
D029	1,1-Dichloroethylene	N/A	(5)	(5)	6.0 mg/kg (2)
D030	2,4-Dinitrotoluene	N/A	(5)	(5)	140 mg/kg (2)
D033	Hexachlorobutadiene	N/A	(5)	(5)	5.6 mg/kg (2)
D034	Hexachloroethane	N/A	(5)	(5)	30 mg/kg (2)
D035	Methyl Ethyl Ketone	N/A	(5)	(5)	36 mg/kg (2)
D036	Nitrobenzene	N/A	(5)	(5)	14 mg/kg (2)
D038	Pyridine	N/A	(5)	(5)	16 mg/kg (2)
D039	Tetrachloroethylene	N/A	(5)	(5)	6.0 mg/kg (2)
D040	Trichloroethylene	N/A	(5)	(5)	6.0 mg/kg (2)
D041	2,4,5-trichlorophenol	N/A	(5)	(5)	7.4 mg/kg (2)
D043	Vinyl Chloride	N/A	(5)	(5)	6.0 mg/kg (2)
F001	1,1,1-Trichloroethane	Spent Solvent	(5)	(5)	6.0 mg/kg
F002	Methylene Chloride	Spent Solvent	(5)	(5)	30 mg/kg
F003	Acetone	Spent Solvent	(5)	(5)	160 mg/kg
F003	Methyl Isobutyl Ketone	Spent Solvent	(5)	(5)	33 mg/kg
F004	Cresols	Spent Solvent	(5)	(5)	5.6 mg/kg (o, m & p); 11.2 mg/kg (mixed)
F005	Methyl Ethyl Ketone	Spent Solvent	(5)	(5)	36 mg/kg

LDR REPORT TREATABILITY GROUP DATA SHEET

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
UHC(4)	Antimony	N/A	(5)	(5)	1.15 mg/l (6)
UHC(4)	Beryllium	N/A	(5)	(5)	1.22 mg/l (6)
UHC(4)	Cyanide (total)	N/A	(5)	(5)	590 mg/l (6)
UHC(4)	Nickel	N/A	(5)	(5)	11 mg/l (6)
UHC(4)	PCBs (sum of Aroclors)	N/A	(5)	(5)	10 mg/l (6)
UHC(4)	Selenium	N/A	(5)	(5)	5.7 mg/l (6)
UHC(4)	Thallium	N/A	(5)	(5)	0.2 mg/l (6)
WP01	Persistent, EHW & DW	N/A	(5)	(5)	NONE (3)
WP02	Persistent, DW	N/A	(5)	(5)	N/A
WT01	Toxic, EHW & DW	N/A	(5)	(5)	NONE (3)
WT02	Toxic, DW	N/A	(5)	(5)	N/A

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

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

- 1) Radioactive high-level wastes generated during the reprocessing of fuel rods.
- 2) and meet 40 CFR 268.48.
- 3) Mixed extremely hazardous wastes can be land-disposed in Washington State in DOE facilities in accordance with RCW 70.105.050(2).
- 4) UHCs which have been identified in waste entering the DSTSystem since 1995. For more information see comments in 3.3.6.
- (5) See Section 3.3.6.
- (6) TCLP

Tank Farm waste is subject to non-wastewater treatment standards.

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

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

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3.4 Does this waste stream contain PCBs?

Yes No Unknown

If no or unknown, skip to Section 3.3.5.

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

Yes No Unknown

3.3.4.2 Indicate the PCB concentration range.

< 50 ppm \$ 50 ppm Unknown

3.3.5 What is the confidence level for the regulated constituents?

Low Medium High

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

The waste codes assigned to DST system waste are based on process knowledge, and analysis. Dangerous waste constituents in individual tanks will vary based upon process knowledge. Since 1995, LDR requirements have been documented on waste profile sheets for waste sent to the DST System. On September 25, 1995, waste acceptance criteria for waste entering the DST System specifically required the identification of UHCs. There is no documentation of LDR requirements for waste placed in the SST System and for waste sent to the DST System prior to 1995. A list is kept of the UHCs that have been documented since 1995. At this time, UHCs relevant to DOE activities at Hanford are considered or can reasonably be expected to be present in the waste per references PNNL-11927, PNNL-11943, and PNNL-12039. It has been determined per the framework Agreement for Management of PCBs in Hanford Tank Waste, dated August 31, 2001 that some DSTs contain PCB remediation waste. The risk-based disposal approval process will address the disposal of PCB remediation waste through the waste treatment plant where it is being addressed as a constituent of concern.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

Yes No

If yes, provide details: N/A

LDR REPORT TREATABILITY GROUP DATA SHEET

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

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

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

DST System wastes will be retrieved, pretreated, and solidified for disposal. The waste may be vitrified in a process that will destroy or extract organic and cyanide constituents to below treatment standards, neutralize or deactivate dangerous waste and extremely hazardous waste, and immobilize toxic metals.

4.4 Treatment schedule information:

Per TPA milestone M-62-00:
M-62-09, Hot Start - 02/28/2009
M-62-00A, Complete Phase I Pretreatment - 2/2018

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

Milestone Number	Due Date
M-020-00	12/31/2008
M-043-00	06/30/2005
M-046-00J	09/30/2003
M-047-00	02/28/2018
M-048-00	09/30/2007
M-051-00	12/31/2028
M-061-00	12/31/2028
M-062-00	12/31/2028
M-090-00	
M-092-00	

4.6 Proposed new Tri-Party Agreement treatment milestones:

Negotiations as outlined in the TPA, to include those in the M-62, series and other modifications necessary to maintain compliance with agreement requirements.

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

- Yes No Unknown

If yes, describe: The treatment method, high-level vitrification was chosen on the basis of the "Final Environmental Impact Statement for the Tank Waste Remediation System," (DOE/EIS-0189) and the subsequent ROD, as a matter of necessity for compliance with the regulations for this waste. Waste minimization will be considered during the design and development of the vitrification plant in accordance with federal and state laws and regulations, and DOE orders.

LDR REPORT TREATABILITY GROUP DATA SHEET

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

None at this time.

- 4.9 Key Assumptions:**

Tank waste is not currently being treated for LDR concerns.

5.0 WASTE STREAM DISPOSAL

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

In accordance with current plans, the vitrified low-activity waste fraction will be disposed of onsite in a retrievable form. The vitrified HLW fraction will be stored on site until the Geologic Repository Program is available to receive wastes for disposal.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 **Unit/Plant name:** 222-S Laboratory Complex/219-S Waste Handling Facility
Waste Stream: Bulk Aqueous Liquids

Treatability Group Name: DST Waste

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

None.

1.3 **Waste stream source information**

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

Aqueous liquid waste is generated from analytical procedures, unused or expired standards and reagents, and unused Tank Farm samples.

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

This waste stream is generated from analytical procedure operations, unused samples, unused or expired standards and reagents. The facility will generate this waste throughout the 222-S Laboratory Complex (analytical procedures, hot cell, 219-S WHF operations).

1.3.3 **Source of the regulated constituents:**

Hanford Site generating locations (e.g. LLBG, PFP, Tank Farms, K-Basins, ETF, etc.). Analytical procedures standards and reagents.

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

Waste Stream Fact Sheets (WSFS), Container Disposal Request (CDR), Inventory sheets, MSDSs, and Request for Sample Analysis.

