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DEPARTMENT OF ECOLOGY
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December 17, 2020 20-NWP-188

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

Re: Department of Ecology's Comments on 2019 Hanford Land Disposal Restriction Full Report, DOE/RL-2020-09, Revision 0, per M-026-01AD

References: See page 3

Dear Brian T. Vance:

The Department of Ecology (Ecology) received letter 20-PFD-0042 (Reference 1) regarding the Calendar Year 2019 Hanford Land Disposal Restrictions (LDR) Full Report, DOE/RL-2020-09, Revision 0 (2019 LDR Report).

Enclosed are Ecology's Review Comment Record (RCR) comments on the 2019 LDR Report, including a separate redline version of the report with references to the RCR comments.

Our review primarily focused on comparing the 2019 LDR Report against applicable requirements. Those requirements are set out in:

1. Ecology Letter 19-NWP-204, dated December 18, 2019 (Reference 2).
2. "Requirements for Hanford LDR Plan", issued by EPA and Ecology on April 10, 1990.
3. "Ecology's Final Determination re LDR requirements", dated March 29, 2000.

Based on Ecology's review, the M-026-01AD Tri-Party Agreement (TPA) Milestone is not fully met because the 2019 LDR Report did not comply with the above-referenced legal requirements. Below is a list of general deficiencies we observed:

- Ecology and the U.S. Department of Energy negotiated changes to language from the 2014 LDR Report. However, in most cases where language was brought over from the 2014 LDR Report, the language was the original pre-negotiated language.
- Some of the requirements for approval of the 2014 LDR Report in Letter 19-NWP-204, which were supposed to be resolved in the 2019 LDR Report, were not completed. Specifically:
  - Many treatability groups are listed with treatment options still being assessed and treatment capacity is marked "Not Yet Determined" throughout the LDR Report.

  - Many dangerous waste management units are not specifically referenced in Appendix B and the physical locations of each mixed-waste stream are thus not reported.
  - Schedules for all mixed waste streams requiring treatment were not addressed.
  - Schedules for all mixed waste streams requiring characterization were not addressed.
- Storage capacity was not reported throughout the LDR Report, and some treatment capacities were not provided.
- There is misinformation about the Canyon Disposition Initiative with regard to T-Plant Facility throughout the report.
- Process information necessary for waste identification and LDR determinations was not provided in the report. Only references to waste profiles that are not publically available were referenced.
- Not all applicable TPA milestones and associated schedules for the development and implementation of treatment or management technologies to achieve compliance with LDR requirements for each LDR waste were included. In most cases, only Major TPA milestones were referenced, with only a few cases where interim TPA milestones were referenced.
- In most cases, waste minimization reduction amounts for 2019 were not provided, and future waste minimization projections were not reported.

Finally, the need for ongoing storage assessments were not discussed at M-026 Project Manager Meetings this year. To verify that adequate assessments are in place to ensure mixed waste continues to be stored in a safe configuration, Ecology added storage assessments that will need to be scheduled in the 2019 LDR Report.

For Ecology to approve the 2019 LDR Report, we would like to start meeting in January 2021 to go over the enclosed comments and redlines. Scheduling these meetings should be added as an agenda item for the January 20, 2021, M-026 Project Manager Meeting. If you have questions or need further information, please contact Jared Mathey at (360) 481-9830 or jared.mathey@ecy.wa.gov.

Sincerely,

David B. Bowen

David B. Bowen
Program Manager
Nuclear Waste Program

jm/tla
Enclosures

cc: See page 3

Reference 1: Letter 20-PFD-0042, dated July 28, 2020, "2019 Hanford Land Disposal Restrictions (LDR) Full Report, DOE/RL-2020-09, Revision 0"

Reference 2: Letter 19-NWP-204, dated December 18, 2019, "Conclusion of Comment Resolution Activities for the Calendar Year 2014 Hanford Site Mixed Waste Land Disposal Restrictions Full Report, DOE/Rl-2015-08, Revision 0"

electronic w/enc:

Dave Bartus, EPA
Craig Cameron, EPA
Dave Einan, EPA
Cheryl Williams, EPA
Bryan Trimberger, USDOE-ORP
Duane Carter, USDOE-RL
Ingrid Colton, USDOE-RL
Kelly Ebert, USDOE-RL
Mark French, USDOE-RL
Tony McKarns, USDOE-RL
Allison Wright, USDOE-RL
Lee Bostic, BNI
Sara Austin, CHPRC
Leonard Habel, CHPRC
Jeff Lerch, CHPRC
Wayne Toebe, CHPRC
Stephanie Brasher, MSA
Scott Davis, MSA
Matt Milles, MSA
Carolyn Noonan, MSA
Lana Strickling, MSA
Michael B. Wilson, MSA
Mark Ellefson, PNNL
Tom McDermott, PNSO
James Hamilton, WRPS
David Reeploeg, Hanford Communities
Max Woods, ODOE
Koa Kaulukukui-Barbee, AAG
Kelly Wood, AAG
David Bowen, Ecology
Kathy Conaway, Ecology
Susanne Dahl, Ecology
Kelly Elsethagen, Ecology
Theresa Howell, Ecology
Jeff Lyon, Ecology
Jared Mathey, Ecology
Dan McDonald, Ecology
Nina Menard, Ecology
John Price, Ecology
Jonathan Rogers, Ecology
Stephanie Schleif, Ecology
Ed Soto, Ecology
John Temple, Ecology
Kim Welsch, Ecology
NWP RIM Coordinators, Ecology
Environmental Portal
TPA Administrative Record
Hanford Facility Operating Record
BNI Correspondence Control
CHPRC Correspondence Control
MSA Correspondence Control
PNNL Correspondence Control
USDOE-ORP Correspondence Control
USDOE-RL Correspondence Control
EPA Region 10 Hanford Field Office
Correspondence Control
WRPS Correspondence Control

cc electronic w/o enc:

Mason Murphy, CTUIR
Jack Bell, NPT
Laurene Contreras, YN
ERWM Staff, YN
Rex Buck, Jr. Buck, Wanapum
Susan Leckband, HAB

Ecology Comments on 2019 Hanford Site Mixed Waste Land Disposal Restrictions Full Report. DOE/RL-2020-09, Rev. 0. July 31, 2020

#	Page / Section	Text	Comment	Major issue	DOE's Proposed Response	Date Proposed	Ecology's Disposition	Follow-on Actions	Status
1	Page 1-1 / Section 1.1. Purpose	1.1 PURPOSE The purpose of the Hanford Site Mixed Waste Land Disposal Restrictions (LDR) Report is to document and annually update the following: All known and potential mixed waste (PMW) at Hanford All known mixed waste storage, characterization, and treatment information All known characterization and treatment schedules Storage method compliance assessments (SMCA) for all known and PMW at Hanford.	The agreed to language that was supposed to be brought into the 2019 LDR Report from the 2014 LDR Redline is not consistent and more generalized than specific in the 2019 report. In doing this, the meaning from the 2014 LDR Report is not completely brought into the 2019 Report. Please change this language back to the agreed upon language in the 2014 LDR Report. See Redline of changes. This report adheres to the requirements found in the 1990 Requirements for Hanford Land Disposal Restrictions Plan (LDR Plan), Federal Facility Compliance Act of 1992, the 2000 LDR Final Determination, and the 2002 Resolution of Dispute. These documents detail the requirements of the LDR Report. The purpose of this report is to: • Document all known and potential mixed waste at Hanford. • Document all known characterization information and treatment technologies. • When characterization and treatment has not been established, plans and schedules to accomplish characterization and treatment will be established and included in the LDR Report. • Document storage assessments of all known and potential mixed waste at Hanford to ensure safe storage. • Annually update all information to include changes in waste characterization, treatment technologies, plans, schedules, and storage assessments.						
2	Page 1-3 / Section 1.2 Background	A complete list of LDR reporting requirements is included in Appendix A.	The below language from the 2014 LDR Report was replaced with a single sentence in the 2019 LDR Report and Appendix A does not summarize these things. This takes meaning out of the report and needs to be added back in. See comment #15 from the 2014 LDR Report RCR. The following summarizes the information updated in each annual report, as documented in Appendix A: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.						

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			• Updated compliance status of the TSD units to reflect completion of pending storage method compliance assessments and permitting activities. • Report on completed LDR storage method compliance 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 five year span for the LDR report, and adding PMW as waste is identified. • Removing mixed waste and PMW 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.)						
3	Page 1-11 / Section 1.6	In accordance with TPA change control form M-26-06-01, summary reports are issued every year for 4 years, and a full report is issued every fifth year. Each annual LDR report is issued with a unique document number. Each full report supersedes the previous full report, and each summary report supersedes the previous summary report. Proposed TPA milestones or proposed changes to TPA milestones are identified and processed in accordance with TPA Action Plan section 12.0, and not as part of the annual LDR report review and approval process. Modifications to the TPA milestones listed in the LDR report are incorporated in the next year's report and are not	The 2019 LDR Report is missing the following agreed upon language that was added to the 2014 LDR Report and needs to be added to the 2019 Report. Commitments other than TPA milestones can be proposed in the LDR Report when required. The decision to choose a particular pathway is made jointly by DOE and Ecology project managers responsible for the work scope in question. … 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. Additional workshops were held in subsequent years resulting in Tri-Party Agreement change request M 026 06-01, which established the content and format of LDR Summary Reports following a pilot activity in CY 2005. The Summary Reports are to be issued every year for four years, with the fifth year being a						

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		issued as errata sheets or TPA change notices.	Full Report. This report is the second Full Report since change request M 026 06-01 and meets TPA Milestone M-026-01Y.						
4	Page 1-12 / Section 1.7 Assumptions And Page 6-1 / Section 6.0 And Table 6-1	1.7 ASSUMPTIONS The following key assumptions were used to prepare this report. • Disposition of the five canyon facilities will be addressed by the Canyon Disposition Initiative (CDI) under CERCLA as documented by the Tri-Parties in an agreement in principle and in TPA change control form M-85-10-01, dated March 18, 2010. The T Plant Canyon currently engages in active operations and is not yet included in the M-085 milestone series. After operations are complete, T Plant will be dispositioned in accordance with Action Plan sections 7 and 8. Until a final decision is made under CERCLA in accordance with the CDI, no commitments will be made regarding disposition of wastes in storage that are identified for coordination with the CERCLA decision. • TSD closure will be coordinated with the operable unit (OU) remediation in accordance with M-015 milestones for those sites assigned to an OU. and Treatment approaches and schedules for the treatability groups	There are only 4 canyon facilities in Section 8 of the TPA (PUREX, B Plant, U Plant, and REDOX) not five. Replace the words "Five canyon facilities" with "PUREX, B Plant, U Plant, and REDOX" and adjust the LDR Report to account for the removal of T Plant from this assumption. Ecology has not agreed to include T-Plant dispositioning in Action Plan Section 7.0 (Past Practice) and Section 8.0 (Facility Disposition Process). T-Plant will be dispositioned as described in Section 6.0 (TSD Unit Process). Remove the following language from the 2019 LDR Report and adjust the changes of removing this assumption within the 2019 LDR Report. M-085-10-01 included no TPA Milestones for any CERCLA work for T-Plant and all of the Milestones in this change package are no longer in the current TPA. Additionally, the following statement from the justification statement in M-85-10-01 is incorrect, as T Plant is not included in Section 8.0 of the TPA and it is not a Past Practice Unit under Section 7.0 of the TPA. T-Plant will be closing in accordance with the closure plan in the dangerous waste permit (as described in Section 6.0 of the TPA). Additionally, T Plant has no operable unit in Appendix C of the TPA and it is not identified as a Key Facility in Appendix J or Section 8.0 of the TPA Action Plan. • After operations are complete, T Plant will be dispositioned in accordance with Action Plan sections 7 and 8. Additionally, the TPA serves as the document for coordinated closure. Given the above this language also needs to be deleted from the 2019 LDR Report. • Disposition of ~~the five canyon facilities~~ PUREX, B Plant, REDOX, and U Plant will be addressed by the Canyon Disposition Initiative (CDI) under CERCLA as documented by the Tri-Parties in an agreement in principle and in TPA change control form M-85-10-01, dated March 18, 2010. ~~The T Plant Canyon currently engages in active operations and is not yet included in the M-085 milestone series. After operations are complete, T Plant will be dispositioned~~						

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		associated with three of the five canyons (PUREX Plant, B Plant, and T Plant) are awaiting final decisions under CERCLA in accordance with the CDI and TPA change control form M-85-10-01. Affected treatability groups include 221-T Containment Building, 221-T Tank System, B Plant Cell 4, B Plant Containment Building, PUREX Plant, and PUREX Storage Tunnels. • Tank waste will be transferred initially using a TSCR prior to vitrification. • Pretreated tank waste will be transferred to LAW and high-level waste vitrification (HLVIT) facilities. Initially, only LAW will be processed, with both LAW and high-level waste (HLW) separation and vitrification occurring later. • Process condensate from the 242-A Evaporator and hazardous wastewater from other sources, including liquid effluents from tank waste vitrification, will continue to be treated at ETF.	~~in accordance with Action Plan sections 7 and 8. Until a final decision is made under CERCLA in accordance with the CDI, no commitments will be made regarding disposition of wastes in storage that are identified for coordination with the CERCLA decision.~~ • ~~TSD closure will be coordinated with the operable unit (OU) remediation in accordance with M-015 milestones for those sites assigned to an OU.~~ Section 6.0 Treatment approaches and schedules for the treatability groups associated with ~~three~~two of the five canyons (PUREX Plant and~~,~~ B Plant~~, and T Plant~~) are awaiting final decisions under CERCLA in accordance with the CDI ~~and TPA change control form M-85-10-01~~. Affected treatability groups include ~~221-T Containment Building, 221-T Tank System,~~ B Plant Cell 4, B Plant Containment Building, PUREX Plant, and PUREX Storage Tunnels. Table 6-1 – Delete M-085-00 and replace with None under the Milestone Supporting Schedule and delete None in the Documents Supporting Schedule and replace with Final State closure plan being developed in the Hanford Rev. 9 Permit for 221-T Containment Building and 221-T Tank System. The below language needs to be updated for clarity. • Tank waste will be transferred initially ~~using a~~ to the TSCR for pre-treatment prior to vitrification. • Pretreated tank waste will be transferred to LAW and high-level waste vitrification (HLVIT) facilities. Initially, only LAW will be processed, with both LAW and high-level waste (HLW) separation and vitrification occurring later. • Process condensate from the 242-A Evaporator and hazardous wastewater from other sources, including liquid effluents from ~~tank waste~~ vitrification at WTP, will continue to be treated at ETF.						

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5	Pages 3-2 to 3-7 / Table 3-1	B Plant Cell4 - 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 S&M in 1998. No additional waste will be stored in this location as B Plant is under long-term S&M. B Plant Containment Building - Stream consists of failed equipment (e.g., process jumpers, pumps) 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 S&M in accordance with section 8.0 of the TPA in 1999. No additional waste will be stored at this location. B Plant is under longterm S&M. MLLW-02 – Inorganic Non-Debris This treatability group is for non-debris waste that contains hazardous constituents that either requires non-thermal treatment specified technology) or non-thermal treatment is BDAT for meeting the applicable LDR treatment standards (concentration based	This language does not meet the language that was agreed to from the 2014 LDR Report. This language should read the following. B Plant Cell 4 - Cell 4 waste resulted from WESF hot cell maintenance waste (i.e., manipulator boots, light bulbs, HEPA filters, misc. debris). This waste is stored in accordance with interim status technical standards pending completion of RCRA closure. B Plant, including Cell 4, was placed in long-term S&M in 1998 pending final disposition which will be addressed using CERCLA remedial action that is coordinated with RCRA closure. No additional waste will be stored in this location as B Plant is under long-term S&M. (See 2014 LDR Report RCR Comments 23, 28, and 29) B Plant Containment Building Stream consists of failed equipment (e.g., process jumpers, pumps) 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 is stored in accordance with interim status technical standards pending completion of closure. No additional waste will be stored at this location. B Plant is under long- term S&M. MLLW-02 - Inorganic Non-Debris This treatability group is for non-debris waste that are subject to either a non-thermal treatment standard (specified technology), or a concentration-based treatment standard based on the performance of BDAT for meeting the applicable LDR treatment standards (concentration- based standards). The applicable WSRds for this treatability group are: 420, 421, 422, 425, 426, 428, 506, 507, 521, 523, 524, 525, 900, 901, 902, and 904. This waste consists of many different inorganic solids (e.g., particulates, absorbed liquids, sludges, resin beads, 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.						

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		standards). The applicable WSRds for this treatability group are: 420, 421, 422, 425, 426, 428, 506, 507, 521, 523, 524, 525, 900, 901, 902, and 904. This waste consists of many different inorganic solids (e.g., particulates, absorbed liquids, sludges, resin beads, 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. MLLW-03 – Organic Non-Debris This treatability group is for non-debris waste that contains hazardous constituents that either requires thermal treatment (specified technology) or thermal treatment is BDAT for meeting the applicable LDR treatment standards concentration-based standards). Stabilization of the thermal treatment residue may also be required. The primary applicable WSRds for this treatability group are 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 427, 429, 430, 431, 432, 500, 501, 502, 503, 504, 505, 520, 522, 700, 701, 720, 721, 920, 921, 922, and 923. This waste stream consists of many different inorganic and organic solids (e.g., particulates, absorbed liquids, sludges, resins, soils)	MLLW-03 - Organic Non-Debris This treatability group is for non-debris waste that contains hazardous constituents that either requires thermal treatment (specified technology) or is subject to concentration-based treatment standards. 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 primary applicable WSRds for this treatability group are: 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 427, 429, 430, 431, 432, 500, 501, 502, 503, 504, 505, 520, 522, 700, 701, 720, 721, 920, 921, 922, and 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. This waste stream may also include dangerous waste containing PCBs that required thermal destruction. This waste stream does not include hazardous debris other than incidental debris material commingled with the non-debris.						

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		and labpacks that are contaminated with organic regulated dangerous waste constituents. This waste stream may also include dangerous waste containing PCBs that require thermal destruction. This waste stream does not include hazardous debris other than incidental debris material commingled with the non-debris.							
6	Page 3-9 / Section 3.1.1	CHPRC maintains a system for forecasting the amount of mixed waste to be generated well into the future for management at CWC.	Please add the language from the 2014 LDR Report for this sentence. CHPRC maintains a system for forecasting the amount of radioactive waste, including mixed waste to be generated well into the future for management at CWC.						
7	Page 3-10 / Section 3.2	The DOE conducts or oversees compliance assessments of mixed waste storage areas and other areas that potentially could be the source of generation of other mixed waste, pursuant to applicable state and Federal standards. The SMCA process includes document reviews, visual inspections and observations, interviews, and self-assessments. In addition to the LDR SMCAs, DOE and its contractors conduct daily, weekly, monthly, quarterly, and annual assessments and inspections at Hanford Site mixed waste storage areas in accordance with DOE requirements and state and Federal regulations. The LDR SMCAs provide an additional level of review to address circumstances associated with mixed waste and PMW. Certain waste storage locations are exempt from the LDR SMCA	This language was significantly changed and added to from the agreed upon language approved in the 2014 LDR Report. Please revert this back to the agreed upon language below. The DOE conducts/oversees storage method compliance assessments of mixed waste storage areas and other areas that could, in the future, be the source of generation of other mixed waste. DOE storage method compliance assessments include reviewing other independent assessments and inspections and self-assessments. In addition, daily, weekly, monthly, quarterly, and annual assessments and inspections are conducted at Hanford Site mixed waste storage areas in accordance with DOE requirements, and applicable State and Federal standards. LDR storage method compliance assessments provide an additional level of review to address circumstances associated with mixed waste and PMW.						

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		requirements. These include key facilities in the surveillance and maintenance phase, and locations with only SAAs and/or CAAs. This section describes SMCAs completed during the reporting year and lists SMCAs scheduled for the following 3 years.							
7	Page 4-1 / Section 4.0	The program plan includes the following elements: • Incorporation of P2/WMin into environmental management systems • Establishing P2/WMin goals • Performance measures • P2/WMin methods • Incorporation of P2/WMin into the work process • Sustainable design • Pollution prevention awareness programs •Purchase of environmentally preferable products and services • Pollution prevention outreach and public involvement.	Explain why the following three required elements from the Waste Minimization Program were removed from the 2019 LDR Report but were found in the 2014 LDR Report. • Waste minimization assessments and evaluations • Pollution prevention tracking systems • Pollution prevention reporting. The above should be added back to the 2019 LDR Report.						
8	Page 5-1 / Section 5.0 and Table 5-1	Additional characterization information is provided in section 3.0 of individual treatability groups. Information relative to individual waste stream characterization is provided in section 2.11 of each LSDS.	Table 5-1 Summary of Characterization Information by Treatability Group is missing the summary columns of additional characterization activities, planned characterization schedule, and related TPA Milestones in the equivalent Table 13-1 Summary of Characterization Information for Each Treatability Group in the 2014 LDR Report. Even though some of this information can be found in other referenced sections, this summary level information in this table should be added back for report clarity From reviewing the Table 5-1, it appears that all treatability groups have been adequately characterized, however this is misleading when you compare it to Section 2.11 in the LSDS where there are clearly some specific waste streams that still require additional characterization under these treatability groups. See comments on Specific						

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			Appendix B under Section 2.11 when updating this table.						
9	Page 3-3 / Table 3-1 Appendix B description language	This waste stream reflects mixed waste that requires treatment prior to disposal at ERDF. The waste is stored at the OU, and is shipped to ERDF where waste treatment and/or disposal occurs.	This language is not completely correct. ERDF Treatment TGDS has numerous LSDS for areas where waste will be stored in CAAs or possibly at the TSDs and not OUs. For example tank farms routinely pull pumps from tanks which are stored in CAAs before being sent to ERDF for treatment or failed equipment from ETF is stored before moving to ERDF for treatment. Change this language to account for these additional areas.						
10	Page 6-6 / Section 6.1.3 Commercial Microencapsulation	The Hanford Site is allowed to treat, and will continue to treat, the MLLW-04 treatability group using macroencapsulation in accordance with a site-wide 1,609 kilometer (1,000-mile) inapplicability certification for the Washington State O/C LDR per WAC 173-303-140(4)(d)(iii) (99-EAP-055).	Through comments in the 2014 LDR Report, an agreement was made to add the title to Document 99-EAP-055. Comment #85. Please add the following language to the 2019 LDR Report. (99-EAP-055, "Certification to Allow Land Disposal of Hanford Organic/Carbonaceous Mixed Waste" [Rasmussen]).						
11	Page 6-13 / Table 6-6 M-091 Capability	Treatment capacity - To be determined by design reports	Through comments in the 2014 LDR Report, an agreement was made to change this language to "Will be developed under M-091 series. Comment #94. Strike "To be determined based on design reports." And add the following language to the 2019 LDR Report. "Will be developed under M-091 series."						
12	Page 1-4 / Section 1.2 Background	During the CY 2014 LDR report comment resolution activities, DOE and Ecology agreed on four "over-arching" agreements to guide the path forward for and content of the CY 2019 report. These agreements include: 1. DOE will obtain characterization schedules for identified M-091 waste streams that need them (i.e., storage, treatment, and disposal).	The four mentioned agreements do not match up with the agreements referenced in Letter 19-NWP-204 which allowed the approval of the 2014 LDR Report. The 2019 Report needs to reflect the agreements from this letter with incorporating the following language from this letter. 1. Schedules for all waste streams requiring characterization as described in the March 29, 2000, Director's Determination and the March 14, 2002, Tri-Party Agreement Resolution of Dispute. 2. Five years of projected treatment volumes will be provided in the 2019 Full Report. 3. The 2019 Report will look at instructions for projected waste treatment volumes.						

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		2. LDR data provided will be a "snapshot in time" and can change from year to year based on pertinent and relevant information. 3. Five years of projected treatment volumes will be provided in the 2019 Full Report. 4. The 2019 Report will look at instructions for projected waste treatment volumes.	4. Greater detail on physical location of each mixed waste stream. 5. Schedules for all mixed waste streams requiring treatment. 6. Identification of treatment technologies vs. stating, "Treatment not yet selected." If a treatment technology is available for a particular waste stream but has not yet been selected, the United States Department of Energy (US DOE) has the option of either identifying that treatment, or including a schedule for selecting a treatment technology. 7. References to current storage assessments for each mixed waste stream. All storage assessments will be publicly accessible in the USDOE Administrative Record by reference number. 8. All wastes, as clarified in Ecology's January 25, 2000, letter to USDOE must be identified and included.						
13	Page 1-4 / Section 1.3 Scope	This report presents information on waste streams that are reported either as a matter of law or as a result of discussions among DOE, Ecology, and EPA. Waste streams reported as a matter of law include mixed waste in storage subject to the storage prohibition of 40 CFR 268.50, "Prohibitions on Storage of Restricted Wastes."	Laws are used to give agencies authority and rules are implementations of requirements. The use of the word law here is not correct and needs to be changed to the word rule or rules or regulations.						
14	Page 1-4 / Section 1.3 Scope	Although mixed waste managed in a CAA is not considered stored, the EPA has indicated that the storage prohibition clock begins when mixed waste is managed in the CAA (OSWER 1990).	This guidance is outdated and the Federal Generator Improvement Rule (GIR) changed this is the definition of accumulation. When the State of Washington revised the dangerous waste regulations to the GIR the definition of accumulation was to the below. This language needs to be changed to the below in the 2019 LDR Report. RCR Comment #50. "Accumulation" refers to the definition of "storage." "Storage" means the holding of dangerous waste for a temporary period. "Accumulation" of dangerous waste, by the generator on the site of generation, is storage of dangerous waste and can be managed under						

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			the applicable conditions for exemption of WAC 173-303-170 (2)(b). ~~Although mixed waste managed in a CAA is not considered stored, t~~The EPA has indicated that the storage prohibition clock begins when mixed waste is managed in the CAA (OSWER 1990).						
15	Page 1-8 and 1-9 / Section 1.4 Sources and Organization of Data	General	No resolution of language regarding multiple waste streams per treatability group in order to address comment from 2014 LDR RCR for follow-up actions. Additional clarification on language is needed. Treatability groups cannot contain multiple waste streams requiring different LDR treatment requirements. Grouping waste streams in this manner prevents the assessment of treatment capacity and availability; which ultimately determines whether or not a particular waste needs a treatment schedule. This is the main purpose of the LDR report.						
16	Pages 2-1, 3-3, 6-2 and B-67 / Treatability Group Summary / Summary of Storage and Generation Projections by Treatability Group / TGDS (325 HWTU)	"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." "Each waste treatability group is or will be assigned to a specific treatment process based on the characterization, treatment, and/or treatment process capability."	HWTU: neutralization, solidification, stabilization, deactivation, macroencapsulation. Commercial: macroencapsulation, deactivation, stabilization, thermal treatment." "Each waste treatability group is or will be assigned to one or more treatment processes" should be adopted language. See comment #71 2014 RCR. It is not reasonable to presume that all wastes within this treatability group are amenable to a single treatment process. This issue is a fundamental flaw in the LDR report, which significantly and adversely affects the ability of the report to establish plans and schedules for treatment of specific wastes by specific treatment processes.						
17	Page C-11 – Potential Mixed Waste Table	See cited sections of Double Shell Tank Farms	This equipment clearly meets the definition of solid waste and has come in contact with listed hazardous waste. It is not Potential Mixed-Waste, it is hazardous waste. This equipment should be included in Appendix B of the LDR Report and removed from Appendix C of the LDR Report.						
18	Page C-12 – Potential	See cited sections of Misc. Buildings in WRPS Tank Farms	These buildings contain mixed-waste and need to be included in Appendix B of the LDR Report.						

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	Mixed Waste Table								
19	Page C-12 – Potential Mixed Waste Table	See cited sections of IMUSTs not associated with a building.	All of these I-Musts are included on the Part A TSD Permit Application for the SSTs and need to be incorporated into Appendix B of the LDR Report. It is not appropriate to include these in Appendix C of the LDR Report. Ecology needs to revisit the decision that was made regarding this in 2015.						
20	Page C-10 – Potential Mixed Waste Table	See cited sections of 221-T	221-T needs to be removed from the potential mixed waste table, as it is a TSD that is <u>not</u> under the Canyon Disposition Initiative and thus not potential mixed-waste. These aspects are mostly covered with Appendix B and need to be removed. If aspects noted in Appendix C for T-Plant are not included in Appendix B, they need to be added and addressed in the permit application for the TSD.						
21	Pages 97-103 /Page A-2 to A-8 / Table A-1	All of Table A-1	Numerous sections referenced in Table A-1 do not meet the legal requirements specified. Below are some of the Sections that need to be deleted or changed in Table A-1. Note that not all missing requirements are noted below. • Item 2 – Delete Table 6-1 from Item 2. Table 6-1 does not describe the mixed waste. • Item 25 – Delete Section 3.1, if applicable – Nothing mentioned about variances in this section. • Item 26 – Delete Section 3.1, if applicable – Nothing mentioned about variances or extensions in this section. • Item 29 – Add Tables 2-1 and 5-1, as these Tables report waste characterization information. • Item 38 – Needs to reference Table 6-1 when comments are addressed to add all interim milestones with due dates to the Table. • Item 40 – Needs to reference Table 6-1 when comments are addressed to add all interim milestones with due dates to the Table. • Item 43 – Needs to reference Table 6-1 when comments are addressed to add all interim milestones with due dates to the Table. Needs to Reference Table 6-2 and 8-1. • Item 44 – Needs to reference Tables 6-1 when comments are addressed to add all interim milestones with due dates to the Table. Needs to Reference Table 6-2 and 8-1.						

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			• Item 47 – Need to delete Section 6.1.6 as this section does address this requirement. • Item 58 – Delete Section 4.0 – Nothing in this section covers anything about waste generation projections. Add Tables 2-1 and 3-1 to Item 58, as generation projections are included in these tables. • Item 59 – Delete Section 4.0 – Section 4.0 is not an amendment to the Waste Minimization Plan. It is a paragraph that describes the program. The real Waste Minimization Plan referenced (outside of the parts in Appendix B) needs to be updated and included in the LDR Report. See RCR Comment #22.						
22	Page C-1 / Appendix C Potential Mixed Waste	The waste that has not been actively managed as mixed waste is, in many cases, at *Resource Conservation and Recovery Act – Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) past-practice units or CERCLA past-practice units under the Tri-Party Agreement. Past-practice waste is a waste that was disposed of (intentionally or unintentionally) before the first effective date of applicable designation regulations in Washington State, typically August 19, 1987, for mixed waste.	A comment was made in the 2014 LDR Report (#20) that was accepted to call RCRA/CERCLA past practice units as (R-CPP) and CERCLA past practice units as (CPP). These need to be defined with a striking of CERCLA as the identification for (R-CPP) units. See redline.						
23	Page 4-1 / Page 44 / Section 4.0	HNF-46952, Hanford Site Pollution Prevention and Waste Minimization Program Plan, provides guidance for Hanford Site contractors to prevent pollution from entering the environment, to conserve resources and energy, and to reduce the quantity and toxicity of hazardous, radioactive, mixed, and sanitary waste from all	**Requirements for Hanford LDR Plan (Ecology et al., 1990) #7** requires the LDR Plan to include a Waste Minimization Plan. HNF-46952 *Hanford Site Pollution Prevention and Waste Minimization Program Plan*, is referenced in the 2019 LDR Report but is not included in the report. **(Ecology et al., 1990) #7** also requires, as part of the annual LDR report, DOE shall submit an amendment to the Waste Minimization Plan containing the information required in this Section for those wastes covered in the Storage Report. HNF-45952 was last updated on May 31, 2017, but is required to be						

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		Hanford Site operations and cleanup activities.	updated annually. More specifically, HNF-45952 needs to be updated, made to conform to the LDR legal requirements, and included as a part of the annual LDR report.						
24	Page 6-11 / Section 6.3.2	None	Section 6.3.2 needs to be updated to include a description of the GeoMelt treatability studies and potential future permitting of the GeoMelt system at PFNW. This system is used to treat reactive sodium mixed-wastes. The write up needs to include the following: • When such new treatment capacity is anticipated to be available. • Alternate technologies which are in development and which may be used to manage these LDR wastes. • Assessment of when such alternate technologies may become available. • Any foreseeable contingencies if the GeoMelt system is not approved for operation. • Associated schedules (including permit application schedules) for developing and implementing the treatment technology. • 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.						