1.3.5 **Additional notes:**

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 **Current storage method**

- | | | |
|---|--|---|
| <input type="checkbox"/> Container (pad) | <input type="checkbox"/> Container (covered) | <input type="checkbox"/> Container (retrievably buried) |
| <input checked="" type="checkbox"/> Tank | <input type="checkbox"/> DST | <input type="checkbox"/> SST |
| <input type="checkbox"/> Other (explain): | | |

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

Per the Hanford Facility Dangerous Waste Permit Application, 222-S Laboratory Complex (DOE/RL-91-27 Revision I).

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed to storage?

Placed into storage between transfers to the DST system.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
219S WHF	3

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 14.373

Date of inventory values: 12/30/2004

Comments on waste inventory:

The waste volume was based on actual tank readings. Tank 103 is inactive and only contains a heel. Tank 103, a fourth tank, does not contribute to this volume.

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

Yes No

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

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

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list):

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	38.000		
2006	38.000		
2007	38.000		
2008	38.000		
2009	38.000		
Total	190.000		

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Document Number	Date
A&E-SEC-01-018	12/03/2002

- Assessment has been scheduled. Scheduled date:
 Other. Explain:

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

Milestone Number	Due Date
M-020-22	12/31/1991

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

- Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

- Yes No

If yes, explain: N/A

2.11 Characterization

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

Characterization is performed as necessary to facilitate batch transfer of the waste to the DST System. A commitment is not necessary for this characterization.

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

See DST Waste LSDS.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

See DST Waste LSDS.

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

Tank 103 was flushed and has a remaining heel. The heel will be left in place until the 219-S WHF undergoes RCRA closure as documented in the 222-S Laboratory Complex Part B Permit Application. Tank 103 will be left in place and addressed during the closure of the 219-S tank system. The 222-S Laboratory Complex Part B Permit Application and resolution of NOD comments reflects Ecology agreement with this strategy. Tank 103 contents were sampled before tank was emptied per Ecology agreement.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: 9/2000

If yes, provide document number or other identification:

Operating and analytical procedures at the 222-S Laboratory Complex.

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

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

Currently, the Laboratory optimizes the use of labware for the work performed. Proper planning is used prior to waste generation through AJHA pre-job, and consistent review of routine operations minimizes waste generation where possible. Also, the Laboratory constantly seeks innovative opportunities to reduce waste by being aware of current waste minimizing technology.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m3

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.3.3 Bases and assumptions used in above estimates:

The analytical processes generating this stream is continuously evaluated for waste minimization opportunities.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant name: DST System Waste Stream: DST System
Treatability Group Name: DST Waste

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

1.3 Waste stream source information

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

The DST System contains wastes such as: concentrated phosphate waste, double-shell slurry feed, concentrated complexant waste, dilute complexed and non-complexed wastes, double-shell slurry, and PUREX decladding wastes. The tanks contain mixed wastes which are liquid, layered over solids, such as saltcake and sludge. The 241-AY and 241-AZ tank farms contain Aging Waste.

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

The majority of these wastes are from past chemical separation processes (legacy wastes). The major contributors to the wastes stored here are PUREX, B Plant, the PFP and saltwell liquids from the SST System. Smaller amounts of other miscellaneous wastes such as laboratory wastes and wastes from the clean out of facilities in the 100, 200, 300, 400 and 600 areas are stored in the DST System. Waste streams are treated with sodium hydroxide and sodium nitrite to minimize tank corrosion and to address compatibility issues.

1.3.3 Source of the regulated constituents:

Hazardous constituents in the waste are from chemicals used during operations and maintenance, and laboratories, including analytical laboratories, as well as R&D work. The waste could also contain some remediation and D&D wastes.

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

Process knowledge, Tank Characterization Reports, and analytical data from Waste Stream Profile Sheets.

1.3.5 Additional notes:

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

- | | | |
|---|--|---|
| <input type="checkbox"/> Container (pad) | <input type="checkbox"/> Container (covered) | <input type="checkbox"/> Container (retrievably buried) |
| <input type="checkbox"/> Tank | <input checked="" type="checkbox"/> DST | <input type="checkbox"/> SST |
| <input type="checkbox"/> Other (explain): | | |

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.1 How was the waste managed prior to storage?

Waste was managed at the specific contributing operating facility or in the SST System.

2.1.2 Timeframe when waste was placed to storage?

From 1971 to the present.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
241-AN	7 Tanks
241-AP	8 Tanks
204-AR	1 Tank
241-AW	6 Tanks
241-AY	2 Tanks
241-AZ	2 Tanks
241-SY	3 Tanks
DCRT	5 Tanks
DST System	Diversion Boxes
N/A	Valve Pits
N/A	Catch Tanks
N/A	Vent Station

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 95,000.000

Date of inventory values: 12/31/2004

Comments on waste inventory:

The volume is rounded to the nearest 1,000 cubic meter. Tank volumes are determined by waste level measurements, which are then converted to volumes. Actual tank volumes at any given time may differ from the reported values due to factors such as instrumentation errors, uneven surfaces, and calculation rounding errors. DST waste level data for 12/31/2004 were obtained from the Surveillance Analysis Computer System (SACS) through the Tank Waste Information Network System (TWINS) interface.

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

Yes No

If yes, what is the total estimated storage capacity? 121000

When is this capacity expected to be reached? 2007

Bases and assumptions used:

The volume is rounded to the nearest 1,000 cubic meter. Current storage capacity is 119,000 cubic meters (HNF-EP-0182, Rev. 200). Planned increases in allowable fill capacity for tanks in the AP farm, DST storage capacity will soon be 121,000 cubic meters; DSTs are projected to reach capacity in May 2007 (RPP-21753). The date at which the capacity is reached is dependent upon the additional capacity gained through increasing the fill levels, operation of the 242-A Evaporator, and the order and schedule for retrieval of SST wastes.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.11 Characterization

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

The DST waste will be characterized as required to meet the waste acceptance criteria of the treating facility. This will be completed by 2028.

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

It is unknown if further information will be needed for disposal. Awaiting information such as, variance and delisting petitions.

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

Waste will be sampled and characterized per applicable Data Quality Objectives, and/or the Regulatory Data Quality Objectives Supporting Tank Waste Remediation System Privatization Project, PNNL-12040 Rev 0, 12/1998.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: 9/1995

If yes, provide document number or other identification:

P20A ID Code 95-0007

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

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

Some of the waste sent to the DST System is reduced at the generating location through pretreatment and recycling of streams. Waste is also minimized by treatment at the 242-A Evaporator. The frequency and volumes of flush solutions has also been minimized. The calendar year 2004 reduction shown below is based on a 242-A Evaporator run.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

600.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	2,500.000		
2006	1,900.000		
2007	1,200.000		
2008	600.000		
2009	600.000		
Total	6,800.000		

3.3.3 Bases and assumptions used in above estimates:

The waste volume reduction is based on plans to concentrate the waste to a 1.47 specific gravity and on planned schedules for evaporator campaigns. The estimated volume reductions also assume a standard waste feed volume of 1,000,000 gallons, and a reduction factor of 1.6%; both values are based on the March 2004 evaporator run.

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

- 1.1 **Treatability Group Name:** ERDF -- Treatment
- 1.2 **Description of waste (list WSRd numbers for this waste stream, as applicable)**

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.

2.0 WASTE INVENTORY AND GENERATION

- 2.1 **Current total inventory for this waste stream (stored waste only, not accumulation areas). [Equals sum of location-specific data sheets for this treatability group.]**
Total volume (cubic meters): 81.000
- 2.2 **Estimated generation projection by calendar year: [equals annual sums of location-specific data sheets for this treatability group].**

Year	m ³	and/or	kg
2005	12,581.000		
2006	12,581.500		
2007	12,582.000		
2008	12,582.500		
2009	12,583.000		
Total	62,910.000		

3.0 WASTE STREAM CHARACTERIZATION

- 3.1 **Radiological Characteristics**
- 3.1.1 **Mixed waste type:** High-level Transuranic Low-level

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

- Contact-handled Remote-handled

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

ERDF accepts waste from CERCLA clean up actions performed across the Hanford Site. The waste disposed at ERDF meets the ERDF Waste Acceptance Criteria, BHI-00139, Rev. 4 (or current revision).

3.2 **Physical Form**

3.2.1 **Physical form of the waste:**

- Solid Liquid Semi-solid Debris

Other (Describe in comments.)

3.2.2 **Comments on physical form:**

Waste is stabilized in place at time of disposal.

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

Wastewater Non-wastewater Unknown

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

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D006	Cadmium	cadmium char.	**	process knowledge and analytical data	macroencapsulation
D007	Chromium	N/A	**	process knowledge and analytical data	macroencapsulation
D008	Lead	lead char.	**	process knowledge and analytical data	macroencapsulation

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

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

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

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

3.3.4 Does this waste stream contain PCBs?

Yes No Unknown

If no or unknown, skip to Section 3.3.5.

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

Yes No Unknown

3.3.4.2 Indicate the PCB concentration range.

< 50 ppm \$ 50 ppm Unknown

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3.5 What is the confidence level for the regulated constituents?

Low Medium High

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

Spent resins have been sampled and are of high confidence. Contaminated remediation waste may or may not contain PCBs. Section 4.3.4 of the ERDF acceptance criteria addresses disposal of PCB contaminated waste.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

Yes No

If yes, provide details: Waste is stabilized when disposed of at ERDF.

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

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

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

Stabilization capacity is available for treatment within the ERDF on an as needed basis.

4.4 Treatment schedule information:

ERDF acceptance of waste requiring treatment is coordinated so treatment and disposal can occur within a short time of receipt of the waste.

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

Milestone Number	Due Date
N/A	N/A

4.6 Proposed new Tri-Party Agreement treatment milestones:

None.

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

Yes No Unknown

If yes, describe: N/A

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

None planned at this time.

LDR REPORT TREATABILITY GROUP DATA SHEET

4.9 Key Assumptions:

Volume projections are based on the volume of contaminated soil and debris encountered during calendar year 2002 and 2003. Waste projected to be sent to ERDF for treatment and disposal, from MLLW-02 through MLLW-10 (excluding MLLW-07), is reported within the MLLW treatability groups.

5.0 WASTE STREAM DISPOSAL

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

Waste stream is disposed of at ERDF.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

- 1.1 Unit/Plant name: 100-HR-3 Waste Stream: CERCLA Resin
Treatability Group Name: ERDF -- Treatment
- 1.2 Applicable profile number(s) for this waste stream:
N/A
- 1.3 Waste stream source information
- 1.3.1 General description of the waste (e.g., spill clean-up waste, discarded lab materials, maintenance waste):
Spent ion exchange resins.
- 1.3.2 History of how and where the waste was/is generated:
Contaminated ion exchange resins generated during operations of the 100-HR-3 and 100-KR-4 groundwater pump and treat.
- 1.3.3 Source of the regulated constituents:
Discharge of process liquids to the soil (via cribs, ponds, ditches, and trenches).
- 1.3.4 Source of the information (e.g., analytical data, process knowledge, document number, etc.)
Analytical data.
- 1.3.5 Additional notes:
The resin will be treated at, and disposed of at ERDF, or sent to an off-site facility for regeneration and reuse.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

- Container (pad) Container (covered) Container (retrievably buried)
 Tank DST SST
 Other (explain): Waste is placed in drums or burial boxes awaiting treatment prior to disposal. A contained-in determination for listed waste codes has been approved by Ecology, and stabilization for chromium will be conducted if necessary to satisfy the ERDF waste acceptance criteria. Alternatively, non-mixed (non-rad/non-dangerous) resin can be regenerated instead of treated/disposed.

2.1.1 How was the waste managed prior to storage?

Waste is managed in the Area of Contamination.

2.1.2 Timeframe when waste was placed to storage?

Spent resin started being generated when the remedial action began. Waste is generated and located in the CERCLA Area of Contamination.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
Operable Unit	14 boxes

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 80.000

Date of inventory values: 12/31/2004

Comments on waste inventory:

None.

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

Yes No

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

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

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list): Waste is stored at the 100-HR-3 Area of Contamination prior to being shipped to ERDF for treatment and disposal, or off-site for regeneration.

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	80.000		
2006	80.000		
2007	80.000		
2008	80.000		
2009	80.000		
Total	400.000		

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

Document Number	Date

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

- Assessment has been scheduled. Scheduled date:
 Other. Explain: Storage assessment not required.

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

Milestone Number	Due Date
N/A	N/A

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

- Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

- Yes No

If yes, explain: N/A

2.11 Characterization

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If yes or unknown, comment on characterization for disposal.

N/A

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

None.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: September 2000

If yes, provide document number or other identification:

System Optimization.

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

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

The duration that the ion exchange resin will remain in the pump and treat system has been reduced (starting 9/00). As a result, the resins in general will not be mixed waste and can be regenerated instead of treated/disposed.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.3.3 Bases and assumptions used in above estimates:

The forecast volume of waste generated by this activity reflects the waste minimization effort undertaken by the project. The waste generation volume assumes that one resin change out per year will be disposed as mixed waste.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant name: 200 Areas D&D waste **Waste Stream:** Miscellaneous waste
Treatability Group Name: ERDF -- Treatment

1.2 Applicable profile number(s) for this waste stream:
None.

1.3 Waste stream source information

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

Decontamination and demolition (D&D) waste.

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

Waste was generated as a result of facility D&D.

1.3.3 Source of the regulated constituents:

Hazardous constituents were introduced as part of past plant operations.

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

Process knowledge and analytical data.

1.3.5 Additional notes:

This waste stream only accounts for the LLMW CERCLA lead that will be shipped to the ERDF for treatment.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Container (pad) | <input type="checkbox"/> Container (covered) | <input type="checkbox"/> Container (retrievably buried) |
| <input type="checkbox"/> Tank | <input type="checkbox"/> DST | <input type="checkbox"/> SST |
| <input type="checkbox"/> Other (explain): | N/A | |

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed to storage?

N/A

2.2 Storage inventory locations:

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 1.000
 Date of inventory values: 12/31/2004
 Comments on waste inventory:
 Waste is managed within CERCLA area of contamination.

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

Yes No
 If yes, what is the total estimated storage capacity? N/A
 When is this capacity expected to be reached? N/A
 Bases and assumptions used:
 N/A

2.5 Planned storage areas for this waste:

Current Location CWC DST
 Other Area(s) (list):
 None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	1.000		
2006	1.500		
2007	2.000		
2008	2.500		
2009	3.000		
Total	10.000		

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.
 Document Number _____ Date _____

Assessment has been scheduled. Scheduled date:
 Other. Explain: Storage assessment not required.