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25	Appendix B	Any Appendix B which references mixed-waste mercury.	The following Appendix B Sheets include references to wastes designating as D009 (mercury) as an applicable dangerous waste code. • MLLW-02 • MLLW-03 • MLLW-04 • 221T • 241-CX • 222-S T8 Tunnel • 222-S Lab • 324 Building • 325 Building • DST Wastes • TSCR Ion Exchange Columns • ERDF Treatment • Hanford Site Lab Complex • LVP Sulfur impregnated carbon absorbent Media • PUREX Plant • PUREX Storage Tunnels • SST Waste Depending on the treatability subgroup for each waste, treatment capacity may or may not exist. The LDR report must identify the corresponding treatability subgroup for each waste stream, and evaluate whether treatment technology corresponding to the required method of treatment or treatment standard exists. Where treatment capacity currently does not exist, the LDR report must either include milestones for acquisition of such treatment, or needs to have TGDS Sections 3.1, 4.8 and 5.0 and LSDS Section 2.10 updated for any variance needed for mixed-waste mercury.						
26	Pages 6-13/ Table 6-6	Table 6-6 Treatment capacity - To be determined by design reports Alternative facilities/foreseeable contingencies - Under evaluation Associated schedules - M-091 series	Table 6-6 needs to be updated to include the following: o Treatment capacity – Will be developed under M-091 series. (Associated with RCR Comment #11) o Alternative facilities/foreseeable contingencies – Instead of reporting "Under evaluation", this needs to provide this information as best to your knowledge with a notation that it will continue to be evaluated. o Associated Schedules – All applicable Interim TPA Milestones need to be added here with their due dates. When the new capacity will						

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			be available needs to be included in the Table's information. If no TPA Milestones exist, they will need to be negotiated or dates added to the LDR Report before this report is finalized and approved.						
27	Pages 6-14/ Table 6-7	Table 6-7 Treatment capacity - TBD Associated schedules - Decisions regarding the potential use of T Plant to supplement existing capabilities will be made within the timeframe of the M-091 schedule.	Table 6-7 needs to be updated to include the following: o Treatment capacity – Will be developed under M-091 series. o Associated Schedules – All applicable Interim TPA Milestones need to be added here with their due dates. When the new capacity will be available needs to be included in the Table's information. If no TPA Milestones exist, they will need to be negotiated before this report is finalized and approved. Include M-091 milestone in effect at the time of report: specifically M-091-52-T03.						
28	Page 6-15 / Table 6-9	Table 6-9 Associated schedules - M-090-00, M-062-00	Table 6-9 needs to be updated to include the following: o Associated Schedules – All applicable Interim TPA Milestones need to be added here with their due dates. When the new capacity will be available needs to be included in the Table's information. If no TPA Milestones exist, they will need to be negotiated before this report is finalized and approved.						
29	Page 6-12 / Table 6-4	Table 6-4 Treatment capacity Sufficient treatment capacity	Table 6-4 needs to be updated to include the following: o Treatment capacity needs to be specified for ERDF and not just reported as sufficient.						
30	Pages 6-2 to 6-4 / Tables 1-1, 2-1, 3-1, 5-1, and 6-1 anywhere where else referenced	Tables 1-1, 2-1, 3-1, 5-1, and 6-1 and Milestones Supporting Schedule Column in Table 6-1	Need to add all interim milestones with due dates to Column "Milestones Supporting Schedule" in Table 6-1. These also need to be addressed on all Appendix B Sheets as well. Any comments in Appendix B sheets which are referenced in Table 6-1 and are changed, need to be updated. See comments on Appendix B Sheets below in this RCR. The following TGDS and associated LSDS need to be added back to the 2019 LDR Report (Appendix B, Tables 1-1, 2-1, 3-1, 5-1, 6-1, and anywhere else where referenced) as these waste streams are still located on the Hanford Site or could be generated and need coverage under the LDR Report. Additionally,						

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			the below TGDS need to be deleted from Table 1-2 as these waste streams are still located on the Hanford Site or could be generated at the Hanford Site and need coverage under the LDR Report. Additionally, a column needs to be added to this table on the LDR Report Year where the TGDS was removed from the report: o MLLW-01 - LDR Compliant Waste Inorganic salt waste, excavated soil, and contaminated equipment that currently meets disposal criteria and regulatory requirements for disposal; however, some of this waste may still require radiological stabilization. ▪ The March 2000 Director's Determination refers to the Roger Stanley letter (dated January 25, 2000) in defining what "All waste" means in regards to the draft final resolution. This letter required DOE to include LDR compliant waste. Additionally, the final 2014 LDR Report RCR stated compliant waste needs to be tracked per the 1992 Federal Facilities Compliance Act as explained in the Roger Stanley letter. o MLLW-05 - Radioactive Lead Solids Elemental lead and lead shielding from various locations. ▪ This waste still exists or could be generated in the next five years and this TGDS and associated LSDS need to be added back to the LDR Report. o MLLW-06 - Mercury Wastes Various forms of mercury (elemental and amalgamated) from various locations. ▪ This waste still exists and is being stored at Hanford. This TGDS and associated LSDS need to be added back to the LDR Report. Mercury waste is currently being stored at the 222-S Lab. Because this specific waste does not have a treatment pathway, it needs to be separated out from where it is mentioned in Appendix B under the Containerized Mixed-Waste LSDS and associated Hanford Site Laboratory Complex TGDS. o MLLW-10 - Reactive Metals - Reactive metal waste from various locations. ▪ If there is a potential for these wastes to be generated and to be stored, these TGDS						

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			need to be maintained in the LDR report. Otherwise if removed, you will not have permission to store this waste past the one year storage prohibition. Some SWOC facilities are allowed to store these waste, so these TGDS need to remain. Include these TGDS back into the LDR Report. Additionally, radioactively contaminated reactive sodium wastes exist and are being stored at the FFTF. This waste stream needs another LSDS added under this TGDS for these wastes being stored at the FFTF which will undergo closure according to Section 8 of the TPA. This should be referenced in these sheets. FFTF waste needs to be removed from Appendix C, as there is no way to reuse radioactively contaminated sodium into WTP operations. This waste has already been generated and is a solid waste. o MLLW-09 - Radioactive Batteries - Spent, radioactively contaminated, batteries from various locations, not treated at ERDF. ▪ Looks like this one was removed and grouped with other TGDS such as MLLW-04. This TGDS needs to be added back. One larger issue with the LDR Report is that many waste streams are grouped together so much that it is not clear the treatment pathway for specific waste streams. The LDR Report needs to be split up more instead of grouped. This typical universal waste needs to be managed as mixed-waste if radioactively contaminated. Radioactive batteries have been a waste that has been commonly generated at Hanford. If there is a potential for these wastes to be generated and to be stored, these TGDS need to be maintained in the LDR report. Otherwise if removed, you will not have permission to store this waste past the one year storage prohibition.						
31	Page 6-1 / Section 6.0 Page 6-3 / Table 6-1	The Hexone Storage and Treatment Facility treatability group waste was interim stabilized in fiscal year 2002 (DOE/RL-2009-	This statement is incorrect about the Hexone Storage and Treatment Facility (HSTF). HSTF will be closed in accordance with the treatment, storage, and disposal closure plan. Ecology has not agreed to coordinated						

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		112, Hexone Storage and Treatment Facility Closure Plan). TSD closure will be coordinated with the OU remediation in accordance with M-015 milestones for 200-IS-1. Other language as noted in comment for Table 6-1	closure for this unit group. Change the language here and throughout the 2019 LDR Report to the following: The Hexone Storage and Treatment Facility treatability group waste was interim stabilized in fiscal year 2002 (DOE/RL-2009-112, Hexone Storage and Treatment Facility Closure Plan). Closure will occur in accordance with the TSD closure plan. Table 6-1 – Needs to remove M-015-00 Milestone, update the treatment process, and delete the statement "To be determined through development of 200-IS-1 documentation" and change it to Final Status closure plan being developed in the Hanford Rev. 9 Permit. Table 6-1 – For MLLW-02 through MLLW-07. M-091 and HNF-19169 do not have a schedules for treating this waste, so they should not be referenced in this table. Existing treatment capacity exists for these treatability groups, so a Treatment Plan is needed in the TPA for treating the 80 containers of waste in these categories. Table 6-1 – For the PUREX Plan, PUREX Storage Tunnels, B Plant Containment Building, and B Plant Cell 4, these need to reference the specific interim TPA Milestones associated with the CERCLA. Table 6-1 – The 400 Area WMU - A Treatment Plan is needed in the TPA for treating these wastes. Table 6-1 – Cesium and Strontium Capsules - A Treatment Plan is needed in the TPA for treating these wastes. Comments on Appendix B for HSTF on additional RCR Comments.						
32	Pages 6-6 to 6-11 / Sections 6.1.2, 6.1.3, 6.1.4, 6.1.5, 6.1.6, 6.3.1, 6.3.2, 6.3.3, and 6.4	See applicable cited sections.	Sections 6.1.2, 6.1.3, 6.1.4, 6.1.5, 6.1.6, 6.3.1, 6.3.2, and 6.3.3 all need to be updated to include either the treatment capacity needed to manage these LDR wastes (for developing treatments) or the extent of capacity currently available to manage these LDR wastes. Also newly added treatment descriptions as specified in RCR Comment #25 in Section 6.4 need to contain the above required information.						

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33	Page 6-8 / Section 6.1.8	See applicable cited section.	This section does not provide an estimate of the volume of waste generated by each case of radionuclide separation, the volume of waste that would exist or be generated without radionuclide separation, the estimated costs of waste treatment and disposal if radionuclide separation is used compared to the estimated costs if it is not used, and the assumptions underlying such waste volume and cost estimates. This information needs to be added to this Section.						
34	Page 2-2 Table 2-1, Page 3-2 Table 3-1 Page 5-2 Table 5-1	See applicable cited sections.	Tables 2-1 and 3-1 need to be updated per any specific RCR comments on TGDS Section 2.2. and LSDS Section 2.6 which update the projected generation rates and TGDS Section 2.1 and LSDS Section 2.3 which update the quantity of waste/current inventory. Table 5-1 needs to be updated per any specific RCR Comments on TGDS Section 3.3.2 that update any specific waste codes.						
35	Pages 3-2 to 3-8 / Table 3-1	241-CX Tank System – Current Inventory 5.980	Explain why the 241-CX Tank System inventory decreased from 6.39 m^3 in the 2014 LDR Report to 5.98 m^3 in the 2019 LDR Report? Revert the description of 325 HWTU waste in Table 3-1 back to the approved language in Table 2-1 from the 2014 LDR Report. The description of the 400 Area WMU does not describe the waste. This section needs to explain what type of waste is in the 400 Area WMU. Reactive sodium wastes. Explain why the Hexone Storage and Treatment Facility inventory decreased from 2.10 m^3 in the 2014 LDR Report to 0.984 m^3 in the 2019 LDR Report? Explain why the MLLW-07 RH and Large Container inventory decreased from 69.783 m^3 in the 2014 LDR Report to 4.218 m^3 in the 2019 LDR Report? Explain why the TRUM-CH Large Container inventory decreased from 6,571.332 m^3 in the 2014 LDR Report to 4,846.51 m^3 in the 2019 LDR Report?						

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36	Pages 2-2 to 2-6 / Table 2-1 Page 6-2+ Table 6-1	See referenced text in comment in columns "Treatment Process" ad "Disposal"	Letter 19-NWP-204, dated December 18, 2019, approving the 2014 LDR Report identified that the review comment record identifies the following information that will be included in the Calendar Year 2019 LDR Full Report: • Schedules for all mixed waste streams requiring treatment. • Identification of treatment technologies vs. stating, "Treatment not yet selected. "If a treatment technology is available for a particular waste stream but has not yet been selected, the United States Department of Energy (US DOE) has the option of either identifying that treatment, or including a schedule for selecting a treatment technology. The "Treatment Process" column in Table 2-1, identifies that "Treatment options still being assessed" for the following Treatability Group Names. • B Plant Cell 4 • B Plant Containment Building • Cesium and Strontium Capsules • PUREX Plant • PUREX Storage Tunnels The "Treatment Process" column in Table 6-1, identifies that "Not yet determined" for the following Treatability Group Names. • 221-T Containment Building • 221-T Tank System • 222-S T8- Tunnel • 241-CX Tank System • 400 Area WMU • B Plant Cell 4 • B Plant Containment Building • Cesium and Strontium Capsules • HSTF • PUREX Plant • PUREX Storage Tunnels Additionally, the column "Sufficient treatment capacity?" in Table 6-1 is marked "Not yet determined" for the following TGDS. Per legal requirements, treatment capacity needs to be included in the LDR Report. • 221-T Containment Building • 221-T Tank System • 400 Area WMU						

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			• B Plant Cell 4 • B Plant Containment Building • Cesium and Strontium Capsules • HSTF • PUREX Plant • PUREX Storage Tunnels Requirements for Hanford LDR Plan (Ecology et al., 1990) #4 states "For those wastes covered in the Storage Report, the LDR Plan shall include a Treatment Report, identifying:" a. treatment and disposal technologies, and treatment capacity, needed to manage these LDR wastes, assuming current waste generation rates; The treatment technology/process for treatability groups needs to be added in Tables 2-1, 6-1 and where else cited in the LDR Report including Appendix B or a schedule for selecting a treatment technology can be cited here. The "Treatment Process" column in Table 2-1 identifies that "Waste has been interim stabilized" for the Hexone Storage and Treatment Facility. This is not a treatment process and one needs to be listed for this treatability group in this table and where else referenced in the LDR Report including Appendix B. Where the "Disposal" column in Table 2-1 identifies "to be determined", it needs identify when and how it is to be determined. For example, is it to be determined in accordance with the CERCLA Work Plan under a specific TPA Milestone? Or from a closure plan in a TSD Permit? These need to be specified here.						
37	Table 3-2 / Page 3-11 Table 3-3 / Page 3-11	Tables 3-2 and 3-3	Storage method compliance assessments schedule is supposed to be discussed at least every year with TPA project managers, and at LDR PMMs. The last time storage method compliance assessments were discussed was at the M-026 PMM was February 2018. The storage method compliance assessments schedule needs be updated to include an assessment for Tank 11L and an updated storage assessment for all Tanks in the 221-T Tank System to Table 3-2. • Tank 11-L holds 500 gallons of mixed-waste and no storage assessment has ever been						

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			completed for this dangerous waste management unit. • There is a considerable inventory of mixed waste (9,240 gallons of sludge) in the 221-T Tank System tanks that will be stored for a long period of time if Ecology approves an extension to the closure period. As such, Ecology is requesting an updated storage assessment for this tank system to show the waste is chemically stable, continued evaporation over the extended closure period will not affect chemical stability, and the tanks holding the waste have sufficient structural integrity to continue storing the waste during the extended closure period. The storage method compliance assessments schedule needs be updated to include assessments for 241-TX-302C and SY-101, SY-102, and SY-103 to Table 3-3. Basis provided below. o 241-TX-302C – Tank TX-302C is a catch tank for the 241-TX-154 diversion box. Both the diversion box and catch tank are located in back of (east of) T-Plant. Since 2010, this tank has been receiving significant amounts of intrusion exceeding interim stabilization criteria on December 10, 2015. This catch tank is not RCRA compliant and is used to catch intrusions from unknown sources. This tank is being used to actively store listed intrusion waste and needs a storage assessment. It currently holds 3,100 gallons of waste. o SY Tank Farm – The 219-S Tank System discharges its waste to SY-102. So there are active waste additions to the SY-Tank Farm. In reviewing HNF-EP-0182, Rev. 391, there appears to be a significant issue with safe tank waste storage in SY Tank Farm. In 200 West, there is no active Evaporator to reduce waste volumes and there is no mechanism in place to put DST Waste outside of the SY Tanks. If a leak were to occur in SY-101, there would not be enough tank storage in SY-102 or SY-103 to receive the amount of waste from this tank. Current inventory levels put this deficit at 9,000 gallons. If waste continues to be added to SY-102 from 219-S, this deficit will only get worse with time. A storage assessment needs to be conducted on this						

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			specific issue related to safely storing this tank waste. Additionally see RCR Comment #70						
38	Page B-11 / Section 4.4 and Appendix B Sheets	Instructions for Section 4.4 and associated Appendix B Sheets missing this information.	According to Table A-1, Sections 4.4, 4.5, and 4.6 cover the legal requirements for the following: *The LDR Plan shall include, a Treatment Plan for the LDR wastes identified in the Treatment and Storage Reports. The purpose of the Treatment Plan is to establish, for each LDR waste, milestones and schedules for the development and implementation of treatment technologies that will result in all LDR wastes being treated to the applicable treatment standard or otherwise managed in accordance with LDR requirements. Such schedules and milestones may vary depending on the type of waste and the technical, legal and administrative requirements for establishing compliance with LDR requirements. The schedule for treatment or management of a particular LDR waste could, for example, range from a short period of time allowing for final permitting of an established, existing technology to a longer timeframe for LDR wastes where there are currently no known treatment technologies. The Treatment Plan, therefore, shall include all applicable milestones and associated schedules for the development and implementation of treatment or management technologies to achieve compliance with LDR requirements for each ,LDR waste including, as appropriate, such items as: waste characterization data, treatability testing and reporting, feasibility analyses and reports, bench scale and pilot testing and reports, research, development and demonstration projects and reports, design reports, permitting milestones, and treatment design reports, permitting milestones, and treatment milestones.* Section 4.4. is missing the following in underline from the 2014 LDR Report. "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.						

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			These instructions and any Appendix B that is missing this information need to be added back to the 2019 LDR Report to comply with the above legal requirement.						
39	B2.0 Location-specific data sheet data field instructions. Page B-14 / Section 2.2	Storage inventory locations: In the first column currently labeled in the database as "Building/Room Number," provide the physical location of the waste, including the building and room numbers, <u>if applicable</u>. In the second column, currently titled "Number of Containers/Tanks," provide the method of storage (e.g., container, tank, surface impoundment, waste pile). Include number of containers/tanks if applicable. Note: This section of this data sheet does not include satellite or central accumulation areas. For reporting of waste in accumulation areas or CERCLA areas of contamination, enter "N/A" in both table cells. Footnote 5 - This is a change for the CY 2019 report. Insufficient time remains to complete database changes to the column headings and/or the system's help guidance. Contractors are expected to populate section 2.2 in accordance with these instructions and not the database help guide. MSA will perform a global change to the column headings in the final report once it has exported.	Instructions for this section use the words "if applicable" for Building/Room Number with the below footnote. • 5 - This is a change for the CY 2019 report. Insufficient time remains to complete database changes to the column headings and/or the system's help guidance. Contractors are expected to populate section 2.2 in accordance with these instructions and not the database help guide. MSA will perform a global change to the column headings in the final report once it has exported. Legal requirement requires the physical location (actual current location, i.e., location, accurate to within one hundred twenty (120) days of annual Report issuance). This level of detail has not been provided in numerous LSDS sheets in Appendix B and needs to be updated for Appendix B. See associated comments for Appendix B. The words "if applicable" and the associated footnote need to be deleted from the 2019 LDR Report, as these are legal requirements that need to be included in the LDR Report. If a Building/Room Number is not associated with the waste, then the actual physical location must be identified in some fashion. Locations if building/room numbers need to be specific locations such as actual building or room numbers and not a grouped location like e.g. CWC.						
40	Pages 6-10 to 6-11 /	Missing Text. See comment.	Legal agreements require that commercial treatment technologies and extent of capacity currently available						

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	Section 6.3 Commercial Treatment Facilities		to manage these LDR wastes be included in the LDR Report. All commercial treatment facilities that can treat mixed-wastes in the United States need to be added to Section 6.3. This is to ensure that a scope of all commercial mixed-waste treatment options available is shown for reference. Section 6.3 needs to be expanded on for the other Mixed-Waste Treatment Facilities. Below are some that need to be added. Please add all applicable mixed-waste treatment facilities that have treatment capacity available. • Materials and Energy Corporation located in Tennessee • Energy Solutions Clive Site located in Utah • Others not included in 2019 LDR Report.						
41	Pages 6-2 to 6-4 Table 6-1. Summary of Treatment Information by Treatability Group Appendix B	Milestone Supporting Schedule Column.	As noted specifically in Appendix B reviews, the column "Milestone Supporting Schedule" needs to be updated to include all associated TPA Milestones and not only cite the Major Milestones. All Appendix B sheets also need to be updated to report all associated TPA Milestones for treatment schedules. Any comments in Appendix B sheets which are referenced in Table 6-1 and are changed, need to be updated.						
42	Pages C-5 to C-13 Appendix C Table C-2 and Table C-3	See Comments	In comparing the 2014 LDR Report to the 2019 LDR Report, Ecology observed the following missing and was not included in Table C-2. Add this back to Table C-2 or to Table C-3 with an explanation as to why it was removed from the Potential Mixed-Waste Table. • 115-KE and 115-KW						
43	Pages C-5 to C-13 Appendix C Table C-2 and Table C-3	See Comments	For 292-TK-1 and 292-TK-2 under the integrating factors (Column H), it states the tanks will be addressed as part of the CERCLA remedial actions at T Plant. This language needs to be reverted back to the language from the 2014 LDR Report. 200-IS-1 is not unique to T-Plant. • Tanks will be addressed as part of 200-IS-1 CERCLA remediation process. The language tying T-Plant to the Canyon Disposition Initiative needs to be deleted in Column G.						
44	Pages C-5 to C-15	241-B-301B, 241-BX-302A, 241-C-301C, 241-S-302A, 241-T-301, 241-TX-302A, 241-TX-302X, 241-TY-302A, 241-TY-	216-BC-201 needs to be added to Appendix B and stricken from Table C-3. 216-BC-201 is not listed under 200-BC-1 or any other operable unit.						

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	Appendix C Table C-2 and Table C-3	302B, 244-BXR (Vault), 244-TXR (Vault), 244-UR (Vault) Table C-3 The following IMUSTs will be dispositioned with their respective cribs as shown. Further information regarding the remediation strategy can be found in the following OU documentation. 216-BC-201: 200-BC-1 216-BY-201: 200-BC-1 216-TY-201: 200-TW-1 241-B-361: 200-TW-2 241-ER-311A: 200-IS-1 241-U-361: 200-UW-1 241-T-361: 200-TW-2	216-BY-201 and 241-B-361 are under 200-IS-1 and not under 200-TW-1 and 241-U-361 and 241-T-361 is under 200-WA-1 and not under 200-UW-1 or 200-TW-2. The LDR Report needs to account for all Mixed-Waste regardless if it is CERCLA or RCRA. If these I-Musts were in Appendix C and have not been dispositioned, why have they been removed from Appendix C? These should be put into Appendix B until dispositioned under CERCLA.						
45	Page C-7 / Table C-2 And Appendix B	Row for FFTF	FFTF was not on the potential mixed-water table in the last LDR Report and needs to be deleted from the potential mixed-waste Table C-2 and added to Appendix B of the LDR Report. Residual sodium at FFTF is waste because: 1) If DOE-RL does not intend to recycle the Fuel Storage Facility (FSF) and FFTF sodium, it is solid waste because it has been stored or accumulated in lieu or before treatment and disposal. 2) If DOE-RL intends to recycle the sodium in the FSF it would be considered solid waste because: a) The residual sodium is spent material. According to *Fast Flux Test Facility Sodium Volume Reconciliation*, FFTF-32943 the vessel and purification loop were initially filled with sodium salvaged from the Hallam reactor and has been contaminated beyond any technical grade produced or marketed. Also, the FSF sodium was not a chemically pure formulation after it was adulterated with the 380 gallons of potassium alloy transferred from the FSF NaK storage tank and cooling loop to the FSF vessel. b) Spent material pending reclamation is solid waste. DOE-RL stated in *Final Tank Closure*						

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			and Waste Management Environmental Impact Statement for the Hanford Site, 78 Federal Register 75913, their intention for the FSF sodium was to process it to form sodium hydroxide which could be used in tank farm operations. Processing material to recover a usable product is reclamation, and spent materials pending reclamation are solid wastes in need of designation and inclusion in Appendix B of the LDR report. c) In response to compliance inspection 17.598, DOE-RL was unable to provide documentation of their claim that the residual sodium was not solid waste. The FFTF waste has been generated and per Appendix C, generated mixed-waste needs to be included in Appendix B of the LDR Report.						
46	Page 6-1 / Section 6.0	A treatability study is planned to ascertain a treatment approach for the 400 Area WMU treatability group. It is anticipated that treatment schedules will be proposed based on the outcome of the treatability study.	This treatability study was currently underway in 2019 and is not planned. Plans and schedules to fully develop a complete defensible treatment plan for all waste must be included in the LDR report. This section and in Appendix B, there needs to be a schedule for treatment of 400 WMU and FFTF wastes. See changes in redline and additional comments for the 400 WMU in Appendix B and FFTF Appendix C comments in this RCR.						
47	Not Applicable	2024 LDR Report	Per the description in Appendix C of the 2019 LDR Report. The 2024 LDR Report will need to have TGDS and LSDS for Coordinated closure units Cribs, Ditches, Ponds, and Trenches. • Contaminated soil sites, cribs, ponds, ditches, trenches, etc., are considered engineered disposal units. These materials would, however, be included in 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.						
48	General Comment on 2019 LDR Report	Letter 19-NWP-204 Issued December 18, 2019	The comments on the 2014 LDR Report were closed out and the Primary Document Statement signed in Letter 19-NWP-204 based on the following information, in part, be included in the 2019 LDR Report. Below are general comments regarding the below in relation to the 2019 LDR Report.						

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			• Greater detail on physical location of each mixed waste stream. o From review of the 2019 LDR Report, Ecology observed some areas where greater detail on physical location of each mixed waste stream was not provided. See Appendix B comments below in relation to where the 2019 LDR Report needs to be updated for greater detail on physical location. These primarily focus on LSDS Sections 2.2 and 2.5. • Schedules for all mixed waste streams requiring treatment. o This was not addressed. See RCR Comment #36 • Schedules for all waste streams requiring characterization. o From review of the 2019 LDR Report, Ecology observed some areas where schedules for waste streams requiring characterization were not provided. See Appendix B comments below in relation to where the 2019 LDR Report needs to be updated for characterization plans. These primarily focus on LSDS Section 2.11. • Identification of treatment technologies vs. stating, "Treatment not yet selected. "If a treatment technology is available for a particular waste stream but has not yet been selected, the United States Department of Energy (US DOE) has the option of either identifying that treatment, or including a schedule for selecting a treatment technology. o Tables 5-1 and 6-1 as referenced in RCR Comment #36 the 2019 LDR Report is still not meeting this requirement. • All wastes, as clarified in Ecology's January 25, 2000, letter to USDOE must be identified and included (Reference 4). o All wastes are not addressed in this report. See associated RCR Comments throughout this record.						
49	General comments on LDR Report	General comments on LDR Report	Per letter 19-NWP-204, Ecology and USDOE have agreed to take further action to review and revise, as necessary, existing treatability groups during the 2020 calendar year. Treatability groups must be specific to each waste stream with common treatment requirements. Grouping waste streams with different treatment requirements prevents the assessment of						

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			treatment capacity and availability, which ultimately determines whether a particular waste stream needs a treatment schedule. This is the main purpose of the LDR Report, and is needed in order to establish equivalency with the 1992 Federal Facility Compliance Act, Site Treatment Plan requirements. Ecology agreed to defer resolution of this issue to the 2020 Summary LDR Report (due in 2021), to account for time needed to make changes to the LDR database. To date, no discussions have taken place regarding this. Ecology would like to use this comment as a placeholder to start these discussions during comment resolution of the 2019 LDR Report. Over the years the LDR Report has fragmented so it is no longer consistent between TGDS and LSDS. Each waste treatability group should be assigned to a specific treatment process based on the characterization, treatment, and/or treatment process capability. It is not reasonable to presume that all wastes within this treatability group are amenable to a single treatment process. This issue significantly affects the ability of the report to establish plans and schedules for treatment of specific wastes by specific treatment process. See pages 2-1, 3-3, B-67, 6-2, 6-6-, and 6-11, 2019 LDR report. The TGDS need to be broken up and organized by characterization, treatment, and/or treatment process capability and not by location. LSDS need to be used for the location specific information under each TGDS. TGDS should be based on the treatments identified in 40 CFR 268. Multiple LSDS for the same location should be created, one for each TGDS of applicable wastes at each location. This ensures that every waste stream has a known treatment and that all wastes can be tracked by its exact location, and its treatment is known. This will also identify the gaps in characterization. The issue is seen in Section 1.4 that describes TGDS that comprise waste that may be geographically similar or disparate, which is inconsistent. This section also states that the TGDS describe characteristics that location-specific waste sources share, and provide total waste volume data from the associated location-specific waste streams for both stored and projected wastes.						

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			The TGDS need to be only treatment based and have the LSDS have all of the other information specific to location. Location needs to be removed from the TGDS. This splits up the information so it can be easily identified in the report by treatment and location. Currently the report uses both the TGDS and LSDS for locations, which is inconsistent and confusing. This is also seen very clearly in Table A-1 where legal requirements are met both in TGDS and LSDS for the same requirement. In some cases, this grouping causes clarity problems. Quantities and specific locations of waste per DWMUs need to be included in the LDR Report in the LSDS. Also need to specify storage capacity per DWMU. This is the level of detail that is needed.						
50	Page B-1 Page B-7 Footnote #3	LSDSs for generating locations contain the current storage inventory of this waste (if any, because SAA and CAA waste is not part of stored inventory), plus 5-year generation projections, including SAA and CAA waste. 3 The term "storage" is used throughout the LSDSs based upon the WAC 173-303-040 definition. "Accumulation" or management in a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) area of contamination is not considered "storage."	The definition of Accumulation in WAC 173-303-040 is the following: "Accumulation" refers to the definition of "storage." "Storage" means the holding of dangerous waste for a temporary period. "Accumulation" of dangerous waste, by the generator on the site of generation, is storage of dangerous waste and can be managed under the applicable conditions for exemption of WAC 173-303-170 (2)(b). Under Ecology's January 25, 2000 Directors Determination, and Roger Stanley all waste letter to USDOE, all mixed waste must be identified and included in the LDR Report. This includes all CERCLA mixed-wastes. This footnote needs to be deleted from the 2019 LDR Report and any such language in the LDR Report needs to be deleted.						
51	Page 1-4 / Section 1.2	This calendar year (CY) 2019 report meets requirements established in TPA milestone M-026-01AD, as well as requirements from the following:	This needs to be an enforceable statement and not a generalized statement that the report meets these requirements. As per the TPA replacing the FFCA, these legal agreements mentioned in this section need to be met and made enforceable through this TPA Primary Document. Add the word "must" and make the word meets, singular. See redline of wording change.						