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

Milestone Number	Due Date
N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

Yes No

If yes, explain: N/A

2.11 Characterization

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

Characterization is ongoing and will be completed to transfer the LLMW lead to ERDF for treatment. Performed under an Action Memorandum.

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

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

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted:

If yes, provide document number or other identification:

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

N/A

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

D&D Projects has a waste minimization program. A hierarchical approach to environmental management is applied to all types of pollution and waste generating activities. Pollution prevention and waste minimization, through source reduction, is the preferred option, followed by environmentally safe recycling. Treatment to reduce the quantity, toxicity, and/or mobility will be considered only when prevention or recycling is not possible or practical. Environmentally safe disposal is the last option. Segregation is applicable in all of these activities.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.3.3 Bases and assumptions used in above estimates:

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant name: CERCLA Waste Waste Stream: CERCLA Waste
Treatability Group Name: ERDF -- Treatment

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

N/A

1.3 Waste stream source information

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

Contaminated remediation waste generated in the 100, 200, 300, and 600 Areas of the Hanford Site from excavation of waste sites and decommissioning of the Hanford Site Reactors. Waste stream is generated pursuant to a ROD, or other CERCLA authorization documents, and disposed pursuant to the ERDF ROD.

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

The majority of waste is contaminated soil and debris resulting from past Hanford Site operations in which reactor coolant liquids were discharged to cribs, ponds, ditches, and trenches. Lead was used in the reactors for shielding.

1.3.3 Source of the regulated constituents:

Generated as a result of past Hanford Site operations, see Section 1.3.2 of this data sheet.

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

Process knowledge and analytical data.

1.3.5 Additional notes:

The amount of waste generated and treated from waste site remediation, facility decommissioning, and other projects may vary from year-to-year. The generation projection is based volumes treated in previous years.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

- Container (pad) Container (covered) Container (retrievably buried)
 Tank DST SST
 Other (explain): Waste may be staged within the Area of Contamination prior to treatment

2.1.1 How was the waste managed prior to storage?

Soil and debris is excavated or demolished, placed in containers, and transported to ERDF for treatment and disposal.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed to storage?

N/A

2.2 Storage inventory locations:

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

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2004

Comments on waste inventory:

N/A

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

Yes No

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

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

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

- Current Location CWC DST
 Other Area(s) (list): Waste may be staged within the Area of Contamination prior to treatment and disposal.
 None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	12,500.000		
2006	12,500.000		
2007	12,500.000		
2008	12,500.000		
2009	12,500.000		
Total	62,500.000		

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Document Number	Date

- Assessment has been scheduled. Scheduled date: N/A
- Other. Explain: Storage assessment not required.

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

Milestone Number	Due Date
N/A	N/A

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

- Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

- Yes No

If yes, explain: N/A

2.11 Characterization

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

- Yes No Unknown at this time

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

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

Future burial ground remediation has the potential to generate large volumes of contaminated soil and debris, but the actual volumes cannot be predicted until site remediation is performed.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

Waste minimization assessments are identified by the generating facility

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

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.3.3 Bases and assumptions used in above estimates:

None.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

- 1.1 **Treatability Group Name:** HSTF
- 1.2 **Description of waste (list WSRd numbers for this waste stream, as applicable)**
Residual heel content remaining from Reduction/Oxidation (REDOX) Process.

2.0 WASTE INVENTORY AND GENERATION

- 2.1 **Current total inventory for this waste stream (stored waste only, not accumulation areas). [Equals sum of location-specific data sheets for this treatability group.]**
Total volume (cubic meters): 2.100
- 2.2 **Estimated generation projection by calendar year: [equals annual sums of location-specific data sheets for this treatability group].**

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.0 WASTE STREAM CHARACTERIZATION

- 3.1 **Radiological Characteristics**
- 3.1.1 **Mixed waste type:** High-level Transuranic Low-level
- 3.1.2 **Handling (as package contents would need to be handled during treatment):**
 Contact-handled Remote-handled
- 3.1.3 **Comments on radiological characteristics (e.g., more specific information on content, treatment concerns caused by radiation, confidence level):**

None.

3.2 **Physical Form**

- 3.2.1 **Physical form of the waste:**
 Solid Liquid Semi-solid Debris
 Other (Describe in comments.)
- 3.2.2 **Comments on physical form:**

Samples were taken from the tanks containing the process waste. The waste consists of about 12.7 centimeters (5 inches) of a tar-like substance. A sand/cement mixture was placed on top of the waste to stabilize and fill the tanks.

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

Wastewater Non-wastewater Unknown

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

LDR REPORT TREATABILITY GROUP DATA SHEET

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D001	Ignitable	High TOC Ignitable char liquids		process knowledge	RORGS; CMBS; or POLYM
D018	benzene	N/A	3.55	TCLP	10 mg/kg, meet 268.48
D019	carbon tetrachloride	N/A	2.08	TCLP	6.0 mg/kg, meet 268.48
D023	o-Cresol	N/A	89000	TCLP	5.6 mg/kg, meet 268.48
D024	m-Cresol	N/A	180000	TCLP	5.6 mg/kg, meet 268.48
D025	p-Cresol	N/A	180000	TCLP	5.6 mg/kg, meet 268.48
D027	p-Dichlorobenzene	N/A	89000	TCLP	6.0 mg/kg, meet 268.48
D028	1,2-Dichloroethane	N/A	2.85	TCLP	6.0 mg/kg, meet 268.48
D029	1,1-Dichloroethylene	N/A	3.38	TCLP	6.0 mg/kg, meet 268.48
D030	2,4-Dinitrotoluene	N/A	89000	TCLP	140 mg/kg, meet 268.48
D032	Hexachlorobenzene	N/A	89000	TCLP	10 mg/kg, meet 268.48
D033	Hexachlorobutadine	N/A	89000	TCLP	5.6 mg/kg, meet 268.48
D034	Hexachloroethane	N/A	89000	TCLP	30 mg/kg, meet 268.48
D036	Nitrobenzene	N/A	89000	TCLP	14 mg/kg, meet 268.48
D037	Pentachlorophenol	N/A	180000	TCLP	7.4 mg/kg, meet 268.48
D039	Tetrachlorethylene	N/A	1	TCLP	6.0 mg/kg, meet 268.48
D040	Trichloroethylene	N/A	3.17	TCLP	6.0 mg/kg, meet 268.48
D041	2,4,5-Trichlorophenol	N/A	89000	TCLP	7.4 mg/kg, meet 268.48
D042	2,4,6-Trichlorophenol	N/A	89000	TCLP	7.4 mg/kg, meet 268.48
D043	Vinyl Chloride	N/A	2.65	TCLP	6.0 mg/kg, meet 268.48
F003	Methyl isobutyl ketone	Spent Solvent	28000	lab data	33 mg/kg
UHC	1,1,2,2-tetrachloroethane	N/A	54.5	analytical data	6 mg/kg
UHC	1,1,2-trichloroethane	N/A	82.5	analytical data	6 mg/kg

LDR REPORT TREATABILITY GROUP DATA SHEET

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
UHC	1,2,4-Trichlorobenzene	N/A	89000	analytical data	19 mg/kg
UHC	1,2-Dichlorobenzene	N/A	89000	analytical data	6 mg/kg
UHC	1,3-Dichlorobenzene	N/A	89000	analytical data	6 mg/kg
UHC	2,4-Dichlorophenol	N/A	89000	analytical data	14 mg/kg
UHC	2,4-Dimethylphenol	N/A	89000	analytical data	14 mg/kg
UHC	2,4-Dinitrophenol	N/A	89000	analytical data	160 mg/kg
UHC	2,6-Dinitrotoluene	N/A	89000	analytical data	28 mg/kg
UHC	2-Chloronaphthalene	N/A	89000	analytical data	5.6 mg/kg
UHC	2-Chlorophenol	N/A	89000	analytical data	5.7 mg/kg
UHC	2-Nitroaniline	N/A	89000	analytical data	14 mg/kg
UHC	2-Nitrophenol	N/A	89000	analytical data	13 mg/kg
UHC	4,6-Dinitro-2-cresol	N/A	180000	analytical data	160 mg/kg
UHC	4-Bromophenyl phenylether	N/A	89000	analytical data	15 mg/kg
UHC	4-Chloro-3-methylphen ol	N/A	89000	analytical data	14 mg/kg
UHC	4-Chloroaniline	N/A	89000	analytical data	16 mg/kg
UHC	4-Nitroaniline	N/A	89000	analytical data	28 mg/kg
UHC	4-Nitrophenol	N/A	89000	analytical data	29 mg/kg
UHC	Acenaphthene	N/A	89000	analytical data	3.4 mg/kg
UHC	Acenaphthylene	N/A	89000	analytical data	3.4 mg/kg
UHC	Anthracene	N/A	89000	analytical data	3.4 mg/kg
UHC	Benzo(a)anthracene	N/A	89000	analytical data	3.4 mg/kg
UHC	Benzo(a)pyrene	N/A	89000	analytical data	3.4 mg/kg
UHC	Benzo(b)fluoranthene	N/A	89000	analytical data	6.8 mg/kg

LDR REPORT TREATABILITY GROUP DATA SHEET

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
UHC	Benzo(g,h,i)perylene	N/A	89000	analytical data	1.8 mg/kg
UHC	Benzo(k)fluoranthene	N/A	89000	analytical data	6.8 mg/kg
UHC	bis(2-chloroethoxy)meth ane	N/A	89000	analytical data	7.2 mg/kg
UHC	bis(2-chloroethyl)ether	N/A	89000	analytical data	6 mg/kg
UHC	bis(2-ethylexyl)phthalat e	N/A	89000	analytical data	28 mg/kg
UHC	Butylbenzylphthalate	N/A	89000	analytical data	28 mg/kg
UHC	Chrysene	N/A	89000	analytical data	3.4 mg/kg
UHC	Di-n-butylphthalate	N/A	89000	analytical data	28 mg/kg
UHC	Di-n-octylphthalate	N/A	89000	analytical data	28 mg/kg
UHC	Dibenzo(a,h)anthracene	N/A	89000	analytical data	8.2 mg/kg
UHC	Diethylphthalate	N/A	89000	analytical data	28 mg/kg
UHC	Dimethylphthalate	N/A	89000	analytical data	28 mg/kg
UHC	Fluoranthene	N/A	89000	analytical data	3.4 mg/kg
UHC	Fluorene	N/A	89000	analytical data	3.4 mg/kg
UHC	Hexachlorocyclopentadi ene	N/A	180000	analytical data	2.4 mg/kg
UHC	Indeno(1,2,3-c,d)pyrene	N/A	89000	analytical data	3.4 mg/kg
UHC	Lead	N/A	0.995	analytical data	0.75 mg/kg
UHC	Napthalene	N/A	89000	analytical data	5 mg/kg
UHC	PCB	N/A	12.19	analytical data	10 mg/kg
UHC	Phenanthrene	N/A	89000	analytical data	5.6 mg/kg
UHC	Phenol	N/A	89000	analytical data	6.2 mg/kg
UHC	Pyrene	N/A	89000	analytical data	8.2 mg/kg

LDR REPORT TREATABILITY GROUP DATA SHEET

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

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

*** All concentrations are in parts per million.

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

- List: benzene; carbon tetrachloride; 1,2-Dichloroethane; 1,1-Dichloroethylene; Tetrachloroethylene; Trichloroethylene; Vinyl Chloride
- No LDR treatment required (e.g. TRUM waste destined for WIPP, exclusion, etc.)
- None (i.e. all constituents/waste numbers of this waste stream still require treatment).

3.3.4 Does this waste stream contain PCBs?

- Yes No Unknown

If no or unknown, skip to Section 3.3.5.

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

- Yes No Unknown

3.3.4.2 Indicate the PCB concentration range.

- < 50 ppm \$ 50 ppm Unknown

3.3.5 What is the confidence level for the regulated constituents?

- Low Medium High

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

Tank waste was sampled in support of the interim stabilization effort.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

- Yes No

If yes, provide details: N/A

LDR REPORT TREATABILITY GROUP DATA SHEET

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

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

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

Waste will be interim stabilized.

4.4 **Treatment schedule information:**

Interim stabilization was completed in FY 2002. Waste will be dispositioned with the TSD unit closure.

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

Milestone Number	Due Date
N/A	N/A

4.6 **Proposed new Tri-Party Agreement treatment milestones:**

N/A

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

- Yes
- No
- Unknown

If yes, describe: N/A

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

None.

4.9 **Key Assumptions:**

TSD closure will be coordinated with the OU remediation in accordance with M-15 milestones for 200-IS-1 Operable Unit.

5.0 WASTE STREAM DISPOSAL

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

Closure of this TSD will be coordinated with the 200-IS-1 Operable Unit remediation.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant name: HSTF Waste Stream: HSTF 276-S-141/142
Treatability Group Name: HSTF

1.2 Applicable profile number(s) for this waste stream:
909, 647.

1.3 Waste stream source information

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

Tank and heel content.

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

The HSTF received liquid mixed waste from the Reduction/Oxidation (REDOX) Plant and possibly the Hot Semiworks Plant at shutdown of 202-S in 1967. In 1991 and 1992, the liquids were pumped from the tanks, distilled to reduce the volume, and transferred. The heels were all that remained in the tanks until the cement mixture was added to fill and stabilize the tanks.

1.3.3 Source of the regulated constituents:

The tanks were used to receive and store reagent-grade hexone used in the REDOX process. When the REDOX Plant was deactivated in 1967, the final cycle-recovered hexone from the plant was placed in the hexone storage tanks for storage. Tank 276-S-142 also contained kerosene and TBP from a one-time campaign to separate americium, curium, and promethium from Shippingport reactor blanket fuel in 1966. In 2002, the tank heel waste was stabilized in the interim by adding a cement material to the tanks according to Ecology approval.

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

Process knowledge and sampling data.

1.3.5 Additional notes:

Further information about the history of the TSD unit can be found in the Part A, Form 3, permit application.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

2.1.1 How was the waste managed prior to storage?

Waste was stored in the tanks after being used in the REDOX Plant.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed to storage?