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52	Page 3-3 / Table 3-1 Page 3-10 / Section 3.1.4 And associated description in Appendix B.	Wastewaters are sent to the LERF/ETF for storage and treatment. The slurry is routed back to the DST System pending further treatment and the process condensate is transferred to LERF for storage until processed through the ETF.	Per LDR restrictions (40 CFR 268.4(a)(2)(ii)), liquid wastes are only allowed to be treated in surface impoundments (not stored) and all wastes must be removed annually. The language here and in Appendix B need to be updated to clarify this LDR requirement. Page 3-3 Wastewaters are sent to the LERF for treatment and ~~/~~ETF for storage and treatment. Page 3-10 The slurry is routed back to the DST System pending further treatment and the process condensate is transferred to LERF for ~~storage~~ treatment until processed through the ETF						
53	Page 3-9 / Section 3.1.2	The Mission Support Alliance, LLC, does not manage any stored mixed waste. Any mixed waste generated in the field is managed in an SAA or CAA.	This language needs to be updated, as the federal and state rules have changed with the Generator Improvement Rule about what is considered storage. Other RCR comments go in greater detail on this, but please change the language to the below to clarify this issue. The Mission Support Alliance, LLC, does not manage any stored mixed waste in any TSDs. Any mixed waste generated in the field is managed in an SAAs or CAAs.						
54	Pages B-49 to B-52 / Appendix B 241-CX TGDS	Section 3.3.2 - Only tank 241-CX-72 currently contains mixed waste. Section 3.3.6 - Characterization and any required treatment will be determined in accordance with the sampling and analysis plan, DOE/RL-2002-14, and the Closure Plan, DOE/RL-2008-51. Section 4.3 - Characterization and any required treatment will be determined in accordance with the sampling and analysis plan, and closure plan (DOE/RL-2002-14 and	In Section 3.3.2 the language "Only tank 241-CX-72 currently contains mixed waste" is incorrect and needs to be deleted. The Part A of the Permit Application identify that Tanks 241-CX-71 and 241-CX-72 also contain mixed waste. In Sections 3.3.6, 4.3, and 4.4 - The closure plans referenced here are not enforceable. Also, DOE/RL-2004-14 is a draft document. A schedule for characterization is needed. This section needs to be updated to reference the following TPA Milestones (M-015-92C, M-015-112, M-037-24) for schedules and explain that the characterization will occur with this and the closure plan in the dangerous waste permit. See redline changes. Section 4.5 – Per legal agreements, all interim TPA Milestones need to be referenced here. Add the M-						

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		DOE/RL-2008-51). Characterization and any required treatment will be performed on a schedule determined with 200-IS-1. Section 4.4 – Waste will be dispositioned with the TSD unit closure, which will occur in coordination with the schedule for 200-IS-1. Section 4.5 – M-015-00	015-92C, M-015-112, M-037-24 TPA Milestones here with their applicable due dates.						
55	All LSDS Sections 1.2, 1.3, and 2.12	All LSDS Sections 1.2, 1.3, and 2.12	Requirements for Hanford LDR Plan (Ecology et al., 1990) #1 The Hanford Land Disposal Restrictions Plan (LDR Plan) shall include a Storage Report that contains the following information on mixed wastes: a. An identification and description of the mixed waste at Hanford. The identification and description shall include the RCRA hazardous waste code, process information necessary for waste identification and land disposal restrictions (LDR) determinations, including, where possible, a history of how the waste was generated, the source of the hazardous constituents, how the waste was managed prior to storage, and a general timeframe determination which serves to categorize when the waste was placed in storage, radioactivity type (i.e., high level waste, low level waste, transuranic waste), and physical form of the waste (e.g., solid, liquid, sludge); In all cases, Sections 1.2, 1.3, and 2.12 do not contain enough process information necessary for waste identification and land disposal restriction determinations. All waste profiles, where cited in the LDR Report, are not publically available and need to be provided and incorporated into the LDR Report or made publically available. Where no profile information exists, sampling and/or designations need to be provided and included in the LDR Report as an appendix. Additionally, because this information was not provided, there is no way for Ecology to verify that the LDR information in Section 3.3.2 of the TGDS is correct or not or know if the waste is adequately characterized or not. If this information is						

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			not available, a characterization plan and schedule will be need to be added or referenced in the LDR Report per #3 in the Requirements for Hanford LDR Plan (Ecology et al., 1990).						
56	Page B-53 / 241-CX LSDS	Section 2.1.1 - How was the waste managed prior to storage? Waste was placed directly into storage from operations.	There is no discussion of how the waste was managed before storage. More details of the specifics of all waste operations and how the waste was transferred need to be discussed here.						
57	All LSDS Section 2.4	All LSDS Section 2.4	March 29, 2000 - Final Determination #1 - DOE's annual LDR Reports will include a Storage Report that identifies and describes each mixed waste at Hanford. This information will contain the following information for each identified mixed waste (whether or not that waste was included within the previous years LDR Report): j. Identification of LDR waste generation rates [on a annual basis, or as otherwise requested by Ecology or EPA], estimates of the storage capacity for each waste, the identification of when storage capacity will be reached, and the identification of the bases and assumptions used in making these estimates, and Requirements for Hanford LDR Plan (Ecology et al., 1990) #1 The Hanford Land Disposal Restrictions Plan (LDR Plan) shall include a Storage Report that contains the following information on mixed wastes: f. identification of LDR waste generation rates [on an annual basis, or as otherwise requested by EPA (or Ecology, upon authorization to administrator LDR pursuant to Section 3006 of RCRA)], and estimate of the storage capacity, and when storage capacity will be reached, including an identification of the bases and assumptions used in making such estimate. Section 2.4 does not meet the above legal requirements due to the LSDS instructions and how the questions are worded. The only way the above						

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			information is reported is when the question is answered yes, and even in these cases, sometimes the above required information is still not provided. In the majority of cases the LDR Report does not report the following and needs to be included in the LDR Report: • Estimate of the storage capacity, • When storage capacity will be reached, • Identification of the bases and assumptions used in making such estimate. The LSDS instructions for Section 2.4 need to be revised to specifically require the following information for every LSDS in the 2019 LDR Report. Additionally Section 2.4 needs to be updated to include all of the below information for every LSDS in the LDR Report. • Estimate of the storage capacity, • When storage capacity will be reached, • Identification of the bases and assumptions used in making such estimate. In most cases for closure units, there will be no more waste additions, so this should be explained why storage capacity is not an issue under the question for when the storage capacity is expected to be reached and the bases and assumptions used in making the estimate. NA does not answer these questions.						
58	Page B-55-56 / 241-CX LSDS Section 2.11.2 and 2.11.3	Milestone Numbers Sampling and analysis of the contents of 241-CX-72 will be performed in conjunction with the CERCLA remedial investigation and in accordance with the approved sampling and analysis plan, DOE/RL-2002-14. Characterization results will be used to designate tank contents and support a tank disposition study to evaluate tank closure options (DOE/RL-2008-51).	Sections 2.11.2 and 2.11.3 need to reference TPA Milestones M-015-92C, M-015-112, and M-037-24 for a characterization schedules. Language in Sections 2.11.2 and 2.11.3 need to be revised accordingly. DOE/RL-2004-14 is a draft document and DOE/RL-2008-51 has not been incorporated into the dangerous waste permit and should not be cited. Sampling and analysis of the contents of 241-CX-72 will be performed in conjunction with the CERCLA remedial investigation and in accordance with the approved sampling and analysis plan, ~~DOE/RL-2002-14~~ and closure plan in the dangerous waste permit. Characterization results will be used to designate tank contents and support a tank disposition study to evaluate tank closure options ~~(DOE/RL-2008-51)~~.						

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			Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report.						
59	Pages B-195 to B-200 / HSTF TGDS	See comments.	Section 3.2.2 – Include the dates when the sampling occurred in this section. Section 4.3 – Closure plan DOE/RL 2009 112 has not been approved. Change the language to the below. Waste has been interim stabilized. Treatment will occur per the closure plan in the approved dangerous waste permit. ~~See the Closure Plan, DOE/RL-2009-112.~~ Section 4.4 - Need to discuss the Rev. 9 schedule to complete the closure plan review and incorporation into the Permit. Sections 4.5, 4.9, and 5.0 –Ecology has decided that the Hexone Tanks closure will be through the TSD Permit and not through Coordinated Closure, so it is not appropriate to include the M-015-00 Milestone here. It needs to be removed as well as in any associated tables in the LDR Report. Section 4.9 – Change the language to the below: TSD closure will occur per the closure plan in the dangerous waste permit~~be coordinated with the OU remediation in accordance with M-15 milestones for 200-IS-1 OU~~. Section 5.0 – Change the language to the below: Closure of this TSD will occur per the closure plan in the dangerous waste permit ~~be coordinated with the 200-IS-1 OU remediation~~.						
60	Pages B-201 to B-205 / HSTF LSDS	See comments.	Section 2.1.1 – More information needs to be added here to describe how the waste was generated and how it was transferred to the HSTF.						

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			Sections 2.11.2 and 2.11.3– DOE/RL-2009-112 is a draft unapproved closure plan and should not be cited. Change this language to the following: Further characterization will be performed as identified in the TSD Closure Plan in the dangerous waste permit~~, DOE/RL-2009-112~~. Section 2.12 – We have not agreed to coordinated closure for the HSTF. Change the language to the below: Tank waste was interim stabilized in place in accordance with Ecology approval. TSD closure will ~~be~~ occur in accordance with the TSD closure plan in the dangerous waste permit ~~coordinated with remediation of the 200-IS-1 operable unit~~. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report.						
61	Pages B-143 to B-150 / ERDF Treatment TGDS	See comments.	Section 1.2 – This description of waste is not complete or completely accurate. Operation and Maintenance Waste from RCRA TSDs is routinely stored in CAAs and TSDs before being transferred to ERDF for Treatment under the ERDF Rod Amendment. This is seen with the Tank Farms Hazardous Debris to ERDF LSDS included under this TGDS. This language needs to be updated to the following: This waste stream reflects mixed waste that requires treatment prior to disposal at ERDF. The waste is stored at the operable unit, CAA, or RCRA TSD before being ~~and is~~ shipped to ERDF where waste treatment and/or disposal occurs. Section 3.1.3 – Same comment from Section 1.2 above. See language changes. ERDF accepts waste from RCRA TSDs, CAAs, and CERCLA clean up actions performed across the Hanford Site. The waste disposed at ERDF meets the						

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			ERDF Waste Acceptance Criteria, WCH-191, (or current revision). Section 3.3.2 - Assuming the F039 is ETF powder. Please explain how treatment at ERDF is the appropriate pathway for disposal for this waste stream. Is this waste mixed with grout or is this waste grouted in containers and placed in the landfill? Please clarify. For F039 - provide documentation that appropriate CERCLA documentation is in place for this non-CERCLA Waste to be disposed in ERDF.						
62	Page B-159 to B-163 / Section 1.3. 2.2, and 2.6 – CERCLA LSDS and ERDF TGDS	See cited sections in comments.	ETF Powder Drums are typically treated and disposed at ERDF, so section 1.3 needs to be expanded on to describe other treatment activities. There are no LSDS sheets under the ERDF Treatment TGDS for this waste stream that is treated and disposed at ERDF. The ETF Powder Drums LSDS covers this with suggested changes, however, Section 1.3 needs to be expanded on to include explanation of F039 Wastes from ETF that are disposed at ERDF. See F039 code under the ERDF TGDS. Sections 1.3.1 and 1.3.2 also need to expand on integrated RCRA Coordinated Closure activities and give examples. Sections 1.3.4. Needs to mention sampling and analysis plans or however waste will be designated per RCRA Coordinated Closure. Section 1.3.5 and 2.6 - Needs to be rewritten based on approved CERCLA Actions as this can be very different from past years. Section 2.2 – Needs to include the names of the actual locations where staging occurs at ERDF. Section 2.12 – More details are needed to be added to this section. Need to explain what CERCLA Work is happening and need to explain details of waste volume assumptions here.						
63	B-164 to B167 - Hazardous Debris to ERDF LSDS	See cited sections in comments.	Sections 1.3.1 and 1.3.2 – The descriptions here need to be more specific. It is currently written too broad. The statement, "This waste stream is generated during field maintenance activities." does not describe where this waste is generated. It does not explain what the waste is specifically.						

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			Section 2.11.1 - The reference to LERF/ETF acceptance criteria is confusing and needs to be explained here. How does this relate to Hazardous Debris sent to ERDF? Section 3.1 – This needs to be marked Yes, as these are covered in work planning procedures, pre-job meetings, and review of operations to minimize waste generation. Section 3.3 – Section 3.3 needs to be filled out for the amount of reductions achieved in the waste minimization practices discussed in Section 3.2. Section 3.3.2 needs to input the estimated projected waste volume reductions. This is required in LDR legal agreements. Section 3.3.3 needs to provide the assumptions used in the estimates provided in Section 3.0.						
64	B-168 to B171 - D&D Hazardous Debris to ERDF LSDS	See cited sections in comments.	Section 1.3.2 – Need to provide a general timeframe determination that serves to categorize when the waste was placed in storage. There is no timeframe specified in the write up here that needs to be better explained. The history needs to be better explained here including dates when activities generally occurred where waste was put into storage. Section 2.1 states that waste is not stored on the CERCLA site, however unless waste is moved out that day, the waste is stored. This section needs to specify how long waste is staged at PFP and the language updated if the waste is being stored.						
65	B-172 to B176 - Soil and Groundwater Hazardous Debris to ERDF LSDS	See cited sections in comments.	Sections 2.1 and 2.5 – Sections 2.1 and 2.5 state that waste may be stockpiled in designated staging area prior to treatment. Unless the waste is moved out within a day, this is not allowed with RCRA Waste. Need to comply with RCRA ARARs. Needs to specify what types of waste (if Hazardous Waste) will be stockpiled and how long that occurs. If this waste is Hazardous Waste that is managed under ARARs, it will need to be stored in SAAs or CAAs. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and						

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			assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.6 – Investigation-derived waste, which is typically managed as hazardous waste under ARARs, is anticipated to be generated in the next five years. This section needs to be filled out with the estimated generation projected to be generated. Right now this is marked as zeros for the next five years. LDR legal requirements require that estimates of the generation rates to be provided. Section 2.12 – This section states that actual volumes cannot be predicted until site remediation is performed. Based on anticipated remediation, estimates of the generation rates need to be provided and those assumptions should be specified in this section.						
66	B-177 to B180 - Tank Farms Hazardous Debris to ERDF LSDS	See cited sections in comments.	Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 3.1 – Section 3.2 states that, "Proper planning is used prior to waste generation through work planning, pre-job meetings, and review of operations to minimize waste generation where possible". The Section 3.1 question should be marked Yes, as this Section states that, "Waste minimization attributes are reviewed/assessed as part of the work package planning." Section 3.3 - LDR legal requirements require that, annually revise and submit as part of the annual LDR report generation projections contained in the Waste Minimization Plan. Waste minimization reduction achieved needs to be reported in Section 3.3.1 and projected future waste volume reductions need to be reported in Section 3.3.2.						

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			Section 3.3.3 needs to provide the assumptions used in the estimates provided in Section 3.0.						
67	B-457 to B-460 - PFP TRUM Debris LSDS	See cited sections in comments.	Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 1.3.2 – This section needs to be expanded to include timeframes when this waste is generated. Section 2.1 – Section 2.1 states, "Waste will be packaged as generated and staged in the CERCLA waste management area for shipment to CWC." Section 2.1.1 is marked NA, but it needs to specify how the waste is staged at PFP, including how long the waste is staged for. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report.						
68	B-113 to B-116 / DST Waste TGDS	See cited sections in comments.	Section 2.2 - There are a significant number fluctuations in the generated wastes amounts here. Additions are from SST retrievals and 219-S Tank Systems. What other waste are going into the DSTs or are being generated out of management of the DSTs? Please explain these discrepancies by calendar year. Section 3.3.6 - There are significant issues with the statement, "There is no documentation of LDR requirements for waste placed in the SST System". This statement needs to be updated to state that a characterization plan is scheduled for SST Waste and a new characterization plan needs to be made for the SST System. SSTs need to be adequately characterized with a characterization schedule. There have been issues with approving past LDR Reports for issues with SSTs. See comments on SST System TGDS and LSDS.						

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			Section 4.4 – This just references that treatment schedule information will be accomplished with TPA Milestones. Need to reference the additional treatment capacity that is needed for Low Activity Waste. WTP does not have the current capacity to treat all LAW. This needs to tie in with other tables in the LDR Report. Section 4.5 – This section needs to list all applicable interim TPA Milestones and consent decree requirements. Section 4.8 - The treatability variance for other characteristic waste codes (organics not HLVIT waste codes) that was approved in 2019 needs to be cited here. Section 5.0 - More detail is needed to describe the details of this requirement. Where will this waste be disposed. IDF? Provide more details on where this waste will be stored for each waste type.						
69	B-129 to B134 – DST System LSDS	See cited sections in comments.	Section 2.1.2 – Needs to update this information based on at least the DST Tank Farm level when waste was placed into storage.						
70	B-119 to B123 – 204-AR Waste Unloading Station, TK-1 Catch Tank – Aqueous Mixed Waste LSDS	See cited sections in comments.	Section 1.3.2 – More details on the timeframes of 204-AR operation times and when waste additions stopped being added (last receipt of waste) in this Dangerous Waste Management Unit need to be included here. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.7 – Section 2.7 states that no storage assessment is required for the 204-AR Waste Unloading Station, TK-1 Catch Tank. Storage assessments are required in the LDR legal requirements. A storage assessment needs to be scheduled for this dangerous waste management unit.						

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			Section 2.11 – Section 1.2 states not applicable for waste profile. Section 1.3.4 states process knowledge for the source of information. Section 2.11.2, states that 204-AR waste will be characterized as required to meet the acceptance criteria of the treatment facility. This implies that the waste is not adequately characterized. With these entries, it appears that the waste in the 204-AR has not been adequately characterized for storage. Use of process knowledge is highly unlikely to be used to know all of the applicable characteristic waste codes for LDR requirements. A Tri-Party Agreement Milestone needs to be developed for a characterization plan for the 204-AR. Section 2.12 needs to be updated to include the new characterization plan. Additionally, the question in 2.11.1 is not worded correctly to address the legal requirements in the LDR Report. This question should be updated to ask if further characterization is needed about the waste for storage. It should strike the words "prior to acceptance", as many of the dangerous waste management units at Hanford are no longer receiving any wastes, but do not have the waste adequately characterized for LDR Requirements.						
71	B-211 to B215 – 242-A Evaporator – Evaporator Process Condensate	See cited sections in comments.	Section 2.5 – The wording in this section need to be updated to abide by the regulatory language for LDR (40 CFR 268.4). Waste is only allowed to be treated in surface impoundments, not stored, so this language should read the following: Adequate treatment and storage is available at ETF and adequate treatment capacity is available at LERF. Section 2.12 needs to describe the details, by year, of planned 242-A Evaporator campaigns to support the waste generation and waste volume reduction numbers cited in this LSDS. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report.						

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72	B-379 to B-382 – WRPS Tank Closure MLLW-07 RH and Large Container LSDS	See cited sections in comments.	Section 1.3.2 – This language needs to be updated, as retrievals in SSTs are currently underway and are considered closure activities. See redline changes. No history since this waste stream is anticipated to be generated ~~tank farm closure activities are~~ in ~~the~~ future tank farm closure activities. Section 2.1 – Same comment as 1.3.2. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report.						
73	B-401 to B-405 – SST Waste TGDS	See cited sections in comments.	Section 2.2 – The estimated generation projections are all zero, however, SSTs are receiving water intrusions which generates new waste. Intrusions into SSTs need to be quantified and added to Section 2.2 generation amounts. SSTs contain listed waste codes, so when water is added, additional waste is generated. Additionally, water added to SSTs to wash ENRAFs, also needs to be quantified and added here. Section 3.1.1 – Change mixed waste type from low level to high level, as the bulk of SST waste is high level waste. If wastes are later determined to be TRU, then a separate TGDS and LSDS need to be developed for those waste streams. Section 3.3.2 – This section needs be updated to include UHC for PCBs. Section 3.3.6 – SST waste is not adequately characterized. Either provide sampling data showing proper characterization for SSTs on a tank level basis or enter into TPA Milestones to properly characterize SST Waste (Characterization Plan). Section 4.4 – This section needs to include discussion on the treatment schedule that will be identified in the Hanford Rev. 9 permit. Section 4.5 – Per LDR legal agreements, all M-062 Interim Milestones as of 12/31/2019 need to be reported here.						

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74	B-406 to B-410 – SST System LSDS	See cited sections in comments.	Section 2.1.1 – This is an incomplete description of how the waste was managed before storage. More details need to be added here. Please list all of the contributing operating facilities here. Section 2.2 – The physical location of all of the SST dangerous waste management units is incomplete. This list needs to be updated with a complete list of all pits, catch tanks, diversion boxes, and DCRTs. Physical location needs to be reported on a DWMU by DWMU basis. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.6 - The estimated generation projections are all zero, however, SSTs are receiving water intrusions which generates new waste. Intrusions into SSTs need to be quantified and added to Section 2.2 generation amounts. SSTs contain listed waste codes, so when water is added, additional waste is generated. Additionally, water added to SSTs to wash ENRAFs, also needs to be quantified and added here. Section 2.8 - Need to add structural integrity Interim TPA Milestones add here. Section 2.9 – Language needs to be added that references Section 3.3 in the LDR Report. Section 2.11.1 - The question in 2.11.1 is not worded correctly to address the legal requirements in the LDR Report. This question should be updated to ask if further characterization is needed about the waste for storage. It should strike the words "prior to acceptance", as many of the dangerous waste management units at Hanford are no longer receiving any wastes, but do not have the waste adequately characterized for LDR Requirements. SST waste is not adequately characterized. Either provide sampling data showing proper characterization for SSTs on a						

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			tank level basis or enter into TPA Milestones to properly characterize SST Waste (Characterization Plan). Section 3.3.3 – This section needs to describe the bases and assumptions for the volume reduction estimates. It is unclear what is being counted here for volume reductions. This needs to be specified here.						
75	B-191 to B-194 – Mixed waste from 616 LSDS	See cited sections in comments.	Section 3.3.2 – Section 3.2 discusses the waste minimization activities being conducted, but Section 3.3.2 is marked all zeros for projected waste minimization volume reductions. Projects for reducing newly generated waste need to be reported in this section.						
76	B-59 to B-62 – 324 Building REC Waste TGDS	See cited sections in comments.	Section 2.2 – No estimated generation is referenced here even though the 324 Building is anticipated to start with closure activities. The estimated waste generation projections by calendar year from CERCLA activities need to be reported here. Section 3.3.2 – This section is missing the applicable waste codes D004, D009, D010, and D011, as specified in the closure plan for the 324 Building. These and any UHC needs to be added to this table.						
77	B-63 to B-66 – 324 Building REC Waste LSDS	See cited sections in comments.	Section 2.1.1 – This needs to answer the question in how the waste was managed prior to storage. Section 2.2 – Physical location needs to be reported on a Dangerous Waste Management Unit by Dangerous Waste Management Unit bases. Report all six tank numbers and location including room number here. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.6 – No estimated generation is referenced here even though the 324 Building is anticipated to start with closure activities. The estimated waste generation projections by calendar year from CERCLA activities need to be reported here.						

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78	B-79 to B-81 – 400 WMU TGDS	See cited sections in comments.	Section 1.2 – More details are needed here to describe the mixed-waste. Section 3.3.2 is missing the applicable D002 waste code. Section 4.3 – A treatability study was underway in 2019 at PermaFix Northwest and needs to be discussed and reported here including details when the study started and when it is anticipated to be completed. An enforceable treatment schedule is needed for this waste stream. Section 4.4 - An enforceable treatment schedule is needed for this waste stream at the time of this report. Section 4.6 - An enforceable treatment schedule is needed for this waste stream at the time of this report. Future TPA Milestone discussions should be discussed in this section.						
79	B-82 to B-86 – 400 WMU LSDS	See cited sections in comments.	Section 1.3.1 – Need to add the words "and NaK from discarded equipment", needs to be added after the first sentence in this section to more accurately identify this waste stream. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report.						
80	B-87 to B-90 / B Plant Cell 4 TGDS	See cited sections in comments.	Section 3.3.2 – This section needs to include WESF waste codes stored in Cell 4 to include UHCs for Lead (D008). Section 4.3 – B Plant is one of four canyons, not five canyons that is under Section 8 of the TPA. This language needs to be updated accordingly. Section 4.5 – There is no addressing of individual milestones under M-085-00, which need to be added here. M-085-00 is referenced as TBD with no schedule. M-085-76 is not included or referenced and needs to be. M-085-70 RI/FS workplan submittal, needs renegotiating for specific treatment methods, technologies and timelines under interim milestones						

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			and also needs to be included. "RI/FS workplan shall include considerations of all treatment necessary for waste expected to be generated, to ensure needed treatment capacity is identified, and milestones are established for appropriate acquisition of identified treatment needs". Consider these being addressed as LDR milestones instead of CERCLA related milestones.						
81	B-97 to B-100 – B Plant Containment Building TGDS	See cited sections in comments.	Sections 2.1 and 3.2.2 – LDR legal requirements specify that the quantity of each mixed-waste be identified. Section 2.1 reports zero for volume and Sections 3.2.2 states the following, which is unacceptable and does not meet the requirements for the LDR Report. *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.* Quantity of the mixed-waste in the B Plant Containment Building need to be identified. Section 3.3.2 – This section is missing numerous waste codes and applicable UHC. This section is missing the following LDR Waste Codes that need to be added along with any applicable UHCs: D002, D004, D005, D006, D007, D009, D010, and D011. Section 4.3 – B Plant is one of four not five canyons that were agreed to be addressed by the Canyon Disposition Initiative. Change the word five to four. Sections 4.5 and 4.6 – The M-085-00 TPA Milestone is referenced as to be determined, so no treatment schedule is associated with this TPA Milestone which does not meet the legal requirements for the LDR Report. All interim TPA Milestones associated with treatment need to be referenced here. M-085-76 is not included or referenced and should be. M-085-70 RI/FS workplan submittal, needs renegotiating for specific treatment methods, technologies and timelines under interim milestones. This is needed for compliance with the LDR Report legal requirements. "RI/FS workplan shall include considerations of all treatment necessary for waste expected to be generated, to ensure needed treatment capacity is						

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			identified, and milestones are established for appropriate acquisition of identified treatment needs".						
82	B-101 to B-104 – B Plant Containment Building	See cited sections in comments.	Section 1.3 – This section is deficient in identifying the mixed waste generated and/or stored at Hanford, the process information necessary for waste identification and LDR determinations, history of how the waste was generated, source of the hazardous constituents, and general timeframe determination that serves to categorize when the waste was placed in storage. The examples are missing descriptions of waste within the canyon including any tanks, the history is not provided, and source of the regulated constituents is not described. More details need to be added to these sections to meet the LDR legal agreements. Section 2.1 should identify all of the types of storage methods. The containment building itself is not the storage method. There are tanks and container storage that needs to be identified. Section 2.2 – Needs to identify locations all of the dangerous waste management units in B Plant, including all tanks and container storage areas inside and outside of B Plant, as no other LSDS covers the outside Dangerous Waste Management Units at B Plant. Section 2.3 - LDR legal requirements specify that the quantity of each mixed-waste be identified. Section 2.3 reports zero for volume with the statement below, which does not meet the requirements for the LDR Report. *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.* Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be						

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			reached are not included in this section and need to be added to the LDR Report. Sections 2.11.1, 2.11.2, and 2.11.3 – These should all be marked "yes" and needs to reference the M-085-70 for plan and schedule.						
83	B-105 to B-108 Cesium and Strontium Capsules TGDS	See cited sections in comments.	Section 3.1.1 – This should likely be labeled as high level radioactive waste. Currently the Cesium and Strontium Capsules are marked as low level waste. Section 4.5 – Per LDR legal agreements the interim TPA Milestones need to be listed here. Milestone M-092-20 needs to be added. M092-21-T01,2,3 for disposal needs to be added as well. Add all applicable TPA interim treatment Milestones to this section.						
84	B-109 to B-112 Cesium and Strontium Capsules LSDS	See cited sections in comments.	Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.8 - Per LDR legal agreements the interim TPA Milestones need to be listed here for storage. M-092-21 transfer to dry cask storage needs to be added, for storage. Any other TPA Milestones related to storage need to be added here.						
85	B-383 to B-386 – PUREX Plant TGDS	See cited sections in comments.	Section 1.2 – This description does not include the mixed-waste that is actually stored at the PUREX Plant. This section needs to be expanded to describe all of the mixed waste at the PUREX Plant including all tanks, cells, and any container storage, if applicable. Section 2.1 – 1.0 cubic meter is not the correct amount of waste being stored at the PUREX Plant in all Cells and Tanks. This needs to be updated to the actual amounts of mixed-waste at PUREX. Section 3.1.1 – Low level waste is selected, but high level waste should have been checked for this waste stream being stored at PUREX.						

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			Section 3.3.2 – Not all waste codes applicable at the PUREX Plant are listed here. This section is missing D001, D002, D004-D006, D008-D011 and others and any applicable UHCs need to be added to this section. Section 4.3 – The PUREX Plant is one of four canyons agreed to be addressed by the Canyon Disposition Initiative, bit five. Change the word five to four. Section 4.5 – Need to add all interim TPA milestones under M-085-00. M-085-00 is referenced as TBD with no schedule for milestone. M-085-80 RI/FS not included or referenced and needs to be. M-085-84 workplan submittal, needs renegotiating for specific treatment methods, technologies and timelines under interim milestones. "RI/FS workplan shall include considerations of all treatment necessary for waste expected to be generated, to ensure needed treatment capacity is identified, and milestones are established for appropriate acquisition of identified treatment needs". Add all missing treatment TPA Milestones related to treatment for PUREX to this section. Section 4.6 – Should list M-085-84 for renegotiating.						
86	B-387 – B-390 – PUREX Plant LSDS	See cited sections in comments.	Section 1.3.1 – This is a very limited description of the waste at the PUREX Plant. Are all the cells with the PUREX Plant empty? All mixed-waste including any residuals in piping, tanks, and cells needs to be identified here. In 2019, there was mixed-waste white powder on the floors of the PUREX Plant that is not identified here. Section 2.1.1 and 2.1.2 needs to be updated per updates per comment in Section 1.3.1. Section 2.2 – Needs to list each dangerous waste management unit at the PUREX Plant. This LSDS needs to be expanded for all dangerous waste management units at the PUREX Plant. All tanks (including outside tanks), all cells, all areas with mixed-waste. Section 2.3 - 1.0 cubic meter is not the correct amount of waste being stored at the PUREX Plant in all Cells and Tanks. This needs to be updated to the actual						

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			amounts of mixed-waste at PUREX. It needs to be more than just the F-Cell. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.6 – Needs to be updated for the amounts of white powder being cleaned up under the EECA. Sections 2.11 and 2.12 – These sections and subsections here need to be updated for all the waste being stored at PUREX. All TPA Milestones related to characterization through CERCLA at PUREX need to be added here. Needs to reference TPA milestone M-085-80 (RI/FS). Section 3.3 – Needs to be updated for waste minimization for the clean-up of the white powder under the EECA.						
87	B-391 to B-394 – PUREX Storage Tunnels TGDS	See cited sections in comments.	Section 3.1.1 – Low level waste is selected, but much of the waste in the PUREX Storage Tunnels is high level waste. High level waste should be selected for this section. Section 4.5 - Need to add all interim TPA milestones under M-085-00. M-085-00 is referenced as TBD with no schedule for milestone. M-085-80 RI/FS not included or referenced and needs to be. M-085-84 workplan submittal, needs renegotiating for specific treatment methods, technologies and timelines under interim milestones. "RI/FS workplan shall include considerations of all treatment necessary for waste expected to be generated, to ensure needed treatment capacity is identified, and milestones are established for appropriate acquisition of identified treatment needs". Add all missing treatment TPA Milestones related to treatment for PUREX to this section. Section 4.6 – Should list M-085-84 for renegotiating.						

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88	B-395 to B-399 – PUREX Storage Tunnels LSDS	See cited sections in comments.	Section 2.1 – Should also include containers, as some waste is in containers on the railcars. If there are any tanks on the railcars, tanks should be checked as well. Section 2.1.1 – Is the statement "The waste from the 324 Building was removed from B-Cell and sent to waste storage.", mistakenly added to this description? If not, this language needs to be clarified, as it is not written well. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.11.2 and 2.11.3 – TPA milestone M-085-80 for the RI/FS which will address characterization of the waste in the PUREX Tunnels.						
89	B-207 to B-210 – LERF/ETF Liquid Waste TGDS	See cited sections in comments.	Section 3.3.2 – This section does not list the LDR Treatment Concentration Standard or Technology Code as is required in the legal requirements for the LDR Report for F001, F003, and F039. These need to be reported in the table under Section 3.3.2. Section 3.3.4 – This section states that the waste stream is subject to TSCA, yet the reported values states less than 50ppm which is below the level subject to TSCA. Clarify if this waste stream is subject to TSCA and if PCBs are 50 ppm or above, UHCs for PCBs need to be added to Section 3.3.2. Section 4.4 - The wording here says LERF/ETF liquid wastes generally are treated and disposed within a year. 40 CFR 268.4(a)(2)(ii) does not allow for storage past a year, and requires that these wastes be treated within a year being put into the surface impoundment. Remove word "generally" from this wording, as it not compliant with the LDR Rules.						
90	B-211 to B-215 – LERF/ETF Liquid Waste LSDS	See cited sections in comments.	Sections 1.3.1, 1.3.2 and 1.3.3 – These sections are too generally written. These sections needs to be expanded on more with specifics. They need to explain where the wastewaters are coming from. It should include the specific facilities and locations						

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			where these waste streams are generated. Expanded on these sections. Section 2.2 – All dangerous waste management units (all 14 tank numbers) at ETF need to be listed in this section along with their current physical locations. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.6 – Estimated generation for this waste stream is marked zero for the next five years, however the TGDS shows large amounts of waste being generated. Update this section to include the estimated generation rates on an annual basis for the LERF/ETF Liquid Waste stream.						
91	B-233 to B-236 – LERF/ETF Solid Waste TGDS	See cited sections in comments.	Section 1.2 – The waste described in this section is solid waste, but it is more specifically, listed Hazardous Waste. This language needs to be updated to reflect this. Section 3.3.2 – This section does not list the LDR Treatment Concentration Standard or Technology Code as is required in the legal requirements for the LDR Report for F001, F003, and F039. These need to be reported in the table under Section 3.3.2. Sections 4.3 and 5.0 – These sections do not answer the question of what the exact treatment methods are and does not address each waste. This section needs to list specifically how this waste is treated at ERDF. Ecology needs to understand how the ETF powder drums are treated at ERDF. Are the containers grouted in place, or is the ETF powder mixed in with grout at ERDF. The treatment methods need to be specifically described in these sections and the above questions answered. Section 4.7 was not filled out in the LDR Report and the question needs to be answered and described.						