Waste in the tanks was distilled in 1990-1992. The residual heel is a tar-like material and has been stored in the tanks since the distillation process was completed in 1992.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
276-S-141	1 Tank
276-S-142	1 Tank

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 2.100

Date of inventory values: 12/31/2004

Comments on waste inventory:

Waste is no longer generated. Volume is based on the quantity of waste identified on the Part A, Form 3, Permit Application without the volume of the cement-like layer.

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

Yes No

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

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

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list):

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

Document Number	Date

Assessment has been scheduled. Scheduled date:

Other. Explain: Storage assessment not required.

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

Milestone Number	Due Date
M-020-27	11/30/1992

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

Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

Yes No

If yes, explain: N/A

2.11 Characterization

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

Treatment will be determined as part of remediation of the 200-IS-1operable unit.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

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

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

Tank waste was interim stabilized in place in accordance with Ecology approval. TSD closure will be coordinated with M-015 milestone for remediation of the 200-IS-1 Operable Unit.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A. Waste stream is no longer generated.

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

None.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3.3 Bases and assumptions used in above estimates:

The tanks are inactive. No waste is being generated.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

- 1.1 Treatability Group Name:** LERF/ETF Liquid Waste
- 1.2 Description of waste (list WSRd numbers for this waste stream, as applicable)**
CERCLA and RCRA wastewaters.

2.0 WASTE INVENTORY AND GENERATION

- 2.1 Current total inventory for this waste stream (stored waste only, not accumulation areas). [Equals sum of location-specific data sheets for this treatability group.]**
Total volume (cubic meters): 47,033.997
- 2.2 Estimated generation projection by calendar year: [equals annual sums of location-specific data sheets for this treatability group].**

Year	m ³	and/or	kg
2005	106,373.120		0.000
2006	98,473.500		0.000
2007	89,674.200		0.000
2008	85,674.500		0.000
2009	83,674.800		0.000
Total	463,870.120		0.000

3.0 WASTE STREAM CHARACTERIZATION

- 3.1 Radiological Characteristics**
- 3.1.1 Mixed waste type:** High-level Transuranic Low-level
- 3.1.2 Handling (as package contents would need to be handled during treatment):**
 Contact-handled Remote-handled
- 3.1.3 Comments on radiological characteristics (e.g., more specific information on content, treatment concerns caused by radiation, confidence level):**
None.
- 3.2 Physical Form**
- 3.2.1 Physical form of the waste:**
 Solid Liquid Semi-solid Debris
 Other (Describe in comments.)
- 3.2.2 Comments on physical form:**
None.

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

Wastewater Non-wastewater Unknown

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

EPA/ State Number	Waste Description	LDR Sub- Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D008	Lead	lead	> 5.0 mg/L	knowledge/ analysis	0.69 mg/L (1)
D009	Mercury	D009 wastewaters	>0.2 mg/L	knowledge/ analysis	0.15 mg/L (1)
F001	1,1,1-trichloroethane, carbon tetrachloride	F001-F005	***	knowledge/ analysis	multiple
F002	methylene chloride	F001-F005	***	knowledge/ analysis	0.089 mg/L
F003	acetone, methyl isobutyl ketone	F001-F005	***	knowledge/ analysis	multiple
F004	cresols	F001-F005	***	knowledge/ analysis	0.11 mg/L
F005	methyl ethyl ketone	F001-F005	***	knowledge/ analysis	0.28 mg/L
F039	F001-F005 solvent wastes	N/A	***	knowledge/ analysis	multiple
WT01	Toxic EHW	N/A	***	knowledge/ analysis	None(2)
WT02	Toxic DW	N/A	***	knowledge/ analysis	None

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

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

*** The concentration varies.

(1) UHC's determinations do not apply based on LERF/ETF Waste Analysis Plan.

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

The ETF/LERF receives many different liquid waste types from many different generators. The generators are required to thoroughly characterize the waste per the ETF/LERF waste analysis plan. Information on actual consistent concentrations and ranges can be found in the regulatory file for each of the generator waste located at the ETF.

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

List: Some wastewaters meet treatment standards for F001-F005 and F039 on receipt.

LDR REPORT TREATABILITY GROUP DATA SHEET

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

3.3.4 Does this waste stream contain PCBs?

- Yes No Unknown

If no or unknown, skip to Section 3.3.5.

3.3.4.1 Is waste stream subject to TSCA regulations for PCBs?

- Yes No Unknown

3.3.4.2 Indicate the PCB concentration range.

- < 50 ppm \$ 50 ppm Unknown

3.3.5 What is the confidence level for the regulated constituents?

- Low Medium High

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

None.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

- Yes No

If yes, provide details:

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

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

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

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

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

4.4 Treatment schedule information:

Continuous based on LERF compaigns.

LDR REPORT TREATABILITY GROUP DATA SHEET

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

Milestone Number	Due Date
M-026-07A	03/31/2004
M-026-07B	03/31/2009
M-026-07C	03/31/2014

4.6 Proposed new Tri-Party Agreement treatment milestones:

N/A

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

Yes No Unknown

If yes, describe: The ETF/LERF does not generate liquid waste. However, the wastewaters are segregated and processed to minimize the generation of waste requiring further treatment.

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

N/A

4.9 Key Assumptions:

Assume PCB's are less than 0.5 ug/L in feed streams to the LERF/ETF during the forecast period.

5.0 WASTE STREAM DISPOSAL

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

Secondary waste (dry powder) generated from the treatment of wastewaters from the ETF is disposed at the Mixed Waste Burial Trenches or ERDF depending on whether the wastewater is designated as RCRA or CERCLA. The delisted wastewater is disposed to a State Approved Land Disposal Site under WAC 173-216. Delisting modification for LERF/ETF is needed to manage other waste streams that require treatment at the ETF.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant name: 200-UP-1 Waste Stream: 200-UP-1
Treatability Group Name: LERF/ETF Liquid Waste

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

Profile transmitted to the LERF/ETF via BHI letter dated 1/31/01; CCN #086036.

1.3 Waste stream source information

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

Groundwater contaminated with uranium, technetium, carbon tetrachloride, and nitrates from the UO3 Plant operations.

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

It is estimated that 4,000 kg of process waste from the UO3 Plant, consisting primarily of dilute nitric acid containing uranium, technetium-99, and small quantities of fission products, were discharged to the soil via the 261-U-1 and 216-U-2 Cribs. The mobile uranium was transported from the soil into the groundwater when large volumes of cooling water were discharged to the adjacent 216-U-16 Crib in 1984. In 1997, the 200-UP-1 Interim Record of Decision required the contaminated groundwater be extracted and transferred to LERF/ETF for treatment.

1.3.3 Source of the regulated constituents:

Resulted from liquid discharges to the soil from past Hanford Site operations.

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

Analytical data and process knowledge.

1.3.5 Additional notes:

Water is being treated at ETF pursuant to the 200-UP-1 Record of Decision.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

- Container (pad) Container (covered) Container (retrievably buried)
 Tank DST SST
 Other (explain): Transferred to LERF via underground pipe line.

2.1.1 How was the waste managed prior to storage?

Groundwater is transferred to LERF as it is being extracted.

2.1.2 Timeframe when waste was placed to storage?

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

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

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2004

Comments on waste inventory:

Water is transferred to LERF/ETF for treatment.

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

Yes No

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

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

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list): Groundwater is stored at LERF, treated at ETF, and discharged in accordance with the operating permit.

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	77,270.000		
2006	77,270.000		
2007	77,270.000		
2008	77,270.000		
2009	77,270.000		
Total	386,350.000		

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

Document Number	Date

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

- Assessment has been scheduled. Scheduled date:
 Other. Explain: Storage assessment not required.

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

Milestone Number	Due Date
N/A	N/A

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

- Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

- Yes No

If yes, explain: N/A

2.11 Characterization

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

Waste stream was fully characterized to support development of the 200-UP-1 Record of Decision. Quarterly sampling of groundwater is performed to assess the performance of the remedial action.

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

See LERF wastewater LSDS.

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If yes or unknown, comment on characterization for disposal.

See LERF wastewater LSDS.

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

Forecast assumes no changes to the 200-UP-1 Record of Decision. Groundwater remediation is being performed under the 200-UP-1 Interim Record of Decision.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

Assessment not warranted. See 3.2 below.

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

None. Generation of this waste stream occurs due to requirements in the 200-UP-1 Record of Decision to remove contaminated groundwater from the aquifer as mandated under the 200-UP-1 Interim Record of Decision.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.3.3 Bases and assumptions used in above estimates:

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 **Unit/Plant name:** 242-A Evaporator **Waste Stream:** Evaporator Process Condensate

Treatability Group Name: LERF/ETF Liquid Waste

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

242-A Evaporator Process Condensate stored in condensate tank C-100 between campaigns.

1.3 **Waste stream source information**

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

Process condensate from treatment of DST Waste in 242-A Evaporator.

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

Waste is generated during evaporator campaigns that begin with waste staging and characterization activities in the tank farms.

1.3.3 **Source of the regulated constituents:**

DST Waste.

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

Analytical data is used to characterize feed to the 242-A Evaporator before it is treated. The RCRA waste analysis plans for 242-A and LERF/ETF govern characterization requirements.

1.3.5 **Additional notes:**

Most process condensate is sent to LERF/ETF for storage and treatment. Some process condensate is stored in condensate tank C-100 at 242-A between campaigns for use in priming the evaporator treatment system at the beginning of the next campaign (waste minimization).

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 **Current storage method**

- | | | |
|---|--|---|
| <input type="checkbox"/> Container (pad) | <input type="checkbox"/> Container (covered) | <input type="checkbox"/> Container (retrievably buried) |
| <input checked="" type="checkbox"/> Tank | <input type="checkbox"/> DST | <input type="checkbox"/> SST |
| <input type="checkbox"/> Other (explain): | | |

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

Prior to treatment and storage at the 242-A Evaporator, the waste was stored in the DST System.

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

During the last 242-A Evaporator campaign, March-April 2004.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
242-A/TK C-100	1
N/A	N/A

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 33.270

Date of inventory values: 12/28/2004

Comments on waste inventory:

Facility is currently in shutdown mode and no waste will be added to this tank until the next campaign scheduled at this time for April 2005.

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

Yes No

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

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

Bases and assumptions used:

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list): Adequate storage and treatment capacity is available through LERF/ETF.

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	26,700.000		
2006	18,800.000		
2007	10,000.000		
2008	6,000.000		
2009	4,000.000		
Total	65,500.000		

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

Document Number	Date
A&E-00-ASS-073	01/17/2001

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Assessment has been scheduled. Scheduled date:

Other. Explain:

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

Milestone Number	Due Date
N/A	N/A

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

Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

Yes No

If yes, explain: N/A

2.11 Characterization

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

See LERF wastewater LSDS.

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If yes or unknown, comment on characterization for disposal.

See LERF wastewater LSDS.

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

242-A Evaporator campaigns are planned and conducted based on DST System needs.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

Evaporator treatment process is waste reduction.

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

It is desirable to increase the size of this waste stream--provided it reflects an overall decrease in DST Waste treatability group volume.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.3.3 Bases and assumptions used in above estimates:

The evaporator process itself is a waste reduction/minimization process. The resultant volume reductions are accounted for in the DST System data sheet. A minor amount of liquid is retained from each run to prime the system for the subsequent run.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant name: LERF Waste Stream: Wastewater
Treatability Group Name: LERF/ETF Liquid Waste

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

1.3 Waste stream source information

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

Wastewaters generated during RCRA and CERCLA cleanup activities on the Hanford Site are transferred to LERF for interim storage prior to treatment through the ETF. Drummed wastewater generated during RCRA and CERCLA cleanup activities on the Hanford Site are received at the ETF for interim storage prior to treatment through the ETF.

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

Wastewaters generated under the RCRA and CERCLA programs on the Hanford Site. Refer to specific generator source wastewater information.

1.3.3 Source of the regulated constituents:

Refer to specific generator information.

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

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

1.3.5 Additional notes:

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

- Container (pad) Container (covered) Container (retrievably buried)
 Tank DST SST
 Other (explain): Three surface impoundments (LERF Basins 42, 43, 44).

2.1.1 How was the waste managed prior to storage?

At the generator site.

2.1.2 Timeframe when waste was placed to storage?

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
LERF Basins	3
ETF Containers	22

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 47,000.000

Date of inventory values: 12/31/2004

Comments on waste inventory:

None.

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

Yes No

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

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

Bases and assumptions used:

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list): Wastewater will be treated through the ETF.

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

Document Number	Date
01-A&E-004	10/17/2001
A&E-00-ASS-071	11/15/2000

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

- Assessment has been scheduled. Scheduled date:
 Other. Explain:

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

Milestone Number	Due Date
N/A	N/A

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

- Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

- Yes No

If yes, explain: N/A

2.11 Characterization

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

Waste is sampled in accordance with the waste analysis plan to prior to transfer into 200 ETF.

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If yes or unknown, comment on characterization for disposal.

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

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

None.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

Generators will address waste minimization for their particular waste streams.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.3.3 Bases and assumptions used in above estimates:

None.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant name: LLBG/MW Trench Waste Stream: TR34 Leachate
Treatability Group Name: LERF/ETF Liquid Waste

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

N/A

1.3 Waste stream source information

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

This waste is leachate from mixed waste disposal (Trenches 31 and 34) in the 218-W-5 low-level burial ground.

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

Trench 34 has been accepting mixed waste for disposal since 1999 and trench 31 has been accepting mixed waste for disposal since 2004 and the leachate has been generated since then.

1.3.3 Source of the regulated constituents:

Wastes with waste numbers derived from listed waste numbers F001-F005 are disposed in Trenches 31 and 34 so the leachate is regulated as F039.

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

Analytical data and process knowledge.

1.3.5 Additional notes:

Trenches 31 and 34 leachate is managed in a 90-day accumulation tank prior to transfer to LERF/ETF.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

- | | | |
|---|--|---|
| <input type="checkbox"/> Container (pad) | <input type="checkbox"/> Container (covered) | <input type="checkbox"/> Container (retrievably buried) |
| <input type="checkbox"/> Tank | <input type="checkbox"/> DST | <input type="checkbox"/> SST |
| <input type="checkbox"/> Other (explain): | | |

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed to storage?

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

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

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2004

Comments on waste inventory:

Trenches 31 and 34 leachate is managed in a 90 day accumulation tank prior to transfer to LERF/ETF. There is no waste stored.

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

Yes No

If yes, what is the total estimated storage capacity?

When is this capacity expected to be reached?