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92	B-237 to B-240 – ETF Powder Drums LSDS	See cited sections in comments.	Section 1.3.1 – This is listed hazardous waste and needs to be reflected as such in the language here. It is currently only referred to as solid waste. Section 2.2 – The room numbers and all locations where this waste is physically stored need to be added to this section. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.6 - This section does not identify the additional waste that will be sent to LERF/ETF from DFLAW. Generation rates need to look at all inputs from all facilities over the years. Given additional waste streams being sent to LERF/ETF, there should be increased generation rates of waste.						
93	B-241 to B-245 – LERF/ETF Operational and Maintenance Waste LSDS	See cited sections in comments.	Section 2.2 – The locations at ETF need to be identified better. There are three locations marked 2025ED, what are the room numbers or identifying areas. These areas need to be clearly identified and reported here. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.11.2 and 2.11.3 – Based on the description in these sections, the answer to these questions should be marked "yes". Process knowledge for treatment generated sludge is not adequate for designation purposes. Given the variability of treatment generated wastes, sampling should always occur for this waste stream. Language in these sections should be changed accordingly.						

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			Sections 3.3.1 and 3.3.2 – This section does not meet the LDR Report requirements to identify generation projections contained in the Waste Minimization Plan. Waste minimization reductions need to be quantified here. It is currently marked zero for all years, but waste minimization is identified so it needs to be reported here. Section 3.3.3 – The language here conflicts with itself. It says there are no goals for waste minimization, but states that the waste stream is constantly evaluated for waste minimization opportunities. Section 3.2 identifies the waste minimization activities, so in addressing comments for Sections 3.3.1 and 3.3.2 above, the bases and assumptions for these added values should be described here. There are known waste minimizations for generating listed wastes from operation and maintenance activities at ETF and the waste reduction actuals and projects need to be included in the LDR Report.						
94	B-135 to B-138 - Immobilized Low-Activity Waste LSDS	See cited sections in comments.	Section 1.3.5 – The location where this waste will be stored needs to be identified in this section. This is how we are going to identify if there is enough storage to accept this waste for storage. Should be listed as the WTP ILAW Permitted Storage Area (Staging Area). Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.6 – The consent decree shows the facility being active beginning in 2023. The projections here may not be accurate. Please address assumptions used for the numbers reported here.						
95	B-139 to B-142 – TSCR Ion Exchange Columns LSDS	See cited sections in comments.	Section 1.3.1 – This section needs to discuss TSCR as a capability of LAWP System. Section 2.2 – Clarify the exact storage area for this waste stream. 241-AP11 is not a building number or a location we know about. Add the details of the physical location here.						

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			Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Specifically, what is this information for the WTP ILAW Permitted Storage Area (Staging Area). Section 2.5 – This is currently marked none for the question on planned storage areas for this waste. This section needs to list the planned storage area for this waste. Sections 2.2 and 2.6 do not match each other and provide opposing information. Section 2.2 states waste will be generated starting in 2022, while Section 2.6 states waste will start being generated in 2021. Section 2.6 – This does not seem to match the schedule for waste generation. Explain how the waste generation rates were identified. Section 3.1 is marked "No" for waste minimization, however waste is forecast to be generated as soon as 2021. A date when this assessment will be completed needs to be identified in this question. Section 3.2 needs to be filled out for the proposed methods for minimizing this waste steam. Section 3.3 – This section needs to be filled out for the project waste volume reductions for this waste stream.						

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96	B-216 to B-219 – EMF Condensate LSDS	See cited sections in comments.	Section 2.2 – All dangerous waste management units need to be identified here by Building and Room Number location, and include individual tank numbers. So list EMF vessels DEP-VSL-00001, DEP-VSL-00002, DEP-VSL-00003A/B/C, DEP-VSL-00004A/B, and DEP-VSL-00005A/B with their building and room numbers here. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report.						
97	B-281 to B-284 – MLLW-03 LVP Sulfur Impregnated Carbon Absorbent Media LSDS	See cited sections in comments.	Section 2.1 – Needs to be filled out with the anticipated method of storage for this waste stream. Can be in the "Other" section with an explanation of the planned storage method. Section 2.3 – Should be reported as zero with a comment that the waste is still to be generated. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. If there are permit application materials, they should be reported on what is to be expected for storage capacity. Sections 2.5 and 2.12 – Should reference the anticipated storage location for this waste. Where is this specifically going to be at? Identify in these location in these sections in the report. Section 3.1, 3.2 and 3.3. Since generation is projected, waste minimization questions in these sections needs to be filled out with anticipated waste reductions and methods for waste reductions.						
98	B-308 to B-311 –	See cited sections in comments.	Section 1.3.5 – Use of the words "transferred to others" is unclear. Clarify, specifically where the						

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	MLLW-04 EMF Contaminated Debris LSDS		waste will be get volume reduced, repackaged, stored, and disposed. Section 2.5 – Instructions say to not answer this question for waste in CAAs, but the question to where the waste will be eventually stored, should be identified in this section so as it can be tracked in the LDR Report. Instructions to skip Section 2.5 does not conform to the requirements to identify where waste will eventually be stored. This section needs to reference where this waste is going to be stored and instructions need to be updated for Appendix B. Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities identified in Section 3.2.						
99	B-312 to B-315 - MLLW-04 EMF Hazardous Debris LSDS	See cited sections in comments.	Section 1.3.5 – This section must reference the specific location where this waste is anticipated to be stored. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. If there are permit application materials, they should be reported on what is to be expected for storage capacity. Even though the waste has yet to be generated, this LDR Report estimates that this waste will be generated starting in 2022. Since planning is in place to generate and store this waste, the expected capacity of the future storage location needs to be identified to see if it can adequately store the projected waste being generated. Sections 2.5 and 2.12 – The physical location of the future storage location needs to be specified in this section. WTP Permitted Storage Area is very broad and does not state where the waste will be stored. Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities identified in Section 3.2.						

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100	B-316 to B-319 – MLLW-04 LMP Glass Debris from the Bagging Station LSDS	See cited sections in comments.	Section 2.12 – Use of the words "transfer to others" is confusing and needs to be explained. Does this mean the waste will be treated in another CAA or will it be treated in a TSD. If a TSD, that should identified here. If another CAA, that should be clarified. Section 2.5 – Instructions to skip Section 2.5 does not conform to the requirements to identify where waste will eventually be stored. This section needs to reference where this waste is going to be stored and instructions need to be updated for Appendix B.						
101	B-320 to B-323 – MLLW-04 LMP Melter Consumables LSDS	See cited sections in comments.	Section 1.3.5 – This section must reference the specific location where this waste is anticipated to be stored. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. If there are permit application materials, they should be reported on what is to be expected for storage capacity. Even though the waste has yet to be generated, this LDR Report estimates that this waste will be generated starting in 2022. Since planning is in place to generate and store this waste, the expected capacity of the future storage location needs to be identified to see if it can adequately store the projected waste being generated. Sections 2.5 and 2.12 – The physical location of the future storage location needs to be specified in this section. WTP Permitted Storage Area is very broad and does not state where the waste will be stored. For Section 2.12, use of the words "transfer to others" is confusing and needs to be explained in greater detail. Which storage areas will this waste be transferred to? Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities identified in Section 3.2.						

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			Section 3.3.3 needs to specify who will conduct the treatment of this waste. Use of the words "by others" does not specify who will be treating this waste and at what location. Is this on-site or will it be off-site?						
102	B-324 to B-327 – MLLW-04 LMP Melter Pool Bubblers/Thermowells LSDS	See cited sections in comments.	Section 1.3.5 – This section must reference the specific location where this waste is anticipated to be stored. Use of the words "by others" does not specify who will be treating this waste and at what location. Is this on-site or will it be off-site? Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. If there are permit application materials, they should be reported on what is to be expected for storage capacity. Even though the waste has yet to be generated, this LDR Report estimates that this waste will be generated starting in 2022. Since planning is in place to generate and store this waste, the expected capacity of the future storage location needs to be identified to see if it can adequately store the projected waste being generated. Sections 2.5 and 2.12 – The physical location of the future storage location needs to be specified in this section. WTP Permitted Storage Area is very broad and does not state where the waste will be stored. For Section 2.12, use of the words "transfer to others" is confusing and needs to be explained in greater detail. Which storage areas will this waste be transferred to? Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities identified in Section 3.2. Section 3.3.3 needs to specify who will conduct the treatment of this waste. Use of the words "by others" does not specify who will be treating this waste and at what location. Is this on-site or will it be off-site?						

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103	B-328 to B-331 – MLLW-04 LVP HEPA Filters LSDS	See cited sections in comments.	Sections 1.3.5 and 2.12 – This section must reference the specific location where this waste is anticipated to be treated or stored. Use of the words "by other" does not specify who will be treating this waste and at what location. Is this on-site or will it be off-site? Is it in a CAA or is it in a TSD. If in a TSD the location needs to be identified. Section 2.5 – Instructions to skip Section 2.5 does not conform to the requirements to identify where waste will eventually be stored. This section needs to reference where this waste is going to be stored and instructions need to be updated for Appendix B. Section 3.2 – This should not be marked NA, as Section 2.12 identifies waste minimization activities. List the waste minimization activities in this section. Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities identified in the newly written Section 3.2 and per what is stated in Section 2.12. Section 3.3.3 needs to specify who will conduct the treatment of this waste. Use of the words "by others" does not specify who will be treating this waste and at what location. Is this on-site or will it be off-site?						
104	B-332 to B-335 – MLLW-04 LVP Selective Catalytic Reduction Media LSDS	See cited sections in comments.	Section 1.3.5 – This section must reference the specific location where this waste is anticipated to be stored. Use of the words "to others" does not specify who will be treating this waste and at what location. Is this on-site or will it be off-site? Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. If there are permit application materials, they should be reported on what is to be expected for storage capacity. Even though the waste has yet to be generated, this LDR Report estimates that this waste will be generated starting in 2022. Since planning is in place						

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			to generate and store this waste, the expected capacity of the future storage location needs to be identified to see if it can adequately store the projected waste being generated. Sections 2.5 and 2.12 – The physical location of the future storage location needs to be specified in this section. WTP Permitted Storage Area is very broad and does not state where the waste will be stored. For Section 2.12, use of the words "transferred to others" is confusing and needs to be explained in greater detail. Which storage areas will this waste be transferred to? Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities identified in Section 3.2. Section 3.3.3 needs to specify who will conduct the treatment of this waste. Use of the words "by others" does not specify who will be treating this waste and at what location. Is this on-site or will it be off-site?						
105	B-336 to B-339 – MLLW-04 LVP Thermal Catalytic Oxydation Media LSDS	See cited sections in comments.	Section 1.3.5 – This section must reference the specific location where this waste is anticipated to be stored. Use of the words "to others" does not specify who will be treating this waste and at what location. Is this on-site or will it be off-site? Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. If there are permit application materials, they should be reported on what is to be expected for storage capacity. Even though the waste has yet to be generated, this LDR Report estimates that this waste will be generated starting in 2022. Since planning is in place to generate and store this waste, the expected capacity of the future storage location needs to be identified to see if it can adequately store the projected waste being generated.						

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			Sections 2.5 and 2.12 – The physical location of the future storage location needs to be specified in this section. WTP Permitted Storage Area is very broad and does not state where the waste will be stored. For Section 2.12, use of the words "transferred to others" is confusing and needs to be explained in greater detail. Which storage areas will this waste be transferred to? Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities identified in Section 3.2. Section 3.3.3 needs to specify who will conduct the treatment of this waste. Use of the words "by others" does not specify who will be treating this waste and at what location. Is this on-site or will it be off-site?						
106	B-340 to B-343 – MLLW-04 Misc. Metal Parts LSDS	See cited sections in comments.	Section 1.3.5 – This section must reference the specific location where this waste is anticipated to be stored. Use of the words "to others" does not specify who will be treating this waste and at what location. Is this on-site or will it be off-site? Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. If there are permit application materials, they should be reported on what is to be expected for storage capacity. Even though the waste has yet to be generated, this LDR Report estimates that this waste will be generated starting in 2022. Since planning is in place to generate and store this waste, the expected capacity of the future storage location needs to be identified to see if it can adequately store the projected waste being generated. Sections 2.5 and 2.12 – The physical location of the future storage location needs to be specified in this section. WTP Permitted Storage Area is very broad and does not state where the waste will be stored. For Section 2.12, use of the words "transferred to others" is confusing and needs to be explained in greater						

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			detail. Which storage areas will this waste be transferred to? Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities identified in Section 3.2. Section 3.3.3 needs to specify who will conduct the treatment of this waste. Use of the words "by others" does not specify who will be treating this waste and at what location. Is this on-site or will it be off-site?						
107	B-344 to B-347 – MLLW-04 Misc. Compactable Debris LSDS	See cited sections in comments.	Sections 1.3.5 and 2.12 – This section must reference the specific location where this waste is anticipated to be treated or stored. Use of the words "by others" does not specify who will be treating this waste and at what location. Is this on-site or will it be off-site? Is it in a CAA or is it in a TSD. If in a TSD the location needs to be identified. It should be noted that waste cannot move from an SAA to another SAA as is implied in the language in Section 1.3.5. Section 2.5 – Instructions to skip Section 2.5 does not conform to the requirements to identify where waste will eventually be stored. This section needs to reference where this waste is going to be stored and instructions need to be updated for Appendix B. Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities identified in the newly written Section 3.2 and per what is stated in Section 2.12. Section 3.3.3 needs to specify who will conduct the treatment of this waste. Use of the words "by others" does not specify who will be treating this waste and at what location. Is this on-site or will it be off-site?						
108	B-41 to B-44 – 222-S T8 Tunnel TGDS	See cited sections in comments.	Section 1.2 – Since there is only one LSDS for this TGDS, this section needs to explain more details on the description of the waste. Here are excerpts from the LSDS that should be added to this section. *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 Waste Handling Facility. The waste consists of debris (used pipes that*						

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			transferred chemicals, unused samples, standards and reagents during analytical procedures). Section 3.1.1 – This section lists this waste as Low Level Waste, but Section 1.2 is marked as Remote handled and this waste has high levels of radioactivity. Section 3.1.1 should be marked as high-level, as this equipment previously held high level tank waste. Section 3.3.2 – All waste codes associated with the 219-S Tank System need to be added to this section and not just the listed waste codes. Even though this ancillary equipment was rinsed, there is no way to prove that the characteristics were removed, unless sampling data can be provided. Applicable UHCs need to be added to table. Section 3.3.6 - The waste codes associated with the 219-S Tank System and not just the listed waste codes. Rinsing does not prove that the D codes were removed. Sampling needs to take place to remove these waste codes. UHC language also needs to be removed. Sections 4.2 and 4.3 – There are known LDR treatment options for debris, so these sections need to be updated with the intended treatment pathway for debris. Treatment options still being assessed, should not be selected in Section 4.2 and language in Section 4.3 needs to be updated. Section 5.0 - This section needs to reference the schedule for the 222-S Lab Closure Plan for Rev. 9 and similar language should be incorporated into Section 4.9. See redline of changes.						
109	B-45 to B-49 – 222-S T8 Tunnel RH MLLW LSDS	See cited sections in comments.	Section 1.3.2 - More history of when the waste was generated needs to be added here. This should explain that the work was done in 1997 when the upgrades were completed on the 219-S Tank System. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be						

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			added to the LDR Report. If there are permit application materials, they should be reported on what is to be expected for storage capacity. Section 2.5 - The following language needs to be changed to the following to be more accurate of the process that is being followed: *This waste is stored in a shielded alcove of T-8 tunnel. The T-8 Tunnel is a closing unit. Final disposition of the waste will be included in the closure plan for the 222-S Laboratory Complex in the Rev 9 permit.*						
110	B-67 to B-72 – 325 HWTU TGDS	See cited sections in comments.	Sections 1.2 and Section 3.2.1 – The physical form is selected as solid, liquid, semi-solid, and debris. This treatability group needs to be broken up, because these waste streams all have different treatment standards which require different LDR treatments and additional TGDS and LSDS need to be created based on this reorganization. Section 3.3.1 - Please explain why waste water is not selected if Liquid is selected for the Physical form in Section 3.2.1. Section 3.3.2 - PCB UHCs need to be added to this table. Given that this waste stream is clearly documented as containing constituents that require treatment to underlying hazardous constituents, and that the waste stream is documented to have PCBs well above the Universal Treatment Standard (PCBs present at concentrations greater than 50 ppm), PCBs must be identified as an UHC. Any waste stream that has constituents that require LDR treatment to UHCs and that have PCBs needs to be evaluated for PCBs as UHCs. This is slightly tricky, because if the maximum PCB concentration for non-wastewaters is <10 ppm, the UTS for PCBs, then PCBs are not UHCs. Thus, some waste streams that have PCBs <50 ppm will have PCBs that may be UHCs, while others may not. Thus, the TGDS don't fully provide the information necessary to validate whether or not PCBs are UHCs. Also D006 TC-Cadmium, the LDR Subcategory is incomplete and missing text.						

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			Section 3.3.6 - We are not sure that this approach to dealing with wastewaters/non-wastewaters. Given the intent of the LDR report to document treatment requirements, it seems odd to document in a TGDS what a waste stream is after treatment. This obscures the fundamental purpose of the LDR report to evaluate the need for treatment. While it is fine for the facility to treat this waste stream as suggested, it seems inappropriate to say that the waste is only a non-wastewater. This is especially true given that treatment is only "most likely" to result in a non-wastewater, not definitively will, that only some of the containers are treated, and off-site treatment is to be used in part. Sections 4.3 and 4.4 - While this summary of treatment may be factually correct, it is useless to evaluate what treatment capacity is needed and whether it exists or needs to be acquired. We do not know what the exemption cited is. Were the CWC DWMUs subject to full final status permit conditions (that is, final status permit technical standards in place of Permit Condition I.A), then the waste acceptance criteria in the WAP would govern these requirements. The following language needs to be better explained. What exemption, what waste? Please be specific. *Waste shipped to CWC under an exemption will not be treated within one year; such waste will be subject to the schedules for treatment set forth in TPA milestone M-091-42 (for contact-handled waste).* Our understanding is that the M-091 milestone series is a set of schedules and work requirements to return to compliance with respect to wastes in retrievable storage. Whether or not the 325 TGDS wastes are within that set of wastes is not clear, but it is doubtful that they are. We are not aware that any retrievably-stored wastes have been sent to the 300-Area for treatment. Section 4.5 – Why is TPA Milestone not referenced here when a TPA Milestone is referenced in Section 4.4 above. Sections 4.3 through 4.5 need to be looked and discussed on how to fix this TGDS.						

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			Section 4.7 - Is this referring to LDR treatment standards expressed as a method of treatment? If so, why not just say so? The first sentence text is very ambiguous and needs to be clarified. Section 5.0 – This needs to clarify which commercial facilities where waste will be disposed.						
111	B-73 to B-77 – 325 HWTU LSDS	See cited sections in comments.	Sections 1.3 and 2.11.3 – These statements are all generalized, broad based, and not specific based on the specifics of the wastes. This LSDS needs to be broken up, because these waste streams all have different treatment standards which require different LDR treatments. Additional LSDS need to be created based on this reorganization. Section 2.2 – Add room numbers for these permitted areas and split out the number of containers per room number or specific location. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 3.3.1 – Estimates of waste minimization reductions for 2019 need to reported here. Section 3.3.2 – Estimates of future waste volume reductions per what is described in Section 3.2 need to be reported here. Section 3.3.3 – LDR legal requirements require a schedule for implementing waste minimization procedures set forth in the LDR Plan, basis for developing projections, and assumptions used in developing the projections. This is not an option to not report this information, even though it may be difficult to justify, document, or conduct.						
112	B-181 to B-185 – Hanford Site Laboratory	See cited sections in comments.	Sections 1.2 and Section 3.2.1 – The physical form is selected as solid, liquid, semi-solid, and debris. This treatability group needs to be broken up, because these waste streams all have different treatment standards						

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	Complex TGDS		which require different LDR treatments and additional TGDS and LSDS need to be created based on this reorganization. Section 3.3.1 - Please explain why waste water is not selected if Liquid is selected for the Physical form in Section 3.2.1. Section 3.3.2 - PCB UHCs need to be added to this table. Given that this waste stream is clearly documented as containing constituents that require treatment to underlying hazardous constituents, and that the waste stream is documented to have PCBs well above the Universal Treatment Standard (PCBs present at concentrations greater than 50 ppm), PCBs must be identified as an UHC. Any waste stream that has constituents that require LDR treatment to UHCs and that have PCBs needs to be evaluated for PCBs as UHCs. This is slightly tricky, because if the maximum PCB concentration for non-wastewaters is <10 ppm, the UTS for PCBs, then PCBs are not UHCs. Thus, some waste streams that have PCBs <50 ppm will have PCBs that may be UHCs, while others may not. Thus, the TGDS don't fully provide the information necessary to validate whether or not PCBs are UHCs. Section 3.3.6 - We are not sure that this approach to dealing with wastewaters/non-wastewaters. Given the intent of the LDR report to document treatment requirements, it seems odd to document in a TGDS what a waste stream is after treatment. This obscures the fundamental purpose of the LDR report to evaluate the need for treatment. While it is fine for the facility to treat this waste stream as suggested, it seems inappropriate to say that the waste is only a non-wastewater. This is especially true given that treatment is only "most likely" to result in a non-wastewater, not definitively will, that only some of the containers are treated, and off-site treatment is to be used in part. Sections 4.3 and 4.4 - While this summary of treatment may be factually correct, it is useless to evaluate what treatment capacity is needed and whether it exists or needs to be acquired. The 222-S Lab is currently storing mixed-waste mercury drums where this treatment technology is not available and						

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			where a treatment variance is likely needed. This needs to be discussed here and in Section 4.8. We do not know what the exception cited is. Were the CWC DWMUs subject to full final status permit conditions (that is, final status permit technical standards in place of Permit Condition I.A), then the waste acceptance criteria in the WAP would govern these requirements. The following language needs to be better explained. What exemption, what waste? Please be specific. *Waste shipped to CWC under an exception will not be treated within one year; such waste will be subject to the schedules for treatment set forth in TPA milestone M-091-42 (for contact-handled waste).* Our understanding is that the M-091 milestone series is a set of schedules and work requirements to return to compliance with respect to wastes in retrievable storage. Whether or not the Hanford Site Laboratory Complex TGDS wastes are within that set of wastes is not clear, but it is doubtful that they are. We are not aware that any retrievably-stored wastes have been sent to the 222-S Lab for treatment. Sections 4.3 through 4.4 need to be looked and discussed on how to fix this TGDS. Section 5.0 – This needs to clarify which commercial facilities where waste will be disposed.						
113	B-186 to B-190 – 222-S Containerized Mixed-Waste LSDS	See cited sections in comments.	Section 1.3.1 - Need to add the Mercury Waste LSDS back to the LDR Report and remove the mercury waste from this LSDS sheet. Section 2.1.1 – This does not answer the question to how the waste was managed before storage. This question needs to be answered. Was waste placed in SAA,CAA or moved directly into storage? Section 2.1.2 – Given the current write up, this is factually incorrect. There are waste containers at the 222-S Lab that have been in storage since 2007. Once the Mercury LSDS is brought back into the report, this statement may be correct.						

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			Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.10 – Given the current configuration of this LSDS, this answer should be marked "Yes", as the mercury drums will need a treatability variance in order to be treated and disposed. If the Mercury Drums LSDS is added back, this can remain in its current configuration. Section 2.11.3 - This should be marked "Yes", as some of these waste are concentration based and will need characterization to prove treatment. This is one reason the TGDS and LSDS for the labs need to be broken up by treatment. Right now they are grouped together with numerous different treatments for different types of wastes. This is an example of how use of the TGDS for locations is causing problems for the LDR Report, as is seen in this LSDS. Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities identified in Section 3.2. Section 3.3.3 – This language conflicts with itself and does not agree with what is described in Section 3.2. Waste minimization is happening and LDR legal requirements require projections for reducing newly generated waste and the bases and assumptions used in developing the projections.						
114	B-124 to B-128 – 222-S Bulk Aqueous Liquids LSDS	See cited sections in comments.	Section 1.3.3 - LLBG should not be listed here because F039 wastes cannot be accepted into the 219-S Tank System. Another LSDS needs to be developed to describe how this waste is stored, treated, and disposed. Section 2.1.1 – This does not answer the question to how the waste was managed before storage. This questions needs to be answered. Was waste placed in SAA,CAA, or moved directly into storage?						

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			Section 2.1.2 – This does not answer the question to the general timeframe to categorize when the waste was placed in storage. This questions needs to be answered using dates. Section 2.2 – Needs to list each Dangerous Waste Management Unit and the physical location of each. So list all three tanks at the location that is currently specified. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.11.1 - Change this from No to Yes and delete the wording "A commitment is not necessary for this characterization." Need to reference the description for moving waste into the 219-S Tank System. Section 2.11.3 - Needs to be marked from "Unknown at this time" to "Yes". This section should identify that characterization needs to be performed before treatment at WTP. Section 3.3.1 – Waste reductions for 2019, as described in Section 3.2, need to be quantified here. Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities identified in Section 3.2.						
115	B-151 to B-154 – 222-S Hazardous Debris to ERDF LSDS	See cited sections in comments.	Sections 2.1 to 2.3 and 2.5 are not filled out. Where is this large amount of waste being stored or accumulated? This is hazardous mixed-waste and needs to be managed as such until it is received at ERDF. Thus, this LSDS needs to be overhauled with information on the storage locations for this waste. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR						

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			waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.6 - This seems like an extremely large amount of waste for the waste in this description. This amount of waste needs to be explained better in Section 1.3 and explained here to Ecology why this is so high. Ecology needs to understand the basis for these numbers. Section 3.3.1 – Waste reductions for 2019, as described in Section 3.2, need to be quantified here. Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities identified in Section 3.2. Section 3.3.3 – This language conflicts with itself and does not agree with what is described in Section 3.2. Waste minimization is happening and LDR legal requirements require projections for reducing newly generated waste and the bases and assumptions used in developing the projections.						
116	B-155 to B-158 – 325 HWTU Radioactive Lead Solids LSDS	See cited sections in comments.	Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 3.3.1 – Waste reductions for 2019, as described in Section 3.2, need to be quantified here. Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities identified in Section 3.2. Section 3.3.3 – LDR legal requirements require a schedule for implementing waste minimization procedures set forth in the LDR Plan, basis for developing projections, and assumptions used in developing the projections. This is not an option to						

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			not report this information, even though it may be difficult to justify, document, or conduct.						
117	B-442 to B-446 – 325 HWTU TRUM Small Container LSDS	See cited sections in comments.	Section 2.2 – This section needs to list the room numbers that are permitted to store this waste in the 325 HWTU and the number of containers in each room. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 3.3.1 – Waste reductions for 2019, as described in Section 3.2, need to be quantified here. Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities identified in Section 3.2. Section 3.3.3 – LDR legal requirements require a schedule for implementing waste minimization procedures set forth in the LDR Plan, basis for developing projections, and assumptions used in developing the projections. This is not an option to not report this information, even though it may be difficult to justify, document, or conduct.						
118	B-478 to B482 – 325 HWTU TRUM-RH LSDS	See cited sections in comments.	Section 2.2 – This section needs to list the room number(s) that are permitted to store this waste in the 325 HWTU and the number of containers in each room, if applicable. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report.						

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			Section 2.5 – This assumes that this waste will ship directly to WIPP from the 325 HWTU. Please verify this is true. Section 3.3.1 – Waste reductions for 2019, as described in Section 3.2, need to be quantified here. Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities identified in Section 3.2. Section 3.3.3 – LDR legal requirements require a schedule for implementing waste minimization procedures set forth in the LDR Plan, basis for developing projections, and assumptions used in developing the projections. This is not an option to not report this information, even though it may be difficult to justify, document, or conduct.						
119	B-277 to B-280 – Lab Spent Chemical/Reagents LSDS	See cited sections in comments.	Sections 1.3.5 and 2.12 – These sections must reference the specific location where this waste is anticipated to be stored. Use of the words "to others" does not specify who will be treating this waste and at what location. Is this on-site or will it be off-site? It should be noted that waste in SAAs cannot be transferred to another SAA, so this language needs to be rewritten. Section 2.5 – Instructions say to skip this section for waste generated in SAAs or CAA, however the planned storage location for waste generated in these areas should be reported in this section. Section – 3.3.2 – Based on the information presented in Sections 3.2 and 3.3.3, Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities.						
120	LSDS instructions and all LSDS for waste in CAAs and SAAs Section 2.5	See cited sections in comments.	Section 2.5 – Instructions say to skip this section for waste generated in SAAs or CAA, however the planned storage locations for waste generated in these areas should be reported in this section. Instructions for LSDS should be updated for this section.						

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121	B-247 to B-251 – MLLW-02 Inorganic Non-Debris TGDS	See cited sections in comments.	Section 2.2 – What are the assumptions for these waste generation rates? Explain where this waste is coming from. Section 3.3.2 – There is no current treatment for mixed-waste contaminated with D009 Mercury. All mixed-wastes that have this waste code under this TGDS need to be moved out of this treatability group and associated LSDS and brought under the TGDS and LSDS for mercury as commented on in other comments. A treatability variance will need to be requested for D009 mixed-waste and this waste code needs to be pulled out of this TGDS. Section 4.4 – If treatment capacity is available, then funding is not an excuse for exceeding the LDR storage prohibition for the legacy waste. Ecology cannot approve the one container of legacy waste being stored at CWC under the LDR Report and this waste needs to be sent for treatment immediately. Section 4.5 – This section needs to reference all interim TPA milestones as of 12/31/19 and the Project Management Plan. The date 01/01/2077 is not acceptable and does not align with M-091 milestones in effect at the time of this report. Replace this date with the negotiated date in effect at the time of this report.						
122	B-252 to B-255 – CWC MLLW-02 Inorganic Non-Debris Solids and Labpacks LSDS	See cited sections in comments.	Section 2.1.1 – The language here, "The waste packages were received from many generators and stored at CWC", does not explain where the waste came from. This needs more details on where this waste actually came from or will come from. Section 2.2 - Needs to be more specific to include the specific dangerous waste management unit(s) (i.e Building #) where this waste is/will be stored. Since adequate treatment capacity exists, this one container needs to be sent for treatment ASAP or a TPA Milestone needs be negotiated for treating this waste. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage						

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			capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.5 – Adequate treatment capacity exists for this waste so, language needs to be updated that newly generated waste will be shipped to an offsite treatment facility within a year of generation. Sections 3.3.2 and 3.3.3 – Based on the information presented in Section 3.2, Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities and assumptions added to Section 3.3.3.						
123	B-256 to B-259 – LLBG MLLW-02 Inorganic Non-Debris LSDS	See cited sections in comments.	Section 2.1 – This LSDS is limited to the location of LLBG, so unless this waste stream is being stored at one of the container storage areas associated with Trenches 31/34, "Container (pad)" should not be checked. Section 2.1.1 – The question was not answered. The current storage method is "Container (retrievably buried)." Question 2.1.1 is specific to management of waste before being placed into retrievable storage. Section 2.2 – The number of containers should not be 0. Current estimates from the draft M-091 Project Management Plan (HNF-19169, Rev. 22) indicate approximately 2,682 cubic meters of suspect TRU/TRUM waste is yet to be retrieved from the LLBGs. Records should be available in order to estimate the number of containers left to be retrieved for this waste stream. Section 2.3 – See comment for Section 2.2. An estimated inventory for this retrievably stored waste stream needs to be included here. Also what does "Inventory will fluctuate do to maintenance being completed LLBGs." mean? Section 2.5 – This waste is not newly generated waste, it is retrievably stored waste, so language needs to be revised to replace the words "newly generated" with "Retrieved waste". Also current plans for treating retrieved waste include onsite as well as offsite treatment. Please add that this waste will be treated onsite as well as offsite.						

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			Section 2.8 – Include the M-091 milestones associated with the retrievably stored waste in the LLBGs. Section 2.11.1 – Verify further characterization is not needed prior to acceptance for storage at another unit. Section 2.11.1, 2.11.2, 2.11.3 – Include the M-091 milestones associated with the retrievably stored waste in the LLBGs. Section 3.2 – Why are the proposed (future) waste minimization methods limited to T Plant personnel? WRAP will also be used to process retrievably stored waste.						
124	B-260 to B-263 – T-Plant MLLW-02 Inorganic Non-Debris LSDS	See cited sections in comments.	Section 2.2 – This needs to specify where this waste will be specifically stored. What is the dangerous waste management unit, building/name/room number will this waste be stored and add this information to this section. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Please add the capacity of the storage location added to address the comment in Section 2.2. Section 2.5 – Adequate treatment capacity exists for this waste so, language needs to be updated that newly generated waste will be shipped to an offsite treatment facility within a year of generation. Sections 3.3.2 and 3.3.3 – Based on the information presented in Section 3.2, Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities and assumptions added to Section 3.3.3.						
125	B-265 to B-272 – MLLW-03 Organic Non-Debris TGDS	See cited sections in comments.	Section 2.2 – What are the assumptions for these waste generation rates? Explain where this waste is coming from?						

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			Section 3.3.2 – There is no current treatment for mixed-waste contaminated with D009 Mercury. All mixed-wastes that have this waste code under this TGDS need to be moved out of this treatability group and associated LSDS and brought under the TGDS and LSDS for mercury as commented on in other comments. A treatability variance will need to be requested for D009 mixed-waste and this waste code needs to be pulled out of this TGDS. Identify LDR Treatment Concentrations or units for these for the following waste codes; F022, P024, U012, U037, and U063. PCB UHCs need to be added to this table. Given that this waste stream is clearly documented as containing constituents that require treatment to underlying hazardous constituents, and that the waste stream is documented to have PCBs well above the Universal Treatment Standard (PCBs present at concentrations greater than 50 ppm), PCBs must be identified as an UHC. Any waste stream that has constituents that require LDR treatment to UHCs and that have PCBs needs to be evaluated for PCBs as UHCs. This is slightly tricky, because if the maximum PCB concentration for non-wastewaters is <10 ppm, the UTS for PCBs, then PCBs are not UHCs. Thus, some waste streams that have PCBs <50 ppm will have PCBs that may be UHCs, while others may not. Thus, the TGDS don't fully provide the information necessary to validate whether or not PCBs are UHCs. Section 4.4 – If treatment capacity is available, then funding is not an excuse for exceeding the LDR storage prohibition for the legacy waste. Ecology cannot approve coverage for this waste under the LDR Report and this waste needs to be sent for treatment ASAP or a TPA Milestone needs to be negotiated for its treatment and disposal. Section 4.5 - Needs to reference all interim TPA milestones as of 12/31/19 and the Project Management Plan if applicable to this waste. Explain if there is a treatment schedule for this specific waste stream and cite where that treatment schedule is specifically. The date 01/01/2077 is not acceptable and does not align with M-091 milestones in effect at the time of this						

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			report. Replace this date with the negotiated date in effect at the time of this report.						
126	B-273 to B-276 – CWC MLLW-03 Organic Non-Debris LSDS	See cited sections in comments.	Sections 1.3.2 and 2.1.1 – The language "The waste was generated at many onsite locations/generators and by offsite generators prior to 1995" and "The waste packages were received from many generators and stored at CWC", does not explain where the waste came from or how the waste was managed prior to storage. More details need to be added on where this waste actually came from and how this waste was managed prior to storage. Section 2.2 – Needs to be more specific to include the specific dangerous waste management unit(s) (i.e Building #) where this waste is/will be stored and include the number of containers in each specific location. Since adequate treatment capacity exists, these four containers need to be sent for treatment ASAP or a TPA Milestone needs be negotiated for treating this waste. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.6 - What are the assumptions for these waste generation rates? Explain where this waste is coming from? Sections 3.3.2 and 3.3.3 – Based on the information presented in Section 3.2, Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities and assumptions added to Section 3.3.3.						
127	B-285 to B-289 – LLBG MLLW-03 Organic Non-Debris LSDS	See cited sections in comments.	Section 1.3.5 – Add TRUM to the sentence "…from the suspect TRU RSW will be managed as MLLW." so the sentence reads "…from the suspect TRU/TRUM RSW will be managed as MLLW." Section 2.1.1 – The question was not answered. The current storage method is "Container (retrievably						

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			buried)." Question 2.1.1 is specific to management of waste before being placed into retrievable storage. Section 2.2 – The number of containers should not be 0. Current estimates from the draft M-091 Project Management Plan (HNF-19169, Rev. 22) indicate approximately 2,682 cubic meters of suspect TRU/TRUM waste is yet to be retrieved from the LLBGs. Records should be available in order to estimate the number of containers left to be retrieved for this waste stream. Section 2.3 – See comment for Section 2.2. An estimated inventory for this retrievably stored waste stream needs to be included here based on that listed in SWITS. Section 2.5 – This waste is not newly generated waste, it is retrievably stored waste, so language needs to be revised to replace the words "newly generated" with "Retrieved waste". Section 2.7 – The link to the storage assessment information should be included in this section vs. including it in Section 2.12 as the report cannot be located using the report number by itself. Section 2.8, 2.11.1, 2.11.2, 2.11.3 – Include the M-091 milestones associated with the retrievably stored waste in the LLBGs. Section 3.2 – Why are the proposed (future) waste minimization methods limited to T Plant personnel? WRAP will also be used to process retrievably stored waste.						
128	B-290 to B-293 – T Plant MLLW-03 Organic Non-Debris LSDS	See cited sections in comments.	Section 2.2 – Needs to be more specific to include the specific dangerous waste management unit(s) (i.e Building #) where this waste is/will be stored and include the number of containers in each specific location. Since adequate treatment capacity exists, these five containers need to be sent for treatment ASAP or a TPA Milestone needs be negotiated for treating this waste. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR						

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			waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.5 – Adequate treatment capacity exists for this waste so, language needs to be updated that newly generated waste will be shipped to an offsite treatment facility within a year of generation. Section 2.6 – What is the basis for estimated generation projection volumes going to zero after 2020? Sections 3.3.2 and 3.3.3 – Based on the information presented in Section 3.2, Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities and assumptions added to Section 3.3.3.						
129	B-295 to B-303 – MLLW-04 Hazardous Debris TGDS	See cited sections in comments.	Section 1.2 – This section needs to be expanded to include descriptions that incorporates all LSDS for LAW-EMF-LAB (WTP). Section 2.2 – What are the assumptions for these waste generation rates? Explain where this waste is coming from. Section 3.3.2 – It appears that three lines on the table in this section are blank. Are all waste codes identified here and are there ones that need to be added to this table? Identify LDR Treatment Concentrations or units for these for the following waste codes; F022, P024, U012, U037, and U063. Need to check U108, U133, U154, U162, U210 to see if the proper LDR Treatment is cited here, as it does not seem to fit the Alternative Treatment Standards for debris. Also, U162 and U210 are missing units for treatments. Batteries should not be included in this TGDS and per comment #30, the TGDS for radioactive contaminated batteries be added back to the LDR Report. Delete this from the D009 waste code line.						

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			PCB UHCs need to be added to this table. Given that this waste stream is clearly documented as containing constituents that require treatment to underlying hazardous constituents, and that the waste stream is documented to have PCBs well above the Universal Treatment Standard (PCBs present at concentrations greater than 50 ppm), PCBs must be identified as an UHC. Any waste stream that has constituents that require LDR treatment to UHCs and that have PCBs needs to be evaluated for PCBs as UHCs. This is slightly tricky, because if the maximum PCB concentration for non-wastewaters is <10 ppm, the UTS for PCBs, then PCBs are not UHCs. Thus, some waste streams that have PCBs <50 ppm will have PCBs that may be UHCs, while others may not. Thus, the TGDS don't fully provide the information necessary to validate whether or not PCBs are UHCs. Section 4.4 – If treatment capacity is available, then funding is not an excuse for exceeding the LDR storage prohibition for the legacy waste. Ecology cannot approve coverage for this waste under the LDR Report and this waste needs to be sent for treatment ASAP or a TPA Milestone needs to be negotiated for its treatment and disposal. Section 4.5 - Needs to reference all interim TPA milestones as of 12/31/19 and the Project Management Plan if applicable to this waste. Explain if there is a treatment schedule for this specific waste stream and cite where that treatment schedule is specifically. The date 01/01/2077 is not acceptable and does not align with M-091 milestones in effect at the time of this report. Replace this date with the negotiated date in effect at the time of this report.						
130	B-304 to B-307 – CWC MLLW-04 Hazardous Debris LSDS	See cited sections in comments.	Section 2.1.1 – The language "The waste packages were received from many generators and stored at CWC", does not explain where the waste came from or how the waste was managed prior to storage. More details need to be added on where this waste actually came from and how this waste was managed prior to storage. Section 2.2 – Needs to be more specific to include the specific dangerous waste management unit(s) (i.e.						

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			Building #) where this waste is/will be stored and include the number of containers in each specific location. Since adequate treatment capacity exists, these 70 containers need to be sent for treatment ASAP or a TPA Milestone needs be negotiated for treating this waste. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.6 - What are the assumptions for these waste generation rates? Explain where this waste is coming from? Sections 3.3.2 and 3.3.3 – Based on the information presented in Section 3.2, Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities and assumptions added to Section 3.3.3.						
131	B-348 to B-352 – LLBG MLLW-04 Hazardous Debris LSDS	See cited sections in comments.	Section 1.3.1 – The general description of the waste does not mention maintenance waste from Trenches 31/34. Please update. Sections 1.3.1, 1.3.2, 1.3.5, and 2.3 – Need to clarify what "drops out" means. Sections 1.3.1, 1.3.2, 2.1.1 – LLBG burial ground numbers are 218-W-3A, -4B, -4C, and 218-E-12B. Please correct throughout. Section 1.3.2 - The retrievably stored waste in the LLBG has already been generated, so the wording "is generated" from the first sentence needs to be deleted here. Section 1.3.3 – The wording "were not regulated at the time of disposal but are expected to be present based on acceptable knowledge waste determinations." and "of disposal" needs to be changed to "when placed in retrievable storage".						

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			Section 1.3.5 – Add TRUM to the sentence "…from the suspect TRU RSW will be managed as MLLW." so the sentence reads "…from the suspect TRU/TRUM RSW will be managed as MLLW." Section 2.1.1 – The question was not answered. The current storage method is "Container (retrievably buried)." Question 2.1.1 is specific to management of waste before being placed into retrievable storage. Section 2.2 – The number of containers should not be 0. Current estimates from the draft M-091 Project Management Plan (HNF-19169, Rev. 22) indicate approximately 2,682 cubic meters of suspect TRU/TRUM waste is yet to be retrieved from the LLBGs. Records should be available in order to estimate the number of containers left to be retrieved for this waste stream. Section 2.3 – See comment for Section 2.2. An estimated inventory for this retrievably stored waste stream needs to be included here based on that listed in SWITS. Section 2.5 – The waste in the LLBG is not newly generated waste, it is retrievably stored waste, so language needs to be differentiate between the newly generated debris from Trenches 31/34 maintenance and the waste that is to be retrieved from the burial grounds. Adequate treatment capacity exists for newly generated waste from Trenches 31/34 so, language needs to be updated that waste will be shipped to an offsite treatment facility within a year of being retrieved or for newly generated waste. We need to discuss this language further. Section 2.7 – The link to the storage assessment information should be included in this section vs. including it in Section 2.12 as the report cannot be located using the report number by itself. Section 2.8, 2.11.1, 2.11.2, 2.11.3 – Include the M-091 milestones associated with the retrievably stored waste in the LLBGs. Section 3.2 – Why are the proposed (future) waste minimization methods limited to T Plant personnel?						

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			WRAP will also be used to process retrievably stored waste. Sections 3.3.2 and 3.3.3 – Based on the information presented in Section 3.2, Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities and assumptions added to Section 3.3.3.						
132	B-353 to B-356 – T Plant MLLW-04 Hazardous Debris LSDS	See cited sections in comments.	Section 2.1.1 – The language "at various onsite locations and by offsite generators", does not explain where the waste came from or how the waste was managed prior to storage. More details need to be added on where this waste is actually coming from and how this waste was managed prior to storage. Section 2.2 – Needs to be more specific to include the specific dangerous waste management unit(s) (i.e Building #) where this waste will be stored. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.5 - Adequate treatment capacity exists for this waste so, language needs to be updated that newly generated waste will be shipped to an offsite treatment facility within a year of generation. Section 2.6 - What are the assumptions for these waste generation rates? Explain where this waste is coming from? Sections 3.3.2 and 3.3.3 – Based on the information presented in Section 3.2, Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities and assumptions added to Section 3.3.3.						
133	B-357 to B-360 – WRAP MLLW-04 Hazardous Debris LSDS	See cited sections in comments.	Section 2.1.1 – The language "at various onsite locations and by offsite generators", does not explain where the waste came from or how the waste was managed prior to storage. More details need to be						

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			added on where this waste is actually coming from and how this waste was managed prior to storage. Section 2.2 – Needs to be more specific to include the specific dangerous waste management unit(s) (i.e Building #) where this waste will be stored. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. Section 2.5 - Adequate treatment capacity exists for this waste so, language needs to be updated that newly generated waste will be shipped to an offsite treatment facility within a year of generation. Section 2.6 - What are the assumptions for these waste generation rates? Explain where this waste is coming from? Sections 3.3.2 and 3.3.3 – Based on the information presented in Section 3.2, Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities and assumptions added to Section 3.3.3.					
134	B-361 to B-364 MLLW-07 – RH and Large Container TGDS	See cited sections in comments.	Section 1.2 – This section needs to be expanded to explain what facilities have/are generating this waste, as there are zero volume projections for this waste stream. Section 3.3.2 – PCB UHCs need to be added to this table. Given that this waste stream is clearly documented as containing constituents that require treatment to underlying hazardous constituents, and that the waste stream is documented to have PCBs well above the Universal Treatment Standard (PCBs present at concentrations greater than 50 ppm), PCBs must be identified as an UHC. Any waste stream that has constituents that require LDR treatment to UHCs and that have PCBs needs to be evaluated for PCBs as UHCs. This is slightly					

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			tricky, because if the maximum PCB concentration for non-wastewaters is <10 ppm, the UTS for PCBs, then PCBs are not UHCs. Thus, some waste streams that have PCBs <50 ppm will have PCBs that may be UHCs, while others may not. Thus, the TGDS don't fully provide the information necessary to validate whether or not PCBs are UHCs. Section 4.4 – This statement needs to be revised based on the treatment TPA Milestone for this waste to be treated. If treatment capacity is available, then funding is not an excuse for exceeding the LDR storage prohibition for legacy waste. This section needs to be revised to address this comment. See redline changes. Section 4.5 - Needs to reference all interim TPA milestones as of 12/31/19 and the Project Management Plan if applicable to this waste. Explain the treatment schedule required in M-091-52-T04. This TPA Milestone needs to be made into a non-target milestone in order to provide coverage under the LDR Report. The date 01/01/2077 is not acceptable and does not align with M-091 milestones in effect at the time of this report. Replace this date with the negotiated date in effect at the time of this report.						
135	B-366 to B-369 – CWC MLLW-07 – RH and Large Container LSDS	See cited sections in comments.	Section 2.1.1 – The language "at various onsite locations and by offsite generators", does not explain where the waste came from or how the waste was managed prior to storage. More details need to be added on where this waste is actually coming from and how this waste was managed prior to storage. Section 2.2 – Needs to be more specific to include the specific dangerous waste management unit(s) (i.e. Building #) where this waste is stored. This needs to identify if this waste is in OSA-A or OSA-B, as there are different requirements for wastes located in this area verse being stored inside buildings at CWC. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be						

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			reached are not included in this section and need to be added to the LDR Report. Section 2.5 - Adequate treatment capacity exists for this waste so, language needs to be updated that newly generated waste will be shipped to an offsite treatment facility within a year of generation. Section 2.8 – Add TPA Milestone M-091--52-T04 here if any of these containers are in OSA-A or OSA-B.						
136	B-370 to B-374 – LLBG MLLW-07 – RH and Large Container LSDS	See cited sections in comments.	Sections 1.3.1, 1.3.2, and 1.3.5 – Need to clarify what "drops out" means. Section 1.3.1, 1.3.2, 2.1.1, 2.3 – LLBG burial ground numbers are 218-W-3A, -4B, -4C, and 218-E-12B. Please correct throughout. Section 1.3.2 - The waste in the LLBG has already been generated. This waste is retrievably stored waste that is retrieved, so the wording "is generated" from the first sentence needs to be deleted here. Section 1.3.3 – The wording "were not regulated at the time of disposal but are expected to be present based on acceptable knowledge waste determinations." and "of disposal" needs to be changed to "when placed in retrievable storage". Section 1.3.5 – Add TRUM to the sentence "…from the suspect TRU RSW will be managed as MLLW." so the sentence reads "…from the suspect TRU/TRUM RSW will be managed as MLLW." Section 2.1.1 – The question was not answered. The current storage method is "Container (retrievably buried)." Question 2.1.1 is specific to management of waste before being placed into retrievable storage. Section 2.2 – The number of containers should not be 0. Current estimates from the draft M-091 Project Management Plan (HNF-19169, Rev. 22) indicate approximately 2,682 cubic meters of suspect TRU/TRUM waste is yet to be retrieved from the LLBGs. Records should be available in order to estimate the number of containers left to be retrieved for this waste stream.						

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			Section 2.3 – See comment for Section 2.2. An estimated inventory for this retrievably stored waste stream needs to be included here based on that listed in SWITS. Section 2.5 – The waste in the LLBG is not newly generated waste, it is retrievably stored waste, so language needs to be revised to replace the words "newly generated" with "Retrieved waste". Also current plans for treating retrieved waste include onsite as well as offsite treatment. Please add that this waste will be treated onsite as well as offsite. Section 2.7 – The link to the storage assessment information should be included in this section vs. including it in Section 2.12 as the report cannot be located using the report number by itself. Section 2.8, 2.11.1, 2.11.2, 2.11.3 – Include the M-091 milestones associated with the retrievably stored waste in the LLBGs. Section 3.2 – Why are the proposed (future) waste minimization methods limited to T Plant personnel? WRAP will also be used to process retrievably stored waste.						
137	B-375 to B-378 – T Plant MLLW-07 – RH and Large Container LSDS	See cited sections in comments.	Section 2.1.1 – The language "at various onsite locations and by offsite generators", does not explain where the waste came from or how the waste was managed prior to storage. More details need to be added on where this waste is actually came from and how this waste was managed prior to storage. This should be specific to the one container in storage at T-Plant. Section 2.2 – Needs to be more specific to include all of the specific dangerous waste management unit(s) (i.e. Building #) where this waste is/will be stored. Since adequate treatment capacity exists, this container needs to be sent for treatment ASAP or a TPA Milestone needs be negotiated for treating this waste. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage						

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			capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. This needs to be specified for all of the locations identified in Section 2.2. Section 2.5 - Adequate treatment capacity exists for this waste so, language needs to be updated that newly generated waste will be shipped to an offsite treatment facility within a year of generation.						
138	B-411 to B-417 –TRUM CH and Large Container TSDS	See cited sections in comments.	Section 2.2. – What are the assumptions for these waste generation rates? Explain where this waste is coming from? Section 3.3.2 - LDR are exempt at disposal at WIPP, but not during storage. The LDR treatment concentration standard and/or technology codes need to be included in this table for all waste codes. PCB UHCs need to be added to this table. Given that this waste stream is clearly documented as containing constituents that require treatment to underlying hazardous constituents, and that the waste stream is documented to have PCBs well above the Universal Treatment Standard (PCBs present at concentrations greater than 50 ppm), PCBs must be identified as an UHC. Any waste stream that has constituents that require LDR treatment to UHCs and that have PCBs needs to be evaluated for PCBs as UHCs. This is slightly tricky, because if the maximum PCB concentration for non-wastewaters is <10 ppm, the UTS for PCBs, then PCBs are not UHCs. Thus, some waste streams that have PCBs <50 ppm will have PCBs that may be UHCs, while others may not. Thus, the TGDS don't fully provide the information necessary to validate whether or not PCBs are UHCs. Section 3.3.3 – The statement that "No LDR treatment required", is not necessarily true, as numerous waste codes need to be treated as part of WIPP's acceptance criteria. The "List" checkbox with NA should be checked and the "No LDR treatment required" checkbox unchecked. The checkbox "No LDR treatment required (e.g. TRUM waste destined for WIPP, exclusion, etc.) needs to be updated to delete all of the e.g. language.						

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			Section 4.5 – This section only cites the M-091 major milestone and needs to reference all interim TPA milestones as of December 31, 2019 and the Project Management Plan. The date 01/01/2077 is not acceptable and does not align with M-091 milestones in effect at the time of this report. Replace this date with the negotiated date in effect at the time of this report.						
139	B-418 to B-421 – CWC TRUM CH Large Container LSDS	See cited sections in comments.	Section 2.1 – The comment in this section needs to include a statement that no future waste will be allowed to be stored in the outdoor storage areas at the CWC due it being an illegal storage area. Section 2.1.1 - The statement, "The waste packages were received from many generators and stored at CWC", does not explain where the waste came from very well. More details on where this waste actually came from should be specified here for waste that did not come from the LLBG, 4C, 4B, 3A, and 12B. Burial ground numbers need to be corrected (218-W-3A, -4B, -4C, and 218-E-12B). Section 2.2 – CWC is not the level of detail needed in section for the physical location of the waste. This section needs to be more specific to include the specific dangerous waste management units where this waste is stored. Include all building numbers where this waste is stored and the number of containers by building number here. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. This needs to be specified for all of the individual locations identified in Section 2.2. Section 2.5 – This section should include a comment that no future waste will be allowed to be stored in the outdoor storage areas at the CWC due it being an illegal storage area.						

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			Section 2.8 – Needs to reference the applicable interim TPA Milestones associated with removal of all waste from the CWC Outdoor Storage areas. Should reference the M-091-52-T-04 and any other applicable interim TPA Milestones. Section 2.11.2 – Until it is disposed, TRUM waste is still subject to LDR requirements. The first sentence in this section that states that "TRUM waste is exempt from treatment since it is being disposed at WIPP" needs to be deleted, as TRUM is not exempt from LDR requirements until it is disposed at WIPP. Additionally, some treatment will need to occur in order to meet WIPP acceptance criteria. The words "and treatment" needs to be added to the last sentence in this section to address this. See redline changes.						
140	B-422 to B-426 – LLBG TRUM – CH Large Container LSDS	See cited sections in comments.	Sections 1.3.1 – The waste in the LLBG is not generated from retrieval activities. It is retrievably stored waste that is already generated. Delete the words, "as generated" from the first sentence in this section and combined the first sentence with the second. See redline changes. Section 2.1.1 – The question was not answered. The current storage method is "Container (retrievably buried)." Question 2.1.1 is specific to management of waste before being placed into retrievable storage. Section 2.2 – LLBG is not the level of detail needed in section for the physical location of the waste. This section needs to be more specific to include the specific dangerous waste management units where this waste is stored. Include all burial grounds where this waste is stored and the number of containers by burial ground (LLBG, 4C, 4B, 3A, and 12B) here. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. A note should be added that the storage capacity is zero for these storage locations and that no new waste will be added to these locations.						

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			Delete the note "Some of the waste will require outside storage at CWC." as the question is specific to the current storage location (i.e., LLBGs). Add the note "No new mixed waste can be stored in the RSW LLBGs." Section 2.7 – The link to the storage assessment information should be included in this section vs. including it in Section 2.12 as the report cannot be located using the report number by itself. Section 2.8, 2.11.1, 2.11.2, 2.11.3 – Include the M-091 milestones associated with the retrievably stored waste in the LLBGs. Section 2.11.2 – Until it is disposed, TRUM waste is still subject to LDR requirements. The first sentence in this section that states that "TRUM waste is exempt from treatment since it is being disposed at WIPP" needs to be deleted, as TRUM is not exempt from LDR requirements <u>until</u> it is disposed at WIPP. Additionally, some treatment will need to occur in order to meet WIPP acceptance criteria. The words "and treatment" needs to be added to the last sentence in this section to address this. See redline changes. Section 3.2 – Why are the proposed (future) waste minimization methods limited to T Plant personnel? WRAP will also be used to process retrievably stored waste.						
141	B-427 to B-430 – T Plant TRUM – CH Large Container LSDS	See cited sections in comments.	Section 1.3.2 – Language from Section 2.1.2 needs to be added to this section. Section 2.1 – The comment in this section needs to include a statement that no future waste will be allowed to be stored in the outdoor storage areas at the CWC due it being an illegal storage area. Section 2.1.1 - The statement, "The waste packages were received from many generators and stored at CWC", does not explain where the waste came from very well. More details on where this waste actually came from should be specified here for waste that did not come from the LLBG, 4C, 4B, 3A, and 12B. Section 2.2 – 2706 TSP is not located within the T Plant Canyon. This location needs to be specified on						

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			the exact location. It should be identified as Cell 16R and the Building number for the T-Plant Canyon. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. This needs to be specified for the location identified in Section 2.2. Section 2.5 – This section should include a comment that no future waste will be allowed to be stored in the outdoor storage areas at the CWC due it being an illegal storage area. Section 2.8 – Needs to reference the applicable interim TPA Milestones associated with storage of this waste. This should reference the specific M-091 interim TPA Milestones here. Section 2.11.2 – Until it is disposed, TRUM waste is still subject to LDR requirements. The first sentence in this section that states that "TRUM waste is exempt from treatment since it is being disposed at WIPP" needs to be deleted, as TRUM is not exempt from LDR requirements until it is disposed at WIPP. Additionally, some treatment will need to occur in order to meet WIPP acceptance criteria. The words "and treatment" needs to be added to the last sentence in this section to address this. See redline changes. This section also needs to reference any applicable interim TPA Milestones associated with characterization of this waste. This should reference the specific M-091 interim TPA Milestones here.						
142	B-431 to B-434 – WRAP TRUM – CH Large Container LSDS	See cited sections in comments.	Section 1.3.5 - Until it is disposed, TRUM waste is still subject to LDR requirements. The last sentence in this section that states that "TRUM destined for WIPP is exempt from LDRs", needs to be deleted, as TRUM is not exempt from LDR requirements until it is disposed at WIPP. Section 2.1.1 - The statement, "The waste packages were received at various locations around the Hanford Site", does not explain where the waste came from						

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			very well. More details on where this waste actually came from should be specified here. Section 2.2 – WRAP is not the level of detail needed in section for the physical location of the waste. This section needs to be more specific to include the specific dangerous waste management units where this waste is stored. Include all building numbers where this waste is stored and the number of containers by building number here. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. This needs to be specified for all of the individual locations identified in Section 2.2. Section 2.5 – This section should include a comment that no future waste will be allowed to be stored in the outdoor storage areas at the CWC due it being an illegal storage area. Section 2.6 - What are the assumptions for these waste generation rates? Explain where this waste is coming from? Section 2.8 – Needs to reference the applicable interim TPA Milestones associated with storage here. Section 2.11.2 – Until it is disposed, TRUM waste is still subject to LDR requirements. The first sentence in this section that states that "TRUM waste is exempt from treatment since it is being disposed at WIPP" needs to be deleted, as TRUM is not exempt from LDR requirements until it is disposed at WIPP. Additionally, some treatment will need to occur in order to meet WIPP acceptance criteria. The words "and treatment" needs to be added to the last sentence in this section to address this. See redline changes. Sections 3.3.2 and 3.3.3 – Based on the information presented in Section 3.2, Section 3.3.2 needs to be filled out with the projected future waste volume						

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			reductions per the waste minimization activities and assumptions added to Section 3.3.3.						
143	B-435 to B-441 –TRUM CH and Small Container TGDS	See cited sections in comments.	Section 2.2. – What are the assumptions for these waste generation rates? Explain where this waste is coming from? Section 3.3.2 - LDR are exempt at disposal at WIPP, but not during storage. The LDR treatment concentration standard and/or technology codes need to be included in this table for all waste codes. PCB UHCs need to be added to this table. Given that this waste stream is clearly documented as containing constituents that require treatment to underlying hazardous constituents, and that the waste stream is documented to have PCBs well above the Universal Treatment Standard (PCBs present at concentrations greater than 50 ppm), PCBs must be identified as an UHC. Any waste stream that has constituents that require LDR treatment to UHCs and that have PCBs needs to be evaluated for PCBs as UHCs. This is slightly tricky, because if the maximum PCB concentration for non-wastewaters is <10 ppm, the UTS for PCBs, then PCBs are not UHCs. Thus, some waste streams that have PCBs <50 ppm will have PCBs that may be UHCs, while others may not. Thus, the TGDS don't fully provide the information necessary to validate whether or not PCBs are UHCs. Section 3.3.3 – The statement that "No LDR treatment required", is not necessarily true, as numerous waste codes need to be treated as part of WIPP's acceptance criteria. The "List" checkbox with NA should be checked and the "No LDR treatment required" checkbox unchecked. The checkbox "No LDR treatment required (e.g. TRUM waste destined for WIPP, exclusion, etc.) needs to be updated to delete all of the e.g. language. Section 4.5 – This section only cites the M-091 major milestone and needs to reference all interim TPA milestones as of December 31, 2019 and the Project Management Plan. The date 01/01/2077 is not acceptable and does not align with M-091 milestones						

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			in effect at the time of this report. Replace this date with the negotiated date in effect at the time of this report.						
144	B-447 to B-451 – CWC TRUM CH Small Container LSDS	See cited sections in comments.	Section 2.1.1 - The statement, "Accumulated and packaged by waste generator prior to storage", does not explain where the waste came from very well. More details on where this waste actually came from should be specified here. Section 2.2 – CWC is not the level of detail needed in section for the physical location of the waste. This section needs to be more specific to include the specific dangerous waste management units where this waste is stored. Include all building numbers where this waste is stored and the number of containers by building number here. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. This needs to be specified for all of the individual locations identified in Section 2.2. Section 2.5 – This section should include a comment that no future waste will be allowed to be stored in the outdoor storage areas at the CWC due it being an illegal storage area. Section 2.6 - What are the assumptions for these waste generation rates? Explain where this waste is coming from? Section 2.8 – Needs to reference the applicable interim TPA Milestones associated with storage. Section 2.11.2 – Until it is disposed, TRUM waste is still subject to LDR requirements. The first sentence in this section that states that "TRUM waste is exempt from treatment since it is being disposed at WIPP" needs to be deleted, as TRUM is not exempt from LDR requirements until it is disposed at WIPP.						

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			Additionally, some treatment will need to occur in order to meet WIPP acceptance criteria. The words "and treatment" needs to be added to the last sentence in this section to address this. See redline changes. Section 3.2 – Should this section reference CWC and not T-Plant? Sections 3.3.2 and 3.3.3 – Based on the information presented in Section 3.2, Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities and assumptions added to Section 3.3.3.						
145	B-452 to B-456 – LLBG TRUM – CH Small Container LSDS	See cited sections in comments.	Section 2.1.1 – The question was not answered. The current storage method is "Container (retrievably buried)." Question 2.1.1 is specific to management of waste before being placed into retrievable storage. Section 2.2 – LLBG is not the level of detail needed in section for the physical location of the waste. This section needs to be more specific to include the specific dangerous waste management units where this waste is stored. Include all burial grounds where this waste is stored and the number of containers by burial ground (LLBG, 4C, 4B, 218-W-3A, and 218-E-12B) here. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. A note should be added that the storage capacity is zero for these storage locations and that no new waste will be added to these locations. Delete the note "No issues with CWC storage based on life cycle waste generation forecast." as the question is specific to storage capcity. Add the note "No new mixed waste can be stored in the RSW LLBGs." Section 2.7 – The link to the storage assessment information should be included in this section vs. including it in Section 2.12 as the report cannot be located using the report number by itself.						

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			Section 2.8, 2.11.1, 2.11.2, 2.11.3 – Include the M-091 milestones associated with the retrievably stored waste in the LLBGs. Section 2.11.2 – Until it is disposed, TRUM waste is still subject to LDR requirements. The first sentence in this section that states that "TRUM waste is exempt from treatment since it is being disposed at WIPP" needs to be deleted, as TRUM is not exempt from LDR requirements until it is disposed at WIPP. Additionally, some treatment will need to occur in order to meet WIPP acceptance criteria. The words "and treatment" needs to be added to the last sentence in this section to address this. See redline changes. Section 3.2 – Why are the proposed (future) waste minimization methods limited to T Plant personnel? WRAP will also be used to process retrievably stored waste.						
146	B-461 to B-464 – T Plant TRUM – CH Small Container LSDS	See cited sections in comments.	Section 1.3.2 – The statement, "TRU mixed waste was generated from numerous onsite and/or offsite location", does not explain where the waste came from. More details on where this waste actually came from should be specified here. Section 2.1.1 - The statement, "Waste was generated from numerous onsite and/or offsite location", does not explain where the waste came from very well. More details on where this waste actually came from should be specified here. Section 2.2 – T Plant Complex is not the level of detail needed in section for the physical location of the waste. This section needs to be more specific to include the specific dangerous waste management units where this waste is stored. Include all building numbers or permitted storage areas where this waste is stored and the number of containers by specific location here. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be						

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			reached are not included in this section and need to be added to the LDR Report. This needs to be specified for the specific locations identified in Section 2.2. Section 2.8 – Needs to reference the applicable interim TPA Milestones associated with storage of this waste. This should reference the specific M-091 interim TPA Milestones here. Section 2.11.2 – Until it is disposed, TRUM waste is still subject to LDR requirements. The first sentence in this section that states that "TRUM waste is exempt from treatment since it is being disposed at WIPP" needs to be deleted, as TRUM is not exempt from LDR requirements until it is disposed at WIPP. Additionally, some treatment will need to occur in order to meet WIPP acceptance criteria. The words "and treatment" needs to be added to the last sentence in this section to address this. See redline changes. This section also needs to reference any applicable interim TPA Milestones associated with characterization of this waste. This should reference the specific M-091 interim TPA Milestones here.						
147	B-465 to B-469 – WRAP TRUM – CH Small Container LSDS	See cited sections in comments.	Section 1.3.5 - Until it is disposed, TRUM waste is still subject to LDR requirements. The last sentence in this section that states that "TRUM destined for WIPP is exempt from LDRs", needs to be deleted, as TRUM is not exempt from LDR requirements until it is disposed at WIPP. Section 2.1.1 - The statement, "Waste was generated and packaged at various locations around the Hanford Site.", does not explain where the waste came from. More details on where this waste actually came from should be specified here. Section 2.2 – WRAP is not the level of detail needed in section for the physical location of the waste. This section needs to be more specific to include the specific dangerous waste management units where this waste is stored. Include all building numbers where this waste is stored and the number of containers by building number here. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR						

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			waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. This needs to be specified for all of the individual locations identified in Section 2.2. Section 2.5 – This section should include a comment that no future waste will be allowed to be stored in the outdoor storage areas at the CWC due it being an illegal storage area. Section 2.6 - What are the assumptions for these waste generation rates? Explain where this waste is coming from? Section 2.8 – Needs to reference the applicable interim TPA Milestones associated with storage here. Section 2.11.2 – Until it is disposed, TRUM waste is still subject to LDR requirements. The first sentence in this section that states that "TRUM waste is exempt from treatment since it is being disposed at WIPP" needs to be deleted, as TRUM is not exempt from LDR requirements until it is disposed at WIPP. Additionally, some treatment will need to occur in order to meet WIPP acceptance criteria. The words "and treatment" needs to be added to the last sentence in this section to address this. See redline changes.						
148	B-471 to B-477 –TRUM RH TSDS	See cited sections in comments.	Section 2.2. – What are the assumptions for these waste generation rates? Explain where this waste is coming from? Section 3.3.2 - LDR are exempt at disposal at WIPP, but not during storage. The LDR treatment concentration standard and/or technology codes need to be included in this table for all waste codes. Section 3.3.3 – The statement that "No LDR treatment required", is not necessarily true, as numerous waste codes need to be treated as part of WIPP's acceptance criteria. The "List" checkbox with NA should be checked and the "No LDR treatment required" checkbox unchecked. The checkbox "No LDR treatment required (e.g. TRUM waste destined for WIPP, exclusion, etc.) needs to be updated to delete all of the e.g. language.						

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			Section 4.5 – This section only cites the M-091 major milestone and needs to reference all interim TPA milestones as of December 31, 2019 and the Project Management Plan. The date 01/01/2077 is not acceptable and does not align with M-091 milestones in effect at the time of this report. Replace this date with the negotiated date in effect at the time of this report.						
149	B-483 to B-486 – CWC RH TRUM LSDS	See cited sections in comments.	Section 2.1 – The comment in this section needs to include a statement that no future waste will be allowed to be stored in the outdoor storage areas at the CWC due it being an illegal storage area. Section 2.1.1 - The statement, "Accumulated and packaged at various locations prior to storage", does not explain where the waste came from. More details on where this waste actually came from should be specified here. Section 2.2 – CWC is not the level of detail needed in section for the physical location of the waste. This section needs to be more specific to include the specific dangerous waste management units where this waste is stored. Include all building numbers where this waste is stored and the number of containers by building number here. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. This needs to be specified for all of the individual locations identified in Section 2.2. Section 2.5 – This section should include a comment that no future waste will be allowed to be stored in the outdoor storage areas at the CWC due it being an illegal storage area.						

#	Page / Section	Text	Comment	Major issue	DOE's Proposed Response	Date Proposed	Ecology's Disposition	Follow-on Actions	Status
			Section 2.6 - What are the assumptions for these waste generation rates? Explain where this waste is coming from? Section 2.8 – Needs to reference the applicable interim TPA Milestones associated with storage. Section 2.11.2 – Until it is disposed, TRUM waste is still subject to LDR requirements. The first sentence in this section that states that "TRUM waste is exempt from treatment since it is being disposed at WIPP" needs to be deleted, as TRUM is not exempt from LDR requirements until it is disposed at WIPP. Additionally, some treatment will need to occur in order to meet WIPP acceptance criteria. The words "and treatment" needs to be added to the last sentence in this section to address this. See redline changes. Section 3.2 – Should this section reference CWC and not T-Plant? Sections 3.3.2 and 3.3.3 – Based on the information presented in Section 3.2, Section 3.3.2 needs to be filled out with the projected future waste volume reductions per the waste minimization activities and assumptions added to Section 3.3.3.						
150	B-487 to B-491 – LLBG RH TRUM – LSDS	See cited sections in comments.	Sections 1.3.1 – The waste in the LLBG is not generated from retrieval activities. It is retrievably stored waste that is already generated. Delete the words "as generated" from the first sentence in this section and combined the first sentence with the second. See redline changes. Section 2.1.1 – The question was not answered. The current storage method is "Container (retrievably buried)." Question 2.1.1 is specific to management of waste before being placed into retrievable storage. Section 2.2 – LLBG is not the level of detail needed in section for the physical location of the waste. This section needs to be more specific to include the specific dangerous waste management units where this waste is stored. Include all burial grounds where this waste is stored and the number of containers by burial ground (LLBG, 4C, 4B, 3A, and 12B) here.						

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			Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. A note should be added that the storage capacity is zero for these storage locations and that no new waste will be added to these locations. Delete the note "No issues with CWC storage based on 20 year waste generation forecast." as the question is specific to the current storage location (i.e., LLBGs). Add the note "No new mixed waste can be stored in the RSW LLBGs." Section 2.7 – The link to the storage assessment information should be included in this section vs. including it in Section 2.12 as the report cannot be located using the report number by itself. Section 2.8, 2.11.1, 2.11.2, 2.11.3 – Include the M-091 milestones associated with the retrievably stored waste in the LLBGs. Section 2.11.2 – Until it is disposed, TRUM waste is still subject to LDR requirements. The first sentence in this section that states that "TRUM waste is exempt from treatment since it is being disposed at WIPP" needs to be deleted, as TRUM is not exempt from LDR requirements until it is disposed at WIPP. Additionally, some treatment will need to occur in order to meet WIPP acceptance criteria. The words "and treatment" needs to be added to the last sentence in this section to address this. See redline changes. Section 3.2 – Why are the proposed (future) waste minimization methods limited to T Plant personnel? WRAP will also be used to process retrievably stored waste.						
151	B-492 to B-495 – T Plant TRUM RH LSDS	See cited sections in comments.	Sections 1.3.1 and 2.2 do not agree with each other. Section 1.3.1 states. "All RH-TRUM waste has been removed from T-Plant at this time", but Section 2.2 states that there is one container inside the T-Plant Canyon. This needs to be clarified as much of the LSDS is not filled out for this container.						

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			Section 1.3.2 – The statement, "TRU mixed waste was generated from numerous onsite and/or offsite location", does not explain where the waste came from. More details on where this waste actually came from should be specified here. Sections 2.1.1 and 2.1.2 – Both of these sections need to be filled out for the one container referenced in Section 2.2. Section 2.2 – This section needs to be more specific to include the specific dangerous waste management units where this waste is stored. Include the specific cell location where this waste is stored here. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. This needs to be specified for the specific locations identified in Section 2.2. Section 2.8 – Needs to reference the applicable interim TPA Milestones associated with storage of this waste. This should reference the specific M-091 interim TPA Milestones here. Section 2.11.2 – Until it is disposed, TRUM waste is still subject to LDR requirements. The first sentence in this section that states that "TRUM waste is exempt from treatment since it is being disposed at WIPP" needs to be deleted, as TRUM is not exempt from LDR requirements until it is disposed at WIPP. Additionally, some treatment will need to occur in order to meet WIPP acceptance criteria. The words "and treatment" needs to be added to the last sentence in this section to address this. See redline changes. This section also needs to reference any applicable interim TPA Milestones associated with characterization of this waste. This should reference the specific M-091 interim TPA Milestones here.						
152	B-496 to B-500 – WRAP	See cited sections in comments.	Section 2.1.1 - The statement, "Waste was generated and packaged at various locations around the Hanford Site.", does not explain where the waste came from.						

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	TRUM RH LSDS		More details on where this waste actually came from should be specified here. Section 2.2 – WRAP is not the level of detail needed in section for the physical location of the waste. This section needs to be more specific to include the specific dangerous waste management unit(s) where this waste is stored. Include all building numbers where this waste is stored and the number of containers by building number here. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. This needs to be specified for all of the individual locations identified in Section 2.2. Section 2.6 - What are the assumptions for these waste generation rates? Explain where this waste is coming from? Section 2.8 – Needs to reference the applicable interim TPA Milestones associated with storage here. Section 2.11.2 – Until it is disposed, TRUM waste is still subject to LDR requirements. The first sentence in this section that states that "TRUM waste is exempt from treatment since it is being disposed at WIPP" needs to be deleted, as TRUM is not exempt from LDR requirements until it is disposed at WIPP. Additionally, some treatment will need to occur in order to meet WIPP acceptance criteria. The words "and treatment" needs to be added to the last sentence in this section to address this. See redline changes.						
153	B-224 to B-227 – TR31+34 Leachate LSDS	See cited sections in comments.	Sections 1.3.5, 2.1, and 2.3 – The wording should be updated for the calling 90-day areas, Central Accumulation Areas. Section 2.11.2 – This section should be marked "yes", as further characterization through sampling is periodically done on this waste stream to verify that that it meets the acceptance criteria for ETF.						

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			Section 2.11.3 - – This section should be marked "yes", as ETF samples wastes to verify that wastes were treated properly.						
154	B-228 to B-231 – 2706-T Tank System LSDS	See cited sections in comments.	Section 1.1 – The name of the tank system is 2706-TB Tank System and not 2706-T Tank System. This should this be changed throughout the LDR Report. Clarify the correct tank system's name. Section 2.1.1 - The statement, "Generated as part of decontamination and treatment activities", does not explain where the waste came from. More details on where this waste actually came from should be specified here. Section 2.2 – T Plant Complex is not the level of detail needed in section for the physical location of the waste. This section needs to be more specific to include the specific dangerous waste management unit(s) where this waste is stored. Include all specific tank and building numbers where this waste is stored. Section 2.3 - According to the October 24, 2013 closure plan, T-XX-2706-220 and -221 are not holding waste, but the LDR report indicates waste being stored. Waste and waste residues were removed in April 2004. This needs to be answered and clarified for this LDR Report. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. This needs to be specified for all of the individual locations identified in Section 2.2.						
155	B-21 to B-25 – 221-T Containment Building TGDS	See cited sections in comments.	Section 3.1.1 – High level should also be selected, given the description in 3.1.3. Section 3.3.2 – All LDR concentration limits are marked unknown and need to be added. Also LDR treatment concentration standards or technology codes						

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			are completely missing or being reported in the incorrect units. All LDR treatment concentration standards or technology codes are known and need to be added to the LDR Report. The last footnote needs to be deleted, as the LDR treatment concentration standards or technology codes are what determines the treatment. PCB UHCs need to be added to this table. Given that this waste stream is clearly documented as containing constituents that require treatment to underlying hazardous constituents, and that the waste stream is documented to have PCBs well above the Universal Treatment Standard (PCBs present at concentrations greater than 50 ppm), PCBs must be identified as an UHC. Any waste stream that has constituents that require LDR treatment to UHCs and that have PCBs needs to be evaluated for PCBs as UHCs. This is slightly tricky, because if the maximum PCB concentration for non-wastewaters is <10 ppm, the UTS for PCBs, then PCBs are not UHCs. Thus, some waste streams that have PCBs <50 ppm will have PCBs that may be UHCs, while others may not. Thus, the TGDS don't fully provide the information necessary to validate whether or not PCBs are UHCs. Section 4.2 – All treatment options are clearly identified in the LDR rules for these wastes. The "Treatment options still being assess" box needs to be unchecked and other boxes checked. Section 4.3 - The language in this section if factually incorrect and needs to be deleted as T-Plant is a RCRA TSD and is not included as a Section 8 Facility in the TPA. There is no discussion of the planned method of treatment or treatment capacity needed to manage these LDR wastes here. This information needs to be added per the LDR treatment concentration standards or technology codes that will be identified in the comments above. Section 4.4 - The language in this section if factually incorrect and needs to be deleted as T-Plant is a RCRA TSD and is not included as a Section 8 Facility in the TPA. Schedule needs to coincide with what is in the draft closure plan for Dangerous waste						

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			management units at the T-Plant. The language should reflect this. Section 4.5 – This section does not include permitting information. The future TSD Permit and the associated closure plan should be referenced for a treatment schedule. Section 4.7 – This needs to be marked "Yes" or "No". Unknown is not an acceptable answer for this TSD. Section 5.0 - The language in this section if factually incorrect and needs to be deleted as T-Plant is a RCRA TSD and is not included as a Section 8 Facility in the TPA. Disposal information needs to be added to this section.						
156	B-26 to B-29 – T-Plant 221-T Containment Building LSDS	See cited sections in comments.	Sections 1.3.2 and 2.1.2 – These sections needs to be expanded on with dates of activities and more details of how and when this waste was generated and stored. Section 2.2. – This section needs to be expanded with all of the Cells listed in Section 2.1.1. Even considering consolidation discussed in Section 2.3, there are still Cells that are not reported here. Each area where mixed waste is stored in the canyon needs to be listed here individually under each row. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. This needs to be specified for all of the individual locations identified in Section 2.2. Sections 2.11.2, 2.11.3, and 2.12 - Process knowledge is not suitable for long term storage. Additionally, characterization may be needed in some cases for treatment and to demonstrate that treatment has been successful. These sections need to be updated that further characterization is needed prior to treatment and disposal and the first sentence in Section 2.12 needs deleting.						

#	Page / Section	Text	Comment	Major issue	DOE's Proposed Response	Date Proposed	Ecology's Disposition	Follow-on Actions	Status
157	B-2 to B5 (Error in PDF, may not be correct referenced pages) – 221-T Tanks System LSDS	See cited sections in comments.	Section 3.1.1 – High level waste also needs to be selected here. Section 3.3.2 - The LDR Treatment Column needs to be updated to state and meet 268.48 for D005, D006, D007, and D008. D010 Selenium word needs to be added and concentration needs to be added. PCB UHCs need to be added to this table. Given that this waste stream is clearly documented as containing constituents that require treatment to underlying hazardous constituents, and that the waste stream is documented to have PCBs well above the Universal Treatment Standard (PCBs present at concentrations greater than 50 ppm), PCBs must be identified as an UHC. Any waste stream that has constituents that require LDR treatment to UHCs and that have PCBs needs to be evaluated for PCBs as UHCs. This is slightly tricky, because if the maximum PCB concentration for non-wastewaters is <10 ppm, the UTS for PCBs, then PCBs are not UHCs. Thus, some waste streams that have PCBs <50 ppm will have PCBs that may be UHCs, while others may not. Thus, the TGDS don't fully provide the information necessary to validate whether or not PCBs are UHCs. Section 3.3.6 - The wording "Characterization and any required treatment will be determined at the time of dispositioning in accordance with the closure plan and associated sampling and analysis plan." The words "Characterization and", "at the time of dispositioning", and "and associated sampling and analysis plan" needs to be removed from this language. Determining UHCs is a generator obligation. A characterization plan is needed for this tank system. Section 4.2 – This section needs to be updated to check that "Treating or plan to treat onsite", as it is not practical that this tank system will be moved to be treated off-site. The check box "Treatment options still being assessed" needs to be unchecked. Sections 4.3, 4.4, and 5.0 - The language in these sections is factually incorrect and needs to be deleted as T-Plant is a RCRA TSD and is not included as a Section 8 Facility in the TPA. The wording here						

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			should reflect that treatment and disposition of T-Plant will occur according to the closure plan in the Hanford Site Permit. See redline changes. Section 4.7 – Needs to be marked "Yes" or "No". Unknown should not be selected.						
158	B-35 to B-39 – T Plant RCRA Tank System LSDS	See cited sections in comments.	Section 1.3.2 – Delete the last two sentences, "New tanks have been installed in 2706_T/2706-TA for newly generated waste. See the 2706-T location-specific data sheet." These tanks are closing, and are no longer in operation. Section 2.2 – Needs to be more specific to include the specific dangerous waste management unit(s) location (i.e. each tank number and canyon cell number) where this waste is stored. A separate row needs to be added for each dangerous waste management unit. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. This needs to be specified for all of the individual locations identified in Section 2.2. Section 2.7 – Ecology is requesting another storage assessment be scheduled for the 221-T Tank System. See comment #37. Sections 2.11.1 and 2.11.2 – These section cannot say unknown at this time. They need to be either marked "Yes" or "No" as it is currently being stored. If Yes is selected for Section 2.1.1, there needs to be a characterization plan in a TPA Milestone. The language in 2.11.1 needs to be deleted. Submittal of a permit application does not constitute agreement. Additionally, the language in Section 2.11.2 needs to be deleted, as LDR treatments for this waste are already available and identifiable.						
159	B-2 to B-6 - (Error in	See cited sections in comments.	Sections 2.1.1 and 2.1.2 – These answers do not answer the questions on how the waste was managed						

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	PDF, may not be correct referenced pages) – T Plant Tank 11L LSDS		prior to storage or the timeframe when the waste was put into storage. These questions need to be answered and the existing language deleted. Section 2.4 – As referenced in LDR Comment #57, storage capacity, when the storage capacity will be reached, and the identification of the bases and assumptions used in making the estimate for LDR waste generation rates, estimates of the storage capacity, and when the storage capacity will be reached are not included in this section and need to be added to the LDR Report. This needs to be specified for the individual locations identified in Section 2.2. Section 2.7 - No assessment has been completed for this tank, so a storage assessment is needed. This has been added to Table 3-2 of the LDR Report. Sections 2.11.2 – 2.11.3 language needs to be incorporated into 2.11.2 and 2.11.2 needs to be marked yes. There needs to be characterization plan added to the LDR Report. 2.11.3 - The language here needs to explain that further characterization is needed to verify LDR concentration limits were met with treatment. Section 2.12 – Wastes were placed in the tank prior to August 19, 1987, is no necessary language and needs to be deleted.					
160	Pages C-1 to C-19	See cited sections in comments.	A discussion needs to take place on the need for Appendix C in the LDR Report. Since all mixed-waste needs to be included in the LDR Report Appendix B, regardless if it is under CERCLA or RCRA, this appendix appears that it is being used as place holder until CERCLA activities start up to determine if the "stuff" is mixed-waste. In many cases the "stuff" is known to be mixed-waste so it needs to be removed from Appendix C and added to Appendix B. There are numerous comments where mixed-waste has been included in Appendix C and should be incorporated into Appendix B of the LDR Report, which is an inappropriate use of this appendix. Appendix C should only be used for materials that are truly unknown. For example 242-T, processed SST tank waste, so it should have an associated LSDS under the SST TGDS. This evaporator will likely be dispositioned under CERCLA, which TPA Milestones					

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			for this CERCLA work can be both the characterization plan (RI) and the treatment plan (Work Plan). We need to go through Appendix C line by line and have a discussion of what is included in this appendix and why. Currently it appears that much of this appendix needs to be incorporated into Appendix B of the LDR Report.						
161	Appendix B	See cited sections.	Appendix B Section 2.7 – The link to the storage assessment information in Section 2.12 should be included in this section as the report cannot be located using the report number by itself.						
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ENCLOSURE

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2019 Hanford Land Disposal Restrictions (LDR) Full Report

Consisting of 649 pages, including this cover page

DOE/RL-2020-09
Revision 0

2019 Hanford Land Disposal Restrictions (LDR) Full Report

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

Contractor for the U.S. Department of Energy
under Contract DE-AC06-09RL14728

P.O. Box 650
Richland, Washington 99352

DOE/RL-2020-09
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2019 Hanford Land Disposal Restrictions (LDR) Full Report

R. C. Winters
Mission Support Alliance

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Assistant Secretary for Environmental Management

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P.O. Box 650
Richland, Washington 99352

APPROVED
By Lynn M. Ayers at 9:53 am, Jun 29, 2020

Release Approval Date

Approved for Public Release;
Further Dissemination Unlimited

DOE/RL-2020-09 REV 0

PRIMARY DOCUMENT STATEMENT

CALENDAR YEAR 2019 HANFORD SITE MIXED WASTE LAND DISPOSAL RESTRICTIONS FULL REPORT

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

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

Approved and issued this _____ day of _____, 2020.

W.F. Hamel, Assistant Manager
for the River and Plateau
U.S. Department of Energy,
Richland Operations Office

A.K. Smith, Program Manager
Nuclear Waste Program
Washington State Department of Ecology

R.G. Hastings, Assistant Manager
for the Tank Farms Project
U.S. Department of Energy, Office of River Protection

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CONTENTS

APPENDICES

FIGURE

TABLES

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TERMS

BDAT	best demonstrated available technology
CAA	central accumulation area
CD	Critical Decision
CDI	Canyon Disposition Initiative
CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
CFR	*Code of Federal Regulations*
CH	contact-handled
CHPRC	CH2M HILL Plateau Remediation Company
CS&I	Closure Services and Infrastructure
CWC	Central Waste Complex
CY	calendar year
D4	decontamination, deactivation, decommissioning, and demolition
D&D	deactivation and decommissioning
DBL	debris large
DBR	debris
DFLAW	direct feed low-activity waste
DOE	U.S. Department of Energy
DOE-ORP	U.S. Department of Energy, Office of River Protection
DOE-RL	U.S. Department of Energy, Richland Operations Office
DST	double-shell tank
EA	environmental assessment
Ecology	Washington State Department of Ecology
EIS	environmental impact statement
EMF	Effluent Management Facility
EPA	U.S. Environmental Protection Agency
ERDF	Environmental Restoration Disposal Facility
ETF	200 Area Effluent Treatment Facility
FFCA	*Federal Facilities Compliance Act*
FFTF	Fast Flux Test Facility
FY	fiscal year
HEPA	high-efficiency particulate air (filter)
HLVIT	high-level waste vitrification
HLW	high-level waste
HRW	high-rad waste
HSTF	Hexone Storage and Treatment Facility
HWTU	Hazardous Waste Treatment Unit
IDF	Integrated Disposal Facility
IHLW	immobilized high-level waste
ILAW	immobilized low-activity waste
IMUST	inactive miscellaneous underground storage tank
INL	Idaho National Laboratory
ISS	interim safe storage
LAB	Analytical Laboratory

LAW	low-activity waste
LDR	land disposal restrictions
LERF	Liquid Effluent Retention Facility
LLBG	Low-Level Burial Grounds
LMP	Low-Activity Waste Facility Melter Process System
LSDS	location-specific data sheet
LVP	Low-Activity Waste Facility Secondary Offgas/Vessel Vent Process System
MLLW	mixed low-level waste
N/A	not applicable
O/C	organic/carbonaceous
OU	operable unit
P2/WMin	pollution prevention/waste minimization
PCB	polychlorinated biphenyl
PFP	Plutonium Finishing Plant
PMP	Project Management Plan
PMW	potential mixed waste
PNNL	Pacific Northwest National Laboratory
PUREX	plutonium uranium extraction (process)
RCRA	*Resource Conservation and Recovery Act of 1976*
REC	Radiochemical Engineering Cell
REDOX	reduction oxidation (process)
RH	remote-handled
RI/FS	remedial investigation/feasibility study
RO	reverse osmosis
ROD	record of decision
RPP	River Protection Project
RSW	retrievably stored waste
S&M	surveillance and maintenance
SAA	satellite accumulation area
SAL	shielded analytical laboratory (cell)
SALDS	State Approved Land Disposal Site
SCW	special-case waste
SMCA	storage method compliance assessment
SRS	Savannah River Site
SST	single-shell tank
SWIFT	Solid Waste Integrated Forecast Technical (Report)
TBD	to be determined
TGDS	treatability group data sheet
TPA	*Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement)
TRU	transuranic (waste)
TRUM	transuranic mixed (waste)
TSCA	*Toxic Substances Control Act of 1976*
TSCR	tank-side cesium removal
TSD	treatment, storage, and/or disposal

TSDF	treatment, storage, and/or disposal facility
UHC	underlying hazardous constituent
UV	ultraviolet
WAC	*Washington Administrative Code*
WESF	Waste Encapsulation and Storage Facility
WIPP	Waste Isolation Pilot Plant
WMA	waste management area
WMU	waste management unit
WRAP	Waste Receiving and Processing Facility
WRPS	Washington River Protection Solutions, LLC
WSCF	Waste Sampling and Characterization Facility
WSRd	waste specification record
WTP	Waste Treatment and Immobilization Plant

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1.0 INTRODUCTION

In accordance with *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement or TPA) (Ecology et al., 1989) milestone M-026-01AD, this document presents the status of Hanford Site land-disposal-restricted mixed waste and other waste that the U.S. Department of Energy (DOE), Washington State Department of Ecology (Ecology), and U.S. Environmental Protection Agency (EPA) have agreed to be within the scope of this report. This report documents waste volumes and projected mixed wastes as of December 31, 2019.

1.1 PURPOSE

This report adheres to the requirements found in the 1990 Requirements for Hanford Land Disposal Restrictions Plan (LDR Plan), Federal Facility Compliance Act of 1992, the 2000 LDR Final Determination, and the 2002 Resolution of Dispute. These documents detail the requirements of the LDR Report. The purpose of this report is to:

- Document all known and potential mixed waste at Hanford.
- Document all known characterization information and treatment technologies.
- When characterization and treatment has not been established, plans and schedules to accomplish characterization and treatment will be established and included in the LDR Report.
- Document storage assessments of all known and potential mixed waste at Hanford to ensure safe storage.
- Annually update all information to include changes in waste characterization, treatment technologies, plans, schedules, and storage assessments.

~~• The purpose of the Hanford Site Mixed Waste Land Disposal Restrictions (LDR) Report is to document and annually update the following:~~

~~All known and potential mixed waste (PMW) at Hanford~~

~~All known mixed waste storage, characterization, and treatment information~~

~~All known characterization and treatment schedules~~

~~Storage method compliance assessments (SMCA) for all known and PMW at Hanford.~~

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1.2 BACKGROUND

Hanford is a 586-square-mile site in southeastern Washington created in 1943 as part of the Manhattan Project to produce plutonium for nuclear weapons. The government eventually built nine nuclear reactors along the banks of the Columbia River as the defense mission continued throughout the Cold War years. In the late 1980s, Hanford's mission shifted from nuclear material production to environmental cleanup, but not before hundreds of square miles of soil and groundwater were contaminated, and millions of gallons of highly radioactive waste were stored in underground tanks.

By this time, Congress had enacted the *Resource Conservation and Recovery Act of 1976*

(RCRA) to protect human health and the environment from the hazards posed by waste disposal; conserve energy and natural resources; reduce the amount of waste generated; and ensure wastes are managed in an environmentally sound manner. RCRA granted EPA the authority to control the generation; transportation; and treatment, storage, and disposal (TSD) of hazardous waste.[1]

[1] EPA subsequently delegated much (but not all) of its RCRA authorities to Washington State, but retains an oversight role of Ecology's program. Washington implements its RCRA authorities through its *Hazardous Waste Management Act* (RCW 70.105) and "Dangerous Waste Regulations" (WAC 173-303).

Separately, Congress passed the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA) to address the dangers of abandoned or uncontrolled hazardous waste sites, authorizing response actions to mitigate environmental threats posed by hazardous wastes at these sites (EPA 2018).[2] CERCLA also granted EPA the authority to hold potentially responsible parties accountable to clean up these hazardous waste sites, as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment.

In 1984, the *Hazardous and Solid Waste Amendments of 1984* added the LDR program to the RCRA framework, prohibiting the land disposal of untreated hazardous wastes, and requiring that hazardous wastes meet established treatment standards before land disposal to decrease the wastes' toxicity or decrease the likelihood that hazardous contaminants would leach.

The LDR program comprised three prohibitions:

- The disposal prohibition requires that specific waste treatment standards must be met before a waste can be land disposed.[3]
- The dilution prohibition forbids the dilution of hazardous waste as a substitute for treatment.
- The storage prohibition prevents indefinite storage of untreated hazardous wastes.

In 1989, the DOE, Ecology, and EPA entered into the TPA to establish an agreed upon plan and schedule for achieving compliance with the CERCLA response action provisions and with the RCRA TSD unit regulations and corrective action provisions, including LDRs.

In 1992, the *Federal Facilities Compliance Act* (FFCA) further amended RCRA, subjecting Federal agencies to administrative orders and requiring site treatment plans for bringing sites into compliance with the RCRA LDR program requirements. However, the FFCA also provided that the requirements for the FFCA site treatment plans would not apply at sites such as Hanford that were already subject to an existing agreement or administrative order governing the treatment of LDR wastes (i.e., the TPA) as long as equivalent treatment and reporting requirements are met.

[2] Short-term removal actions address releases or threatened releases requiring prompt response to mitigate immediate threats. Longer-term remedial response actions permanently and significantly reduce threats posed by hazardous substances that are not immediately life threatening.

[3] Treatment standards for hazardous wastes as documented in 40 CFR 268.40, "Applicability of treatment standards."

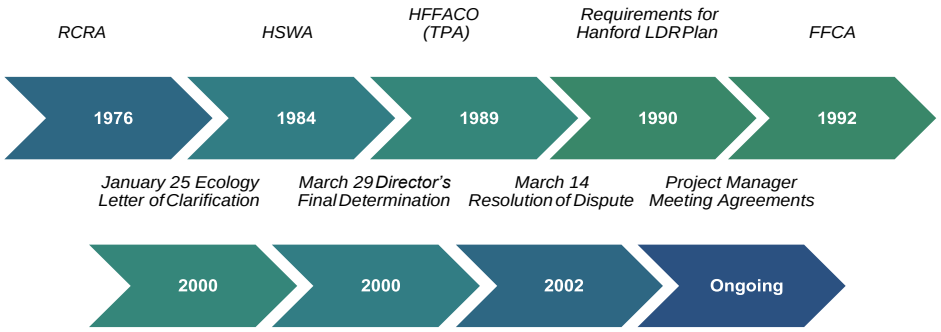

Figure 1-1. Timeline of Rules and Requirements Related to Hanford Site Land Disposal Restriction Reporting Requirements.

At Hanford, agreed upon plans, schedules, and commitments are captured in TPA milestones. TPA milestone M-026-01 requires that DOE submit an annual report that meets the reporting requirements of the FFCA site treatment plan as modified and agreed by the TPA agencies. This calendar year (CY) 2019 report must ~~meets~~ requirements established in TPA milestone M-026-01AD, as well as requirements from the following:

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

Additional LDR reporting requirements are established in TPA project manager meetings and documented in the Administrative Record. ~~A complete list of LDR reporting requirements is included in Appendix A.~~ The following summarizes the information updated in each annual report, as documented in Appendix A:The annual report revisions consist of the following:

Commented [MJW(3]: RCR#2

- 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 method compliance assessments and permitting activities.
- Report on completed LDR storage method compliance 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 five year span for the LDR report, and adding PMW as waste is identified.
- Removing mixed waste and PMW 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.)

In accordance with the TPA Action Plan section 9.0, the LDR report is a primary document, and thus subject to Ecology review and approval, as well as dispute resolution. During the CY 2014 LDR report comment resolution activities, DOE and Ecology agreed on the following~~four "over arching"~~

agreements to guide the path forward for and content of the CY 2019 report. These agreements include:

1. Schedules for all waste streams requiring characterization as described in the March 29, 2000, Director's Determination and the March 14, 2002, Tri-Party Agreement Resolution of Dispute.~~DOE will obtain characterization schedules for identified M-091 waste streams that need them (i.e., storage, treatment, and disposal).~~

~~2. LDR data provided will be a "snapshot in time" and can change from year to year based on pertinent and relevant information.~~

~~3.~~2. Five years of projected treatment volumes will be provided in the 2019 Full Report.

3. The 2019 Report will look at instructions for projected waste treatment volumes.

4. Greater detail on physical location of each mixed waste stream.
5. Schedules for all mixed waste streams requiring treatment.
6. Identification of treatment technologies vs. stating, "Treatment not yet selected." If a treatment technology is available for a particular waste stream but has not yet been selected, the United States Department of Energy (US DOE) has the option of either identifying that treatment, or including a schedule for selecting a treatment technology.
7. References to current storage assessments for each mixed waste stream. All storage assessments will be publicly accessible in the USDOE Administrative Record by reference number.
~~4.~~8. All wastes, as clarified in Ecology's January 25, 2000, letter to USDOE must be identified and included.

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1.3 SCOPE

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

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Mixed waste is not subject to the storage prohibition until generated and managed in a central accumulation area (CAA) or a TSD unit. ~~Although mixed waste managed in a CAA is not considered stored, t~~The EPA has indicated that the storage prohibition clock begins when mixed waste is managed in the CAA (OSWER 1990). Where a TSD unit is managing wastes generated pursuant to a CERCLA decision document, and that unit is not onsite with respect to the scope of the CERCLA action, then the unit must also be subject to a CERCLA offsite determination of acceptability in addition to authorization to treat, store, or dispose according to the Hanford Facility RCRA Permit.

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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 (SAA) or CAA, or is CERCLA mixed waste destined for treatment at the Environmental Restoration Disposal Facility (ERDF)~~.

Per agreement with Ecology on February 6, 2003, mixed waste generated and sent directly to disposal does not need to be reported in the LDR report ("M-026 LDR Report Project Manager Meeting Minutes," [Ecology et al., 2003]). If any storage of the mixed waste occurs, or is forecasted to occur, the mixed waste must be reported.

Commented [MJW(7]: CERCLA Mixed-Waste needs to be included in the LDR Report per the Roger Stanley letter. Need to compare 2.3 in 2014.

1.4 SOURCES AND ORGANIZATION OF DATA

This report provides aggregate waste stream data based on a set of waste treatability groups. Treatability groups, documented in Appendix B treatability group data sheets (TGDS), comprise wastes that may be geographically similar or disparate, but share physical and chemical characteristics, and thus share similar treatment and disposal pathways. The TGDSs describe characteristics that location-specific waste sources share, and provide total waste volume data from the associated location-specific waste streams for both stored and projected wastes.

Many locations of mixed waste can exist within a treatability group; these locations are detailed in location-specific data sheets (LSDS) for the sources of waste. The LSDSs describe how, where, and the volume of waste stored and present information concerning disposition of the waste. Appendix B contains the comprehensive set of TGDSs and LSDSs. Appendix B, Figure B-1, shows the relationships between TGDSs and LSDSs.

The following location-specific waste streams, listed here with their associated treatability groups, have been added since publication of DOE/RL-2015-08, *Calendar Year 2014 Hanford Site Mixed Waste Land Disposal Restrictions Full Report*[4]:

- 221-T Tank System
  - T Plant Complex Tank 11-L
- Double-Shell Tank (DST) Waste
  - Low-Activity Waste (LAW) Facility Immobilized Low-Activity Waste (ILAW)
  - Tank-Side Cesium Removal (TSCR) Ion Exchange Columns
- ERDF – Treatment
  - 222-S Laboratory Hazardous Debris
  - 325 Hazardous Waste Treatment Units (HWTU) Radioactive Lead and Debris
  - Soil and Groundwater Hazardous Debris
- Liquid Effluent Retention Facility (LERF)/Effluent Treatment Facility (ETF) Liquid Waste
  - Effluent Management Facility (EMF) Condensate
- MLLW-03 – Organic Non-Debris
  - Analytical Laboratory (LAB) Spent Chemical Reagents
  - LAW Facility Secondary Offgas/Vessel Vent Process System (LVP) Sulfur Impregnated Carbon Absorbent Media

[4] The 222-S Laboratory Complex treatability group was renamed the Hanford Site Laboratory Complex. No new treatability groups were established for the CY 2019 report. Treatability groups are listed here to provide context for the location-specific waste streams added since the CY 2015 report publication.

- MLLW-04 – Hazardous Debris
  - EMF Contaminated Personal Protective Equipment
  - EMF Miscellaneous Debris
  - LAW Facility Melter Process System (LMP) Glass Debris from the Bagging Station
  - LAW Facility LMP Melter Consumables
  - LAW Facility LMP Melter Pool Bubblers/Thermowells
  - LAW Facility LVP High-Efficiency Particulate Air (HEPA) Filters
  - LAW Facility LVP Selective Catalytic Reduction Media
  - LAW Facility LVP Thermal Catalytic Oxidizer Media
  - LAW Facility Miscellaneous Metal Parts
  - LAW/EMF/LAB Miscellaneous Compactable Debris

Table 1-1 lists the names of the treatability groups used in this report and the major sources of waste in each group. Table 1-2 lists 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. Other materials and items currently on the Hanford Site that might be designated as mixed waste in the future are described in Appendix C, and are identified as PMW.

Table 1-1. Treatability Groups. (2 pages)

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 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-1960s and the processing of high-level vault waste.
325 HWTUs	Laboratory waste generated by research and analytical activities conducted by PNNL. This waste stream was managed in SAAs and CAAs and subsequently transferred to the 325 HWTUs for storage and/or treatment. Waste is or was generated by active, ongoing projects at PNNL.
400 WMU	Mixed waste generated from the deactivation of the FFTF.
B Plant Cell 4	Drums of WESF hot cell maintenance waste placed in storage from 1988 to 1997.
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	Cesium chloride salt and strontium fluoride salt reclaimed from DST and SST systems mixed waste.
DST Waste	Widely varying waste from chemical separations processes (e.g., PUREX, PFP, cesium and strontium separations) and related support facilities operating from 1970 to date. This treatability group includes vitrified tank waste and related spent ion exchange media, radioactively contaminated lead, and hazardous debris from various locations.

Commented [MJW(8]: See RCR Comment #30

Table 1-1. Treatability Groups. (2 pages)

Treatability Group Name	Major Waste Sources
ERDF-Treatment	Spent resins and contaminated waste from CERCLA remediation and D4 debris requiring treatment before disposal at ERDF.
Hanford Site Laboratory Complex	Waste resulting from operations at the 222-S Laboratory Complex and other Hanford Site activities.
HSTF	Residual heel content remaining from REDOX process.
LERF/ETF Liquid Waste	Liquid waste sent from various Hanford Site processes to LERF and 200 Area ETF for treatment.
LERF/ETF Solid Waste	Dried powder waste and operational waste generated as a result of operating LERF/ETF.
MLLW-02–Inorganic Non-Debris	Inorganic particulates, absorbed liquids and sludge, 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-04–Hazardous Debris	Paper, plastic, rubber, wood, rags, metals (spent equipment), and to a lesser extent concrete, and asbestos debris from various locations.
MLLW-07–RH and Large Container	RH and oversized CH MLLW generated 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.
SST Waste	Widely varying waste from chemical separations processes and related support facilities operating between 1944 and 1980.
TRUM-CH Large Container	CH TRUM waste in large boxes from various sources.
TRUM-CH Small Container	CH TRUM waste includes a variety of waste from various locations packed into smaller containers using standard processing techniques.
TRUM-RH	RH TRUM waste originates from various locations and has a contact dose rate of >200 mrem/hr.

[1] This treatability group includes both TRUM and non-mixed transuranic waste. TRUM and non-mixed transuranic exist in the same storage unit and can be difficult to distinguish when the waste has been in storage for quite some time.

CERCLA = *Comprehensive Environmental Response, Compensation, and Liability Act*.
CH = contact-handled.
D4 = decontamination, deactivation, decommissioning, and demolition.
DST = double-shell tank.
ERDF = Environmental Restoration Disposal Facility.
ETF = Effluent Treatment Facility.
FFTF = Fast Flux Test Facility.
HSTF = Hexone Storage and Treatment Facility.
HWTU = Hazardous Waste Treatment Unit.
LERF = Liquid Effluent Retention Facility.
MLLW = mixed low-level waste.
PFP = Plutonium Finishing Plant.
PNNL = Pacific Northwest National Laboratory.
PUREX = Plutonium-Uranium Extraction (Plant).
REC = Radiochemical Engineering Cell.
REDOX = Reduction-Oxidation (Plant).
RH = remote-handled.
SST = single-shell tank.
TRUM = transuranic mixed (waste).
WESF = Waste Encapsulation and Storage Facility.
WMU = waste management unit.

Table 1-2. Streams No Longer Applicable to Report. (4 pages)

Commented [MJW(9]: See RCR Comment #30

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 disposed of at ERDF.
200-UP-1	200-UP-1 groundwater produced as a result of groundwater remediation under the 200-UP-1 Interim ROD	200-UP-1 OU contaminated groundwater is extracted and treated in the 200-West Area Pump-and-Treat Facility then reinjected back to the aquifer through injection wells.
222-S RH-MLLW	222-S Laboratory Complex	Treatability group was combined with the MLLW-07 treatability group.
241-Z	PFP	Treatability group was combined with the DST Waste treatability group. The waste is no longer generated and the 241-Z Tank System has been closed.
4843 Sodium Storage Facility Waste	Waste sodium from FFTF operations	This waste was sent to Tennessee for treatment in 2010/2011 and the debris with treatment residues have been returned and disposed in Trenches 31/34.
618-4 Depleted Uranium/Oil Drums	618-4 Burial Ground	Waste has been treated offsite.
ERDF – Direct Disposal	Hanford Site remediation waste	No storage of mixed waste occurred for this treatability group.
ERDF – Treatment	WSCF Laboratory Hazardous Waste[1]	WSCF closed. Waste stream no longer generated.
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 S&M of the emptied tanks that were used to store the hexone. The remaining heels in the two tanks are reported in the HSTF 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.
LERF/ETF Liquid Waste	PFP Aqueous Waste[1]	Waste stream no longer generated.

Table 1-2. Streams No Longer Applicable to Report. (4 pages)

Treatability Group Name	Waste Source	Reason
LLBG Unique Waste	Beryllium, F027-contaminated waste, and waste with unique processing concerns that had been placed in disposal at the LLBG	There are no longer plans to generate and store this waste within the LLBG.
~~MLLW-01~~	~~CS&I Miscellaneous Non-Routine Streams[1]~~	~~LDR compliant waste streams.~~
~~MLLW-01~~	~~CWC LDR Compliant[1]~~	~~LDR compliant waste streams.~~
~~MLLW-01~~	~~T Plant Complex LDR Compliant[1]~~	~~LDR compliant waste streams.~~
~~MLLW-01~~	~~WRAP LDR Compliant[1]~~	~~LDR compliant waste streams.~~
MLLW-02 – Inorganic Non-Debris	WRAP Inorganic Non-Debris Solids and Labpacks[1]	No inventory in storage and no projections during the next 5 years.
MLLW-03 – Organic Non-Debris	WRAP Organic Non-Debris[1]	No inventory in storage and no projections during the next 5 years.
MLLW-04 – Hazardous Debris	FFTF-440 Pad[1]	All waste has been removed. The location is no longer used as a CAA or SAA.
~~MLLW-05 – Radioactive Lead Solids~~	~~CWC Elemental Lead[1]~~	~~No inventory in storage and no projections during the next 5 years.~~
~~MLLW-05 – Radioactive Lead Solids~~	~~T Plant Complex Elemental Lead[1]~~	~~No inventory in storage and no projections during the next 5 years.~~
~~MLLW-05 – Radioactive Lead Solids~~	~~WRAP Radioactive Lead Solids[1]~~	~~No inventory in storage and no projections during the next 5 years.~~
~~MLLW-06 – Mercury Wastes~~	~~CWC Elemental Mercury[1]~~	~~No inventory in storage and no projections during the next 5 years.~~
~~MLLW-06 – Mercury Wastes~~	~~WRAP Elemental Mercury[1]~~	~~No inventory in storage and no projections during the next 5 years.~~
MLLW-07 – RH and Large Container	325 HWTUs[1]	No longer anticipate generating large or RH mixed waste that cannot be treated at 325 HWTUs or at a commercial facility.
MLLW-07 – RH and Large Container	WRAP MLLW-07[1]	No inventory in storage and no projections during the next 5 years.
MLLW-08 – Unique Waste	CWC Unique Waste[1]	No inventory in storage and no projections during the next 5 years.
MLLW-08 – Unique Waste	T Plant Complex Mixed Waste Requiring Special Processing[1]	No inventory in storage and no projections during the next 5 years.
MLLW-08 – Unique Waste	WRAP Unique Waste[1]	No inventory in storage and no projections during the next 5 years.
~~MLLW-09 – Radioactive Batteries~~	~~CWC Pb and Cd Batteries[1]~~	~~No inventory in storage and no projections during the next 5 years.~~
~~MLLW-09 – Radioactive Batteries~~	~~T Plant Complex Radioactive Batteries[1]~~	~~No inventory in storage and no projections during the next 5 years.~~

~~Table 1-2. Streams No Longer Applicable to Report. (4 pages)~~

~~Treatability Group Name~~	~~Waste Source~~	~~Reason~~
~~MLLW-09 – Radioactive Batteries~~	~~WRAP Miscellaneous Heavy Metal Batteries[1]~~	~~No inventory in storage and no projections during the next 5 years.~~
~~MLLW-10 – Reactive Metals~~	~~CWC Alkali Metals[1]~~	~~No inventory in storage and no projections during the next 5 years.~~
~~MLLW-10 – Reactive Metals~~	~~T Plant Complex Reactive Metals[1]~~	~~No inventory in storage and no projections during the next 5 years.~~
PFP – Lab Chemicals/Reagents, LDR Compliant	PFP laboratory D&D	Lab chemicals/reagents, LDR compliant, cleanout was completed before demolition activities commenced and therefore are no longer being generated.
PNNL-305B	Waste generated from PNNL laboratory and facility operations	PNNL mixed waste storage/treatment has been consolidated into the 325 HWTUs. 305-B was clean closed in 2007.
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.
Purgewater	Purgewater generated from pump-and-treat operations, well drilling, groundwater sampling, and well maintenance across the Hanford Site	This waste stream was closed and not used in 2011.
T Plant EC-1 Condenser	242-A Evaporator	Shipped offsite for recycling in CY 2002.
T-Dragoff	T Plant Complex	Waste was dispositioned and disposed.
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-091 settlement agreement.
TX/TY Treatability Test Wells	200-ZP-1 groundwater, produced as part of a treatability test	Waste streams are now covered under the latest 200-ZP-1 OU ROD and therefore are not being generated independently.
WTP Lab Complex	WTP Lab Miscellaneous Compactable Debris[1]	WTP waste streams clarified and added to appropriate MLLW group.
WTP Lab Complex	WTP Lab Radioactive Liquid Waste Disposal System[1]	WTP waste streams clarified and added to the LERF/ETF treatability group.
WTP Lab Complex	WTP Lab Spent Chemicals/Reagents[1]	WTP waste streams clarified and added to appropriate MLLW group.

Table 1-2. Streams No Longer Applicable to Report. (4 pages)

Treatability Group Name	Waste Source	Reason
WTP Lab Complex	WTP Lab Spent Ion Exchange Resin[1]	WTP waste streams clarified and added to appropriate MLLW group.

[1] Waste streams removed for the CY 2019 report.

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

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

CAA = central accumulation area
CS&I = Closure Services and Infrastructure.
CWC = Central Waste Complex.
CY = calendar year.
D&D = deactivation and decommissioning.
DST = double-shell tank.
ERDF = Environmental Restoration Disposal Facility.
ETF = Effluent Treatment Facility.
FFTF = Fast Flux Test Facility.
HSTF = Hexone Storage and Treatment Facility.
HWTU = Hazardous Waste Treatment Unit.
LDR = land disposal restrictions.
LERF = Liquid Effluent Retention Facility.
LLBG = Low-Level Burial Grounds.
MLLW = mixed low-level waste.
OU = operable unit.
PCB = polychlorinated biphenyl.
PFP = Plutonium Finishing Plant.
PNNL = Pacific Northwest National Laboratory.
PUREX = plutonium-uranium extraction.
RH = remote-handled.
ROD = record of decision.
S&M = surveillance and maintenance.
TRUM = transuranic mixed (waste).
WRAP = Waste Receiving and Processing Facility.
WSCF = Waste Sampling and Characterization Facility.
WTP = Waste Treatment and Immobilization Plant.

1.5 DATA COLLECTION PROCESS

The Mission Support Alliance, LLC, maintains a central database (the LDR database) for managing data contained in the Appendix B TGDSs and LSDSs. Contractor staff knowledgeable of each location-specific waste stream collect and input data on stored and projected mixed waste into the LDR database. Volumes reported as stored inventory at specific locations automatically are summed and presented as the storage information for the associated treatability group inventory. The database performs an analogous automatic summation for projected waste generation rates.

1.6 REPORT PRODUCTION SCHEDULE AND MECHANICS

In accordance with TPA change control form M-26-06-01, summary reports are issued every year for 4 years, and a full report is issued every fifth year. Each annual LDR report is issued with a unique document number. Each full report supersedes the previous full report, and each summary report supersedes the previous summary report. Proposed TPA milestones or proposed changes to TPA milestones are identified and processed in accordance with TPA Action Plan section 12.0, and not as part of the annual LDR report review and approval process. Modifications to the TPA milestones listed in the LDR report are incorporated in the next year's report and are not issued as errata sheets or TPA change notices.

Commitments other than TPA milestones can be proposed in the LDR Report when required.

Commented [MJW(10]: RCR #3

The decision to choose a particular pathway is made jointly by DOE and Ecology project managers responsible for the work scope in question.

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. Additional workshops were held in subsequent years resulting in Tri-Party Agreement change request M 026 06-01, which established the content and format of LDR Summary Reports following a pilot activity in CY 2005. The Summary Reports are to be issued every year for four years, with the fifth year being a Full Report.

1.7 ASSUMPTIONS

The following key assumptions were used to prepare this report.

- Disposition of the ~~five canyon facilities~~ PUREX, B Plant, REDOX, and U Plant will be addressed by the Canyon Disposition Initiative (CDI) under CERCLA as documented by the Tri-Parties in an agreement in principle and in TPA change control form M-85-10-01, dated March 18, 2010. ~~The T Plant Canyon currently engages in active operations and is not yet included in the M-085 milestone series. After operations are complete, T Plant will be dispositioned in accordance with Action Plan sections 7 and 8. Until a final decision is made under CERCLA in accordance with the CDI, no commitments will be made regarding disposition of wastes in storage that are identified for coordination with the CERCLA decision.~~

- ~~TSD closure will be coordinated with the operable unit (OU) remediation in accordance with M-015 milestones for those sites assigned to an OU.~~

- Single-shell tank (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. Supernatant from the DST System may be used to mobilize the SST waste.

- Tank waste will be transferred initially ~~using a~~to the TSCR for pre-treatment prior to vitrification.

- Pretreated tank waste will be transferred to LAW and high-level waste vitrification (HLVIT) facilities. Initially, only LAW will be processed, with both LAW and high-level waste (HLW) separation and vitrification occurring later.

- Process condensate from the 242-A Evaporator and hazardous wastewater from other sources, including liquid effluents from ~~tank waste~~ vitrification at WTP, 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 TPA milestones are made using section 12.0 of the TPA Action Plan, and are not part of the review and approval of the annual LDR report update.

Commented [MJW(11]: See RCR Comment #4

2.0 TREATABILITY GROUP SUMMARY

As described in section 1.4, the annual LDR report provides comprehensive storage, characterization, and treatment information for Hanford Site LDR wastes by treatability group. Treatability groups are composed of waste streams that share physical and chemical characteristics, and thus share similar treatment and disposal pathways. Each waste treatability group is or will be assigned to a specific treatment process based on the characterization, treatment, and/or treatment process capability. Chapter 3.0 provides waste storage and projected generation information, Chapter 5.0 provides characterization information, and Chapter 6.0 provides treatment information, by treatability group. Chapter 7.0 provides information on disposal of mixed low-level waste (MLLW), HLW, and transuranic (TRU) wastes. Table 2-1 summarizes information from each of these chapters.

Table 2-1. Summary of Storage, Characterization, Treatment and Disposal Information by Treatability Group. (5 pages)

Treatability Group Name	Current Inventory (m^3)[1]	Projected Generation 2020–2024 (m^3)	Characterization Information	Treatment Process	Projected Volume to be Treated 2020–2024 (m^3)	Disposal
221-T Containment Building	58.000	0.000	LLW; RH; solid; non-wastewater; contains PCBs	Treatment options still being assessed	No treatment expected over the next 5 years.	To be determined.
221-T Tank System[2]	3.593	0.000	MLLW; RH; solid, liquid, semi-solid; non-wastewater; contains PCBs	Treatment options still being assessed	No treatment expected over the next 5 years.	To be determined.
222-S T8 Tunnel	0.200	0.000	MLLW; RH; debris, non-wastewater; contains PCBs	Treatment options still being assessed	No treatment expected over the next 5 years.	To be determined.
241-CX Tank System	5.980	0.000	MLLW; RH; other; non-wastewater; does not contain PCBs	Treatment options still being assessed	No treatment expected over the next 5 years.	Waste will be dispositioned with the TSD unit closure.
324 Building REC Waste	5.000	0.000	MLLW; RH, debris; non-wastewater; does not contain PCBs	Onsite stabilization, macroencapsulation	5.000	Waste will be disposed at ERDF.
325 HWTUs	12.200	45.500	MLLW; CH; solid, liquid, debris, semi-solid; non-wastewater; contains PCBs	HWTU: neutralization, solidification, stabilization, deactivation, macroencapsulation. Commercial: macroencapsulation, deactivation, stabilization, thermal treatment	45.500	Waste will be disposed of in Hanford Site waste disposal trenches or commercial facilities.
400 Area WMU	1.900	0.000	MLLW; CH; solid; non-wastewater, does not contain PCBs	Treatment options still being assessed	Volumes will be assessed following the planned treatability study.	Waste will be disposed at ERDF or LLBG.

Commented [MJW(12]: See RCR Comments #30, #34, and #36

Table 2-1. Summary of Storage, Characterization, Treatment and Disposal Information by Treatability Group. (5 pages)

Treatability Group Name	Current Inventory (m^3)[1]	Projected Generation 2020–2024 (m^3)	Characterization Information	Treatment Process	Projected Volume to be Treated 2020–2024 (m^3)	Disposal
B Plant Cell 4	1.400	0.000	MLLW; RH; solid; non-wastewater; does not contain PCBs	Treatment options still being assessed	No treatment expected over the next 5 years.	To be determined.
B Plant Containment Building[3]	294,000 kg	0.000	MLLW; RH; solid; non-wastewater; does not contain PCBs	Treatment options still being assessed	No treatment expected over the next 5 years.	To be determined.
Cesium and Strontium Capsules	2.000	0.000	MLLW; RH; solid; non-wastewater; does not contain PCBs	Treatment options still being assessed	No treatment expected over the next 5 years.	Disposal to be determined based on outcome of dispostion pathways evaluation under M-092-20, due March 2022.
DST Waste	98,019.323	31,437.000	MLLW; RH; other; non-wastewater; contains PCBs	HLVIT	11,322.000	The vitrified low-activity waste fraction will be disposed onsite in a retrievable form. The vitrified HLW fraction will be stored onsite until a permanent repository is available to receive wastes for disposal.
ERDF – Treatment	114.500	1,505.927	MLLW; CH; solid, debris, other; non-wastewater; contains PCBs	Macroencapsulation, stabilization	1,272.927	Waste stream is disposed of at ERDF.
Hanford Site Laboratory Complex	6.000	146.500	MLLW; CH; solid, liquid, debris, semi-solid; non-wastewater; contains PCBs	Hanford Site Laboratory Complex treatment, commercial stabilization, commercial thermal.	146.500	Subject waste will ultimately be disposed of in mixed waste trenches located on the Hanford Site or at commercial facilities.

Table 2-1. Summary of Storage, Characterization, Treatment and Disposal Information by Treatability Group. (5 pages)

Treatability Group Name	Current Inventory (m^3)[1]	Projected Generation 2020–2024 (m^3)	Characterization Information	Treatment Process	Projected Volume to be Treated 2020–2024 (m^3)	Disposal
HSTF	0.984	0.000	MLLW; CH; other; non-wastewater; contains PCBs	Waste has been interim stabilized (DOE/RL-2008-51)	No treatment expected over the next 5 years.	Closure of this TSD will be coordinated with the 200-IS-1 OU remediation.
LERF/ETF Liquid Waste	37,712.377	71,433.000	MLLW; CH; liquid; wastewater; contains PCBs	ETF	85,059.000	The delisted wastewater is disposed to a SALDS under a WAC 173-216 permit.
LERF/ETF Solid Waste	471.440	2,450.000	MLLW; CH; solid, debris; non-wastewater; does not contain PCBs	ERDF treatment, commercial stabilization	490.000	Secondary LDR compliant waste generated from facility maintenance, operations as well as the ETF treatment process is disposed at ERDF.
MLLW-02 – Inorganic Non-Debris	0.208	1.260	MLLW; CH; solid, liquid, semi-solid, other; non-wastewater; does not contain PCBs	Commercial stabilization, commercial deactivation, T Plant Complex treatment	7.200	The treated waste is returned to Hanford for disposal in to the Mixed Waste Disposal Units or ERDF.
MLLW-03 – Organic Non-Debris	2.208	53.160	MLLW; CH; solid, liquid, semi-solid, other; non-wastewater; contains PCBs	Commercial thermal	4.500	The treated waste is returned to Hanford for disposal in to the Mixed Waste Disposal Units or ERDF.
MLLW-04 – Hazardous Debris	16.953	1,099.150	MLLW; CH; debris; non-wastewater; contains PCBs	Primarily commercial macroencapsulation	12.800	The treated waste is returned to Hanford for disposal in to the Mixed Waste Disposal Units or ERDF.
MLLW-07 – RH and Large Container	4.218	0.000	MLLW; RH; solid, liquid, debris, semi-solid, other; non-wastewater; contains PCBs	Commercial macroencapsulation and/or future M-091 capability	No treatment expected over the next 5 years.	The treated waste will be returned to Hanford for disposal in to the Mixed Waste Disposal Units or ERDF.

Table 2-1. Summary of Storage, Characterization, Treatment and Disposal Information by Treatability Group. (5 pages)

Treatability Group Name	Current Inventory (m^3)[1]	Projected Generation 2020–2024 (m^3)	Characterization Information	Treatment Process	Projected Volume to be Treated 2020–2024 (m^3)	Disposal
PUREX Plant	1.000	0.000	MLLW; RH; solid; non-wastewater; does not contain PCBs	Treatment options still being assessed	No treatment expected over the next 5 years.	To be determined.
PUREX Storage Tunnel	2,800.000	0.000	MLLW; RH; other; non-wastewater; does not contain PCBs	Treatment options still being assessed	No treatment expected over the next 5 years.	To be determined.
SST Waste	108,000.000	0.000	MLLW; RH; other; non-wastewater; contains PCBs	HLVIT	4,640.000	The LAW fraction will be disposed onsite in a retrievable form. The vitrified HLW fraction will be stored onsite until a permanent repository is available to receive wastes for disposal.
TRUM-CH Large Container	4,846.510	190.000	TRU; CH; solid, debris; non-wastewater; contains PCBs	Waste is planned to be treated at a variety of facilities with M-091 capabilities that may or may not be onsite. The primary objective of treatment is to cut metal debris into smaller pieces so that it can be placed in a smaller box. WIPP can currently accept a box (SLB2) up to an internal volume of approximately 6.95 m^3.	1,625.000	TRUM is disposed of at WIPP.

Table 2-1. Summary of Storage, Characterization, Treatment and Disposal Information by Treatability Group. (5 pages)

Treatability Group Name	Current Inventory (m^3)[1]	Projected Generation 2020–2024 (m^3)	Characterization Information	Treatment Process	Projected Volume to be Treated 2020–2024 (m^3)	Disposal
TRUM-CH Small Container	5,241.437	1,346.124	TRU; CH; solid, other; non-wastewater; contains PCBs	The waste is processed at WRAP, CWC, and T Plant. Future unit operations will include solidification. The unit operations are performed as necessary for the waste to meet the WIPP waste acceptance criteria.	1.080	TRUM is disposed of at WIPP.
TRUM-RH	497.206	44.000	TRU; RH; solid, debris; non-wastewater; PCBs unknown	Future M-091 capability	No treatment expected over the next 5 years.	TRUM is disposed of at WIPP.

[1] Current inventory expressed in cubic meters unless otherwise noted.
[2] The stored volume reported contains uncertainty as to the actual volume (05-AMCP-0318).
[3] 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.

05-AMCP-0318, 2005, "Calendar Year 2004 Land Disposal Restrictions Report Comment Reponses" (letter to M.A. Wilson, State of Washington, Department of Ecology), from K.A. Klein, U.S. Department of Energy, Richland Operations Office, Richland, Washington, July 12. (https://pdw.hanford.gov/document/DA506101)
40 CFR 268.42, "Treatment standards expressed as specified technologies," Title 40, *Code of Federal Regulations*, Part 268.42, as amended. (https://ecfr.io/Title-40/se40.29.268_142)
40 CFR 268.45, "Treatment standards for hazardous debris," Title 40, *Code of Federal Regulations*, Part 268.45, as amended. (https://ecfr.io/Title-40/se40.29.268_145)
DOE/RL-2008-51, 2008, *241-CX Tank system Closure Plan*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/0812290629)
WAC 173-216, "State Waste Discharge Program," *Washington Administrative Code*, Olympia, Washington, as amended. (https://apps.leg.wa.gov/WAC/default.aspx?cite=173-216&full=true)

CDI = Canyon Disposition Initiative.
CERCLA = *Comprehensive Environmental Response, Compensation, and Liability Act*.
CFR = *Code of Federal Regulations*.
CH = contact-handled.
CWC = Central Waste Complex.
DST = double-shell tank.
Ecology = Washington State Department of Ecology.
ERDF = Environmental Restoration Disposal Facility.
ETF = Effluent Treatment Facility.
HLVIT = high-level waste vitrification.
HLW = high-level waste.
HSTF = Hexone Storage and Treatment Facility.
HWTU = Hazardous Waste Treatment Unit.
LAW = low-activity waste.
LERF = Liquid Effluent Retention Facility.
LLBG = Low-Level Burial Grounds.
MLLW = mixed low-level waste.
OU = operable unit.
PCB = polychlorinated biphenyl.
PUREX = Plutonium Uranium Extraction (Plant).
REC = Radiochemical Engineering Cell(s).
RH = remote-handled.
RO = reverse osmosis.
SALDS = State Approved Land Disposal Site.
SST = single-shell tank.
TRU = transuranic.
TRUM = transuranic mixed.
TSD = treatment, storage, and disposal (unit).
WIPP = Waste Isolation Pilot Plant.
WMU = waste management unit.
WRAP = Waste Receiving and Processing (Facility).

3.0 SUMMARY OF STORAGE INFORMATION

This section provides a summary of storage information by treatability group. Table 3-1 presents the volume of mixed waste currently in storage and the volume projected to be generated at Hanford during the next 5 calendar years by treatability group. Mixed waste managed only in Hanford Site generator locations (SAAs and CAAs) and then sent directly offsite for treatment are not reported.

Data on waste volumes in these tables are taken from Appendix B. Stored waste volumes are reported either by the actual waste volume or by the waste container volume. The forecast generation rates represent the current best estimates of projected waste generation for each treatability 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.

Section 2 of each LSDS provides storage information specific to each waste stream, including storage capacity, key storage assumptions, potential storage issues, etc.

Table 3-1. Summary of Mixed Waste Storage and Generation Projections by Treatability Group. (7 pages)

Treatability Group Name	Description[1]	Current Inventory (m^3)[2]	Generation Projection 2020 (m^3)	Generation Projection 2021 (m^3)	Generation Projection 2022 (m^3)	Generation Projection 2023 (m^3)	Generation Projection 2024 (m^3)
221-T Containment Building	Equipment (e.g., jumpers, tanks, centrifuges), other debris (e.g., pieces of concrete), and non-debris (e.g., sandblasting grit) generated during canyon deck and/or process cell cleanout, or from treatment and/or decontamination activities.	58.000	0.000	0.000	0.000	0.000	0.000
221-T Tank System	Liquid mixed waste with settled solids/sludge (waste also contains PCBs) at TSCA-regulated concentrations). Waste stream is also comprised of the contents of Tank 11-L.	3.593	0.000	0.000	0.000	0.000	0.000
222-S T8 Tunnel	This waste stream is comprised of debris that has come into contact with waste from the 219-S Waste Handling Facility tank system waste. The debris is designated as RH-MLLW as a result of this contact.	0.200	0.000	0.000	0.000	0.000	0.000
241-CX Tank System[3]	Residual tank waste resulting from REDOX, PUREX, and Semiworks processes.	5.980	0.000	0.000	0.000	0.000	0.000
324 Building REC Waste	Radioactive waste containing regulated quantities of toxic heavy metals. Mixed waste residue may be generated from the future REC decontamination and deactivation activities and disposed as CERCLA waste in accordance with M-094-00.	5.000	0.000	0.000	0.000	0.000	0.000
325 HWTUs	Mixed waste from routine PNNL research and operations.	12.200	9.100	9.100	9.100	9.100	9.100
400 Area WMU	Mixed waste generated from Hanford activities, primarily from the deactivation of FFTF.	1.900	0.000	0.000	0.000	0.000	0.000
B Plant Cell 4	Cell 4w~~W~~aste resulted from WESF hot cell maintenance waste (i.e., manipulator boots, light bulbs, HEPA filters, misc. debris). This waste is stored in accordance with interim status technical standards pending completion of RCRA closure. B Plant, including Cell 4, was placed in long-term S&M in 1998 pending final disposition which will be addressed using CERCLA remedial action that is coordinated with RCRA closure. No additional waste will be stored in this location as B Plant is under long-term S&M.	1.400	0.000	0.000	0.000	0.000	0.000

Commented [MJW(13)]: See RCR Comments #5, #30, #34

Commented [MJW(14)]: See RCR Comment #35

Commented [MJW(15)]: See RCR Comment #35

Commented [MJW(16)]: See RCR Comment #35

Table 3-1. Summary of Mixed Waste Storage and Generation Projections by Treatability Group. (7 pages)

B Plant Containment Building	Stream consists of failed equipment (e.g., process jumpers, pumps) used in the 221-B canyon. Contaminated debris/equipment derived from the processing of “F” listed wastes for the recovery of	294,000 kg[4]	0.000	0.000	0.000	0.000	0.000

Table 3-1. Summary of Mixed Waste Storage and Generation Projections by Treatability Group. (7 pages)

Treatability Group Name	Description[1]	Current Inventory (m^3)[2]	Generation Projection 2020 (m^3)	Generation Projection 2021 (m^3)	Generation Projection 2022 (m^3)	Generation Projection 2023 (m^3)	Generation Projection 2024 (m^3)
	strontium and cesium. Also contains elemental lead used for counterbalances and shielding. This waste is stored in accordance with interim status technical standards pending completion of closure ~~was placed in long-term S&M in accordance with section 8.0 of the TPA in 1999~~. No additional waste will be stored at this location. ~~B Plant is under long-term S&M.~~						
Cesium and Strontium Capsules	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 and a Part A permit application was subsequently submitted to Ecology. The subject waste consists of 1,335 cesium capsules and 601 strontium capsules. The capsules are stored in pool cells at WESF.	2.000	0.000	0.000	0.000	0.000	0.000
DST Waste	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.	98,019.323	3,323.000	2,823.000	7,631.000	9,780.000	7,880.000
ERDF – Treatment	This waste stream reflects mixed waste that requires treatment prior to disposal at ERDF. The waste is stored in CAAs, TSDs or at the OU, and is shipped to ERDF where waste treatment and/or disposal occurs.	114.500	588.932	259.693	234.184	204.434	218.684
Hanford Site 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.	6.000	31.500	25.000	30.000	30.000	30.000
HSTF	Residual heel content remaining from REDOX Process.	0.984	0.000	0.000	0.000	0.000	0.000
LERF/ETF Liquid Waste	Wastewaters are sent to the LERF for treatment and ~~/~~ETF for storage and treatment.	37,712.377	6,400.000	2,440.000	17,771.000	22,881.000	21,941.000

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Commented [MJW(19]: See RCR Comment #52

Table 3-1. Summary of Mixed Waste Storage and Generation Projections by Treatability Group. (7 pages)

Treatability Group Name	Description[1]	Current Inventory (m^3)[2]	Generation Projection 2020 (m^3)	Generation Projection 2021 (m^3)	Generation Projection 2022 (m^3)	Generation Projection 2023 (m^3)	Generation Projection 2024 (m^3)
LERF/ETF Solid Waste	CERCLA and RCRA wastewaters are sent to the LERF/ETF for treatment and disposal. Both dried powder and operational solid waste are generated and stored at 2025E prior to shipment to onsite disposal facility or to an offsite facility if treatment is required.	471.440	730.000	530.000	430.000	430.000	330.000
MLLW-02 – Inorganic Non-Debris	This treatability group is for non-debris waste that are subject to either a non-thermal treatment standard (specified technology), or a concentration-based treatment standard based on the performance of ~~contains hazardous constituents that either requires non-thermal treatment (specified technology) or non-thermal treatment is~~ BDAT for meeting the applicable LDR treatment standards (concentration- based standards). The applicable WSRds for this treatability group are: 420, 421, 422, 425, 426, 428, 506, 507, 521, 523, 524, 525, 900, 901, 902, and 904. This waste consists of many different inorganic solids (e.g., particulates, absorbed liquids, sludges, resin beads, 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.	0.208	0.420	0.210	0.210	0.210	0.210
MLLW-03 – Organic Non-Debris	This treatability group is for non-debris waste that contains hazardous constituents that either requires thermal treatment (specified technology) or is subject to concentration-based treatment standards.~~thermal treatment is BDAT for meeting the applicable LDR treatment standards (concentration-based standards)~~. Stabilization of the thermal treatment residue may also be required. The primary applicable WSRds for this treatability group are 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 427, 429, 430, 431, 432, 500, 501, 502, 503, 504, 505, 520, 522, 700, 701, 720, 721, 920, 921, 922, and 923. This waste stream consists of many different inorganic and organic solids (e.g., particulates, absorbed liquids, sludges, resins, soils)	2.208	0.420	1.01	14.310	18.710	18.710

Table 3-1. Summary of Mixed Waste Storage and Generation Projections by Treatability Group. (7 pages)

	and labpacks that are contaminated with organic						

Table 3-1. Summary of Mixed Waste Storage and Generation Projections by Treatability Group. (7 pages)

Treatability Group Name	Description[1]	Current Inventory (m^3)[2]	Generation Projection 2020 (m^3)	Generation Projection 2021 (m^3)	Generation Projection 2022 (m^3)	Generation Projection 2023 (m^3)	Generation Projection 2024 (m^3)
	regulated dangerous waste constituents. This waste stream may also include dangerous waste containing PCBs that require thermal destruction. This waste stream does not include hazardous debris other than incidental debris material commingled with the non-debris.						
MLLW-04 – Hazardous Debris	This treatability group is for waste that meets the definition of hazardous debris as defined in 40 CFR 268.2(g). The physical characteristics include paper, plastic, wood, rubber, rags, and metallic and inorganic waste components. The primary WSRds that comprise this treatability group are DBR, 627, and 647. This waste may include O/C waste constituents in excess of 10% as defined in WAC 173-303-040 and WAC 173-303-140(3)(c). The associated State Only O/C LDR (WAC 173-303-140(4)(d)) does not apply to Hanford generated MLLW O/C debris based on the certification obtained under WAC 173-303-140(4)(d)(iii).	16.953	0.730	0.730	299.230	399.230	399.230
MLLW-07 – RH and Large Container	This treatability group consists of the following waste types: (1) Large containers of MLLW (large containers for MLLW are defined as greater than 10 m^3 in size, (2) RH-MLLW packages (RH-MLLW is defined as waste packages that have an external surface dose rate of greater than 200mR/hr on contact), and (3) RH-MLLW that is shielded down to contact handling levels for safe handling and storage (shielding can be internal, external, and/or integral to the waste container). The primary WSRds that comprise this treatability group are DBL, HRW, 450, 550, and 650. The waste is generated by many onsite generating organizations.	4.218	0.000	0.000	0.000	0.000	0.000

Commented [MJW(20)]: See RCR Comment #35

Table 3-1. Summary of Mixed Waste Storage and Generation Projections by Treatability Group. (7 pages)

Treatability Group Name	Description[1]	Current Inventory (m^3)[2]	Generation Projection 2020 (m^3)	Generation Projection 2021 (m^3)	Generation Projection 2022 (m^3)	Generation Projection 2023 (m^3)	Generation Projection 2024 (m^3)
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.	1.000	0.000	0.000	0.000	0.000	0.000
PUREX Storage Tunnels	Varies from very large equipment vessels with lead counterweights to very fine mixed waste powder in canisters. Waste receipt into the TSD unit began in 1960. The TSD unit waste inventory list is contained in the Hanford Facility RCRA Permit, PUREX Closure Group 25, Chapter 3.0, Waste Analysis Plan. Waste is expected to contain a combination of TRU and TRUM waste.	2,800.000	0.000	0.000	0.000	0.000	0.000
SST Waste[5]	Basic aqueous slurry with layers of saltcake and/or sludge. Sludge is defined as solids (i.e., hydrous metal oxides) precipitated from the neutralization of acid wastes. Saltcake is defined as the various salts formed from the evaporation of water.	108,000.000	0.000	0.000	0.000	0.000	0.000
TRUM-CH Large Container	TRUM waste is from various generating activities around the Hanford Site. The waste contains metals including steel shielding, plastic/polyurethane, wood, paper/cardboard, glass, filters, soil, miscellaneous/unknown/ other, rags, lead and lead shielding, Plexiglas, Styrofoam, asbestos, rubber, glass, sorbents/kitty litter, cement and concrete. Package size includes any CH TRUM waste that is not in a small container (as described in TRUM-CH Small Container).	4,846.510	116.000	0.000	0.000	37.000	37.000
TRUM-CH Small Container	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, sorbent/kitty litter, filters, lead shielding, carbon steel, fiberglass, brick/firebrick, plastic liner, shielding, concrete, animal waste, paints, ceramics, sludges, asbestos,	5,241.437	412.124	10.500	10.500	456.500	456.500

Commented [MJW(21)]: See RCR Comment #35

Table 3-1. Summary of Mixed Waste Storage and Generation Projections by Treatability Group. (7 pages)

Treatability Group Name	Description[1]	Current Inventory (m^3)[2]	Generation Projection 2020 (m^3)	Generation Projection 2021 (m^3)	Generation Projection 2022 (m^3)	Generation Projection 2023 (m^3)	Generation Projection 2024 (m^3)
	aluminum, diatomaceous earth, resins, copper metal, water, floor sweepings, batteries, leather, liquid, Teflon, cork, cotton, light bulbs, urethane and wax. Waste packages in this treatability group include containers that are 55-gal drums or smaller containers even if overpacked in 85-gal drums, and newly generated WIPP standard waste boxes. Drums in 10-drum overpacks are also counted as small containers based on the drum as the container, not the 10-drum overpack. Note that some TRUM-CH small containers will be found to be TRUM-RH and need to be re-allocated to the TRUM-RH treatability group.						
TRUM-RH	The waste consists of inner container, iron-based metals, lead, soil, lead shielding, and steel shielding. Waste is from the cleanout of hot cells from research/development laboratories and demolition activities. The relative waste quantity is small, because the waste matrix contains a large percentage of lead and steel shielding materials. TRUM is considered RH if the waste container has a contact dose rate >200 mR/hr. In addition, in order to provide an estimate of what might be RH, TRUM will be reported as RH if the package is known to contain lead, concrete or steel shielding.	497.206	17.600	5.600	5.600	7.600	7.600

[1] WSRd indicates waste treatment and/or disposal pathway.
[2] Current inventory expressed in cubic meters unless otherwise noted.
[3] The stored volume reported contains uncertainty as to the actual volume (05-AMCP-0318).
[4] 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.
[5] As a whole, the SST wastes are managed as RH HLW. However, the tank systems contain potential TRU mixed waste.

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

40 CFR 268.2, "Definitions applicable in this part," Title 40, *Code of Federal Regulations*, Part 268.2, as amended. (https://ecfr.io/Title-40/pt40.29.268#se40.29.268_12)

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

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

Table 3-1. Summary of Mixed Waste Storage and Generation Projections by Treatability Group. (7 pages)

Treatability Group Name	Description[1]	Current Inventory (m^3)[2]	Generation Projection 2020 (m^3)	Generation Projection 2021 (m^3)	Generation Projection 2022 (m^3)	Generation Projection 2023 (m^3)	Generation Projection 2024 (m^3)

Resource Conservation and Recovery Act of 1976, Public Law 94-580, et seq. (https://uscode.house.gov/statutes/pl/94/580.pdf)
Toxic Substances Control Act of 1976, 15 USC 2601, et seq. (https://uscode.house.gov/view.xhtml?req=(title:15%20section:2601%20edition:prelim))
WAC 173-303-040, "Definitions," *Washington Administrative Code*, Olympia, Washington. (https://apps.leg.wa.gov/WAC/default.aspx?cite=173-303-040)
WAC 173-303-140, "Land Disposal Restrictions," *Washington Administrative Code*, Olympia, Washington. (https://apps.leg.wa.gov/WAC/default.aspx?cite=173-303-140)

BDAT = best demonstrated available technology.
CERCLA = *Comprehensive Environmental Response, Compensation, and Liability Act.*
CFR = *Code of Federal Regulations*.
CH = contact-handled.
DBL = debris large.
DBR = debris.
DST = double-shell tank.
Ecology = Washington State Department of Ecology.
ERDF = Environmental Restoration Disposal Facility.
ETF = Effluent Treatment Facility.
FFTF = Fast Flux Test Facility.
HEPA = high-efficiency particulate air (filter).
HRW = high-rad waste.
HSTF = Hexone Storage and Treatment Facility.
HWTU = Hazardous Waste Treatment Unit.
LDR = land disposal restriction.
LERF = Liquid Effluent Retention Facility.
MLLW = mixed low-level waste.
O/C = organic/carbonaceous.
OU = operable unit.
PCB = polychlorinated biphenyl.
PNNL = Pacific Northwest National Laboratory.
PUREX = Plutonium Uranium Extraction (Plant).
RCRA = *Resource Conservation and Recovery Act.*
REC = Radiochemical Engineering Cell(s).
REDOX = Reduction-Oxidation (Plant).
RH = remote-handled.
S&M = surveillance and maintenance.
SST = single-shell tank.
TPA = Tri-Party Agreement.
TRU = transuranic.
TRUM = transuranic mixed.
TSCA = *Toxic Substances Control Act.*
TSD = treatment, storage, and/or disposal.
WESF = Waste Encapsulation and Storage Facility.
WIPP = Waste Isolation Pilot Plant.
WMU = waste management unit.
WSRd = waste specification record.

3.1 SUMMARY OF STORAGE INFORMATION BY CONTRACTOR

This section provides an overview of mixed waste storage by Hanford Site prime contractor.

3.1.1 CH2M HILL Plateau Remediation Company

CHPRC long-term storage areas for mixed waste are at the B Plant Complex, Central Waste Complex (CWC), Hexone Storage and Treatment Facility, PUREX Plant, PUREX Storage Tunnels, T Plant Complex, Waste Receiving and Processing Facility (WRAP), 241-CX Tank System, 324 Building, and 400 Area Waste Management Unit (WMU). B Plant and PUREX are in surveillance and maintenance mode pending final disposition, which will be addressed using CERCLA remedial action coordinated with RCRA closure.

CHPRC maintains a system for forecasting the amount of radioactive waste, including mixed waste to be generated well into the future for management at CWC. This system is known as the Solid Waste Integrated Forecast Technical (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.

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Based on the projections to date, information on active CHPRC-managed TSD units in this report indicates that no requirements for additional storage capacity exist within the 5-year forecast period and beyond.

3.1.2 Mission Support Alliance, LLC

The Mission Support Alliance, LLC, does not manage any stored mixed waste in any TSDs. Any mixed waste generated in the field is managed in an SAAs or CAAs.

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3.1.3 Pacific Northwest National Laboratory

PNNL manages mixed waste in containers in five dangerous waste management units: HWTU, SAL, Cask Handling Area, Truck Lock, and 3714 Pad. The permitted capacity of these units is 50.4 m^3, which is more than adequate given current and projected waste volumes. PNNL generally treats containerized mixed waste or ships it to commercial TSD facilities within 1 year, so that the volume of waste in storage only slightly exceeds the annual rate of waste generated. By treating and/or shipping waste promptly, adequate storage capacity is assured.

In addition, transuranic mixed remote-handled (TRUM-RH) liquids from the SAL hot cells can be managed in tank TK-1 with a capacity of 1.2 m^3. The primary future use for TK-1 is for decontamination of the SAL hot cells as needed for operational purposes and upon RCRA closure of the hot cells. Tank TK-1 provides ample storage capacity for these purposes.

3.1.4 Washington River Protection Solutions LLC

WRPS manages mixed waste in the DST System, SST System, 222-S Laboratory Complex, LERF basins, and various accumulation areas throughout the tank farm facilities. The DST System is designed to receive and safely store liquid mixed wastes from the SST System. The 242-A Evaporator receives mixed waste from the DST System and separates the mixed waste into a slurry waste stream and dilute aqueous waste stream. The slurry is routed back to the DST System pending further treatment and the process condensate is transferred to LERF for ~~storage~~ treatment until processed through the ETF. Wastes returned to the DST system from the 242-A Evaporator are not considered newly generated. WRPS also manages the 222-S Laboratory Complex container storage areas and a long-term storage location. The 219-S tank system is authorized to treat and store mixed waste.

Every 3 years, in accordance with TPA Milestone M-062-40, WRPS performs an evaluation describing the disposition of all tank waste managed by ORP, including the retrieval of all tanks not addressed by the Consent Decree in Washington vs. DOE, Case No. 08-5085-FVS. 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 TPA agencies determine whether new tanks need to be built. If waste is not transferred out of the DSTs (e.g., for further treatment at the Waste Treatment and Immobilization Plant [WTP]), the ability of the DSTs to receive additional SST waste could be impacted within the 5-year forecast period. Based on projections to date, no additional storage capacity is anticipated for the derived waste from the 222-S Laboratory Complex within the 5-year forecast period.

3.1.5 Waste Treatment and Immobilization Plant

The WTP (operating contractor to be determined) has yet to be commissioned and does not currently generate LDR mixed waste. WTP does not operate any storage areas other than the WTP permitted area. All WTP waste is transferred to others for volume reduction, repackaging, shipment, and disposal. The transfer of waste for disposal will occur at a frequency such that the volume of waste in storage will not exceed the rate of waste generated.

3.2 STORAGE METHOD COMPLIANCE ASSESSMENTS

The DOE conducts or oversees SMCA~~compliance assessments~~ of mixed waste storage areas and other areas that ~~potentially~~ could, in the future, be the source of generation of other mixed waste~~, pursuant to applicable state and Federal standards~~. DOE ~~The~~ SMCA ~~process~~ include~~s~~ ~~document~~ reviewing~~s~~ other independent assessments~~, visual~~ inspections, ~~and observations, interviews,~~ and self-assessments. In addition to the LDR SMCAs, DOE and its contractors conduct daily, weekly, monthly, quarterly, and annual assessments and inspections at Hanford Site mixed waste storage areas in accordance with DOE requirements and applicable state and Federal standards~~regulations~~. The LDR SMCAs provide an additional level of review to address circumstances associated with mixed waste and PMW. ~~Certain waste storage locations are exempt from the LDR SMCA requirements. These include key facilities in the surveillance and~~

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~~maintenance phase, and locations with only SAAs and/or CAAs. This section describes SMCAs completed during the reporting year and lists SMCAs scheduled for the following 3 years.~~

Neither RL nor ORP conducted SMCAs during CY 2019. Table 3-2 lists the locations where RL plans to complete SMCAs in CYs 2020 through 2022.[5] Table 3-3 lists the locations where ORP plans to complete SMCAs in CYs 2020 through 2022. Any additional SMCAs will be negotiated in LDR project manager meetings and documented in related project manager meeting minutes.

Table 3-2. U.S. Department of Energy, Richland Operations Office Assessments Planned for Calendar Years 2020 through 2022.

Facility/Location	Start Date
242-T-135 Decontamination Solution Holding Tank	August 2021
242-TA-R1 Receiver Tank	August 2021
Tank 11-L	Need Schedule
221-T Tank System	Need Schedule

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Table 3-3. U.S. Department of Energy, Office of River Protection Assessments for Calendar Years 2020 through 2022.

Facility/Location	Start Date
241-A-302B Catch Tank	August 2021
241-S-302B Catch Tank	August 2021
241-SX-302 Catch Tank	August 2021
204-AR Waste Unloading Station, TK-1 Catch Tank	Need Schedule
241-TX-302C Catch Tank	Need Schedule
241-SY-101 Double Shell Tank	Need Schedule
241-SY-102 Double Shell Tank	Need Schedule
241-SY-103 Double Shell Tank	Need Schedule

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3.3 WASTE RELEASES FROM STORAGE UNITS

This section identifies any releases of hazardous waste or hazardous waste constituents into the environment from the waste storage units described in this report. To date, the only reported waste releases from storage to the environment have occurred from the SST System.

Between 1944 and 1980, Hanford's SSTs received waste generated by the processing of spent nuclear fuel and by various fission product recovery campaigns that generated radioactive and chemically hazardous wastes. Only water that was used to cool the waste, for retrieval operations, and for maintenance activities under controlled conditions has been added to the SSTs since 1980.

All SST System waste management areas (WMA) have been assessed, and in many cases reassessed, to develop waste release inventory estimates for chemicals and radionuclides released

to the vadose zone (RPP-RPT-61279, *Single-Shell Tank Farm Leak Inventory Assessments*

[5] In CY 2011, Ecology determined that inactive miscellaneous underground storage tank (IMUST) SMCAs initiated in CY 2006 must remain on the assessment schedule because of their complex storage conditions ("Waste Storage Assessment of 224-B, 242-B/BL, 270-W, and IMUSTs Not Associated with a Building" [Singleton 2011]).

Summary). The assessment estimates suggest that some of the released volumes are likely less than originally reported, while others could be greater. The assessments indicate that fewer tanks lost integrity (assumed leakers) than previously identified. In addition, more of the waste released to the environment was determined to be due to ancillary equipment failures (e.g., pipelines, diversion boxes, tank overfill) than what was previously reported.

Table 3-4 lists the tank farm designations and the number of tanks in each farm that are assumed to have leaked. No releases have been documented during this reporting period (CY 2019).

Table 3-4. Single-Shell Tank System That Are Assumed to Have Leaked.[1]

200 East Area			**200 West Area**		
Farm	**Number of Tanks**	**Estimated Leak Volume[2] (gal)**	**Farm**	**Number of Tanks**	**Estimated Leak Volume[2] (gal)**
A	2	2,000–40,000 plus 0–232,000 cooling water	S	0	—
AX	0	—	SX	8	115,800 plus 39,000–90,000 water losses
B	4	148,000	T	4	121,800
BX	5	152,900	TX	3	133,300
BY	5	37,000	TY	4	66,000
C	2	57,500	U	4	221,000

[1] The capacity of the tanks ranges from 210 m^3 to 3,800 m^3.

[2] Estimated leak volumes summarized from HNF-EP-0182, Rev. 383. In some cases, estimated leak volume was not determined and an assumed volume was used. If a tank had an estimated leak volume range, the upper range was used in this table.

HNF-EP-0182, 2019, *Waste Tank Summary Report for the Month Ending November 30, 2019*. Rev. 383, Washington River Protection Solutions LLC, Richland, Washington.

4.0 HANFORD SITE MIXED WASTE MINIMIZATION PROGRAM DESCRIPTION

HNF-46952, *Hanford Site Pollution Prevention and Waste Minimization Program Plan*, provides guidance for Hanford Site contractors to prevent pollution from entering the environment, to conserve resources and energy, and to reduce the quantity and toxicity of hazardous, radioactive, mixed, and sanitary waste from all Hanford Site operations and cleanup activities. The program plan reflects the national and local waste minimization and pollution prevention goals and policies. The plan represents an ongoing effort to ensure pollution prevention/waste minimization (P2/WMin) is part of the Hanford Site operating philosophy and is included in contractor environmental management systems. In accordance with these policies, a hierarchical approach to environmental management has been adopted and is applied to all waste generating activities. Waste minimization through source reduction is the first priority in the plan, followed by environmentally safe recycling. Treatment, which includes some segregation to reduce the quantity, toxicity, and mobility of waste, is considered only when source reduction or recycling/reuse is not possible or practical. The final option is environmentally safe disposal.

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

The program plan includes the following elements:

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

The Hanford Site contractors implement these techniques individually in accordance with their internal waste minimization programs. For waste-stream-specific waste minimization information, refer to section 3.0 of individual LSDSs (Appendix B).

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5.0 SUMMARY OF CHARACTERIZATION INFORMATION

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

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

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

Table 5-1 summarizes waste characterization information for each waste treatability group. As previously described, treatability groups comprise multiple waste streams with different waste codes that can be accommodated/treated through a common treatment process. Treatability group characterization information; therefore, presents a rollup of characterization information for the associated waste streams. Additional characterization information is provided in section 3.0 of individual treatability groups. Information relative to individual waste stream characterization is provided in section 2.11 of each LSDS.

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Table 5-1. Summary of Characterization Information by Treatability Group. (10 pages)

Treatability Group Name	Type	Handling	Physical Form	RCRA Wastewater	Waste Codes			PCBs	Confidence
221-T Containment Building	TRU	RH	Solid	Non-wastewater	D004	D011	F001	Yes	Medium
					D005	D019	F002	≥ 50 ppm	
					D006	D030	F003		
					D007	D034	F004		
					D008	D037	F005		
					D009	D043	WSC2		
					D010				
221-T Tank System	MLLW	RH	Solid, liquid, semi-solid	Non-wastewater	D002	D008	F003	Yes	Medium
					D005	D010	F004	≥ 50 ppm	
					D006	F001	F005		
					D007	F002			
222-S T8 Tunnel	MLLW	RH	Debris	Non-wastewater	F001	F003	F005	No	High
					F002	F004			
241-CX Tank System	MLLW	RH	Other	Non-wastewater	D002	D006	D009	No	Medium
					D004	D007	D010		
					D005	D008	D011		
324 Building REC Waste	MLLW	RH	Debris	Non-wastewater	D005	D007		No	Medium
					D006	D008			
325 HWTUs	MLLW	CH	Solid, liquid, debris, semi-solid	Non-wastewater, wastewater[1]	D001	D019	D043	Yes	High
					D002	D021	F001	< 50 ppm	
					D003	D022	F002	≥ 50 ppm	
					D004	D027	F003		
					D005	D028	F004		
					D006	D029	F005		
					D007	D030	WP01		
					D008	D033	WP02		
					D009	D035	WP03		
					D010	D038	WSC2		
					D011	D039	WT01		

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Table 5-1. Summary of Characterization Information by Treatability Group. (10 pages)

Treatability Group Name	Type	Handling	Physical Form	RCRA Wastewater	Waste Codes			PCBs	Confidence
					D018	D040	WT02		
400 Area WMU	MLLW	CH	Solid	Non-wastewater	D001	D003	WSC2	No	High
B Plant Cell 4	MLLW	RH	Solid	Non-wastewater	D008			No	High
B Plant Containment Building	MLLW	RH	Solid	Non-wastewater	F001	F003	F005	No	Medium
					F002	F004			
Cesium and Strontium Capsules	MLLW	RH	Solid	Non-wastewater	D005	D007	D011	No	High
					D006	D008	WT02		
DST Waste	MLLW	RH	Other	Non-wastewater	D001	D022	F001	Yes	High
					D002	D028	F002	< 50 ppm	
					D003	D029	F003		
					D004	D030	F004		
					D005	D033	F005		
					D006	D034	UHCs[2]		
					D007	D035	WP01		
					D008	D036	WP02		
					D009	D038	WT01		
					D010	D039	WT02		
					D011	D040			
					D018	D041			
					D019	D043			
ERDF – Treatment	MLLW	CH	Solid, debris, other	Non-wastewater	D004	D020	D035	Yes	Medium
					D005	D021	D036	< 50 ppm	
					D006	D022	D037	≥ 50 ppm	
					D007	D023	D038		
					D008	D024	D039		
					D009	D025	D040		
					D010	D026	D041		
					D011	D027	D042		
					D012	D028	D043		

Table 5-1. Summary of Characterization Information by Treatability Group. (10 pages)

Treatability Group Name	Type	Handling	Physical Form	RCRA Wastewater	Waste Codes			PCBs	Confidence
					D013	D029	F001		
					D014	D030	F002		
					D015	D031	F003		
					D016	D032	F004		
					D017	D033	F005		
					D018	D034	F039		
					D019				
Hanford Site Laboratory Complex	MLLW	CH	Solid, liquid, debris, semi-solid	Non-wastewater	D001	D022	F003	Yes	High
					D002	D027	F004	< 50 ppm	
					D003	D028	F005	≥ 50 ppm	
					D004	D029	F027		
					D005	D030	F039		
					D006	D033	P106		
					D007	D035	U133		
					D008	D038	WP01		
					D009	D039	WP02		
					D010	D040	WP03		
					D011	D043	WSC2		
					D018	F001	WT01		
					D019	F002	WT02		
					D021				
HSTF	MLLW	CH	Other	Non-wastewater	D001	D029	D040	Yes	High
					D018	D030	D041	< 50 ppm	
					D019	D032	D042		
					D023	D033	D043		
					D024	D034	F003		
					D025	D036	UHCs[3]		
					D027	D037			
					D028	D039			

Table 5-1. Summary of Characterization Information by Treatability Group. (10 pages)

Treatability Group Name	Type	Handling	Physical Form	RCRA Wastewater	Waste Codes			PCBs	Confidence
LERF/ETF Liquid Waste	MLLW	CH	Liquid	Wastewater	F001	F003	F005	Yes	High
					F002	F004	F039	< 50 ppm	
LERF/ETF Solid Waste	MLLW	CH	Solid, debris	Non-wastewater	F001	F004	F039	No	High
					F002	F005	WSC2		
					F003				
MLLW-02 - Inorganic Non-Debris	MLLW	CH	Solid, liquid, semi-solid, other	Non-wastewater	D001	D009	F005	No	Medium
					D002	D010	F039		
					D004	D011	WP01		
					D005	F001	WP02		
					D006	F002	WSC2		
					D007	F003	WT01		
					D008	F004	WT02		
MLLW-03 - Organic Non-Debris	MLLW	CH	Solid, liquid, semi-solid, other	Non-wastewater	D001	F001	U122	Yes	Medium
					D002	F002	U123	< 50 ppm	
					D004	F003	U133	≥ 50 ppm	
					D005	F004	U134		
					D006	F005	U144		
					D007	F022	U154		
					D008	P012	U159		
					D009	P022	U160		
					D010	P023	U161		
					D011	P024	U162		
					D012	P029	U165		
					D016	P030	U169		
					D018	P098	U170		
					D019	P102	U187		
					D020	P106	U188		
					D021	P113	U189		
					D022	P120	U196		

Table 5-1. Summary of Characterization Information by Treatability Group. (10 pages)

Treatability Group Name	Type	Handling	Physical Form	RCRA Wastewater	Waste Codes			PCBs	Confidence
					D023	U001	U201		
					D024	U002	U203		
					D025	U003	U204		
					D026	U004	U210		
					D027	U006	U211		
					D028	U007	U213		
					D029	U012	U218		
					D030	U019	U220		
					D031	U025	U226		
					D032	U031	U228		
					D033	U037	U239		
					D034	U044	U353		
					D035	U056	U359		
					D036	U057	WP01		
					D037	U063	WP02		
					D038	U080	WP03		
					D039	U103	WSC2		
					D040	U108	WT01		
					D041	U112	WT02		
					D042	U117			
					D043	U121			
MLLW-04 - Hazardous Debris	MLLW	CH	Debris	Non-wastewater	D004	D030	P120	Yes	Medium
					D005	D031	U002	< 50 ppm	
					D006	D032	U006	≥ 50 ppm	
					D007	D033	U031		
					D008	D034	U043		
					D009	D035	U057		
					D010	D036	U080		
					D011	D037	U108		

Table 5-1. Summary of Characterization Information by Treatability Group. (10 pages)

Treatability Group Name	Type	Handling	Physical Form	RCRA Wastewater	Waste Codes			PCBs	Confidence
					D012	D038	U123		
					D013	D039	U133		
					D014	D040	U151		
					D015	D041	U154		
					D016	D042	U159		
					D017	D043	U161		
					D018	F001	U162		
					D019	F002	U196		
					D020	F003	U210		
					D021	F004	U220		
					D022	F005	U226		
					D023	F039	U239		
					D024	P029	WP01		
					D025	P030	WP02		
					D026	P098	WSC2		
					D027	P102	WT01		
					D028	P106	WT