Bases and assumptions used:

2.5 Planned storage areas for this waste:

- Current Location
 CWC
 DST
 Other Area(s) (list):
 None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	2,400.000		
2006	2,400.000		
2007	2,400.000		
2008	2,400.000		
2009	2,400.000		
Total	12,000.000		

2.7 DOE Storage Compliance Assessment information:

- Assessment has been completed.

Document Number	Date
A&E-SEC-02-003	03/28/2002

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Assessment has been scheduled. Scheduled date:

Other. Explain:

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

Milestone Number	Due Date
N/A	N/A

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

Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

Yes No

If yes, explain: N/A

2.11 Characterization

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If yes or unknown, comment on characterization for disposal.

N/A

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

Generation information is based on 2004 total. Actual generation is dependent upon the amount of precipitation received each year.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: 1997

If yes, provide document number or other identification:

Return on Investment: RMW Rain Curtain

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

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

Currently the trench 34 is outfitted with a rain curtain that diverts approximately 85% of the precipitation received. The diverted precipitation never enters the disposal area and thus does not become mixed waste.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

1,200.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	1,130.000		
2006	1,130.000		
2007	1,130.000		
2008	1,130.000		
2009	1,130.000		
Total	5,650.000		

3.3.3 Bases and assumptions used in above estimates:

The projected future waste reduction is based on average Hanford Site precipitation and continued use of the current rain curtain.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 **Unit/Plant name:** T Plant Complex/2706-T Tank System **Waste Stream:** 2706-T Tank System

Treatability Group Name: LERF/ETF Liquid Waste

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

None.

1.3 **Waste stream source information**

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

Liquid waste generated as a result of decontamination, treatment activities, and potentially radiologically contaminated precipitation.

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

Waste resulting from decontamination and treatment activities in the 2706-T and 2706-TA Buildings and various other sources (e.g., potentially contaminated rainwater, etc.).

1.3.3 **Source of the regulated constituents:**

See Section 1.3.1 and 1.3.2.

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

Analytical and process knowledge.

1.3.5 **Additional notes:**

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 **Current storage method**

- | | | |
|---|--|---|
| <input type="checkbox"/> Container (pad) | <input type="checkbox"/> Container (covered) | <input type="checkbox"/> Container (retrievably buried) |
| <input checked="" type="checkbox"/> Tank | <input type="checkbox"/> DST | <input type="checkbox"/> SST |
| <input type="checkbox"/> Other (explain): | N/A | |

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

Generated as part of decontamination and treatment activities.

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

1999 to present.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
T Plant Complex	2

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.727

Date of inventory values: 12/31/2004

Comments on waste inventory:

Inventory subject to fluctuation from decontamination, treatment, and other waste management activities and subsequent transfer to ETF or to another approved location.

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

Yes No

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

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

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

Current Location CWC DST

Other Area(s) (list): ETF or other approved location.

None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	0.000		0.000
2006	0.000		0.000
2007	0.000		0.000
2008	0.000		0.000
2009	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

Document Number	Date
01-A&E-0-12	11/28/2000

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

- Assessment has been scheduled. Scheduled date: 3rd quarter CY2005
 Other. Explain:

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

Milestone Number	Due Date
N/A	N/A

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

- Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

- Yes No

If yes, explain: N/A

2.11 Characterization

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

See LERF wastewater LSDS.

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

- Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If yes or unknown, comment on characterization for disposal.

See LERF wastewater LSDS.

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

Efforts are underway to prepare the 2706-T and TA to begin liquid decontamination/treatment efforts. NOTE: Tank 220 has been place in a "Out of Service" mode and will remain that way pending potential future need for this tank. As more information becomes available on types, quantities of equipment/material to be decontaminated, waste forecasts will be developed. Acceptance criteria for the ETF is the preferred target; the DST System remains a backup TSD unit for this waste, or another approved location.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

It is extremely difficult to determine how much waste will be generated for this particular waste stream. Will fluctuate greatly depending upon how much equipment needs decontaminating, treatment activities, and other waste management operations.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 m³

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.3.3 Bases and assumptions used in above estimates:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

The T Plant Complex, where possible, will use non-regulated decontamination solutions, as well as limiting the amount of liquid waste generated as a result of decontamination/treatment activities to the extent practical. This waste stream volume will fluctuate greatly depending upon decontamination and treatment activities.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 **Unit/Plant name:** WSCF **Waste Stream:** LERF/ETF
Treatability Group Name: LERF/ETF Liquid Waste

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

N/A

1.3 **Waste stream source information**

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

This waste stream is generated from analytical processes within the laboratory. The aqueous based wastes are generally comprised of acids, bases, and other toxic constituents. The resulting liquids are drummed and transferred to the ETF for treatment.

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

WSCF has been sending waste to the ETF since approximately 1999, for treatment and disposal. The waste is generated as a result of laboratory operations.

1.3.3 **Source of the regulated constituents:**

The hazardous constituents are derived from listed waste sample contribution and/or the addition of reagents during the analytical process.

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

Information to characterize this waste stream is obtained from both process knowledge and analytical data.

1.3.5 **Additional notes:**

WSCF waste is managed in a SAA or a 90-day accumulation area. WSCF has no TSD unit.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 **Current storage method**

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

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

WSCF waste is managed in a SAA or 90-day accumulation area. WSCF has no TSD unit.

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

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

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

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2005

Comments on waste inventory:

See section 2.1.1 of this data sheet.

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

Yes No

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

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

Bases and assumptions used:

N/A; WSCF does not store waste, as it has no TSD.

2.5 Planned storage areas for this waste:

- Current Location CWC DST
 Other Area(s) (list): LERF/ETF
 None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m ³	and/or	kg
2005	3.120		
2006	3.500		
2007	4.200		
2008	4.500		
2009	4.800		
Total	20.120		

2.7 DOE Storage Compliance Assessment information:

Assessment has been completed.

Document Number	Date

Assessment has been scheduled. Scheduled date:

Other. Explain: Storage assessment not required.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Milestone Number	Due Date
N/A	N/A

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

Yes No

If yes, summarize releases and quantities and provide date:

N/A

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

Yes No

If yes, explain: N/A

2.11 Characterization

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

Characterization is performed as necessary to meet LERF/ETF waste acceptance criteria. A commitment is not necessary to complete characterization because a cradle-to-grave process is being implemented.

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

See LERF wastewater LSDS.

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

Yes No Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

See LERF wastewater LSDS.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

None.

3.0 WASTE MINIMIZATION

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

Yes No

If yes, provide date assessment conducted: 1996

If yes, provide document number or other identification:

Return on Investment. Waste Water Feed Reduced by Removal of Chloride. Tracking Code Number YP219

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

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

None. ETF has changed its acceptance criteria and this waste stream is now acceptable as is without removing chlorides. No other waste minimization has been identified for this waste stream.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2004 (volume or mass)

0.000 kg

3.3.2 Projected future waste volume reductions

Year	m ³	and/or	kg
2005	0.000		
2006	0.000		
2007	0.000		
2008	0.000		
2009	0.000		
Total	0.000		

3.3.3 Bases and assumptions used in above estimates:

No waste minimization techniques for this waste stream have been identified. The return on investment for reverse osmosis is no longer in effect as ETF changed its acceptance criteria and now accepts the wastes with higher chloride content.

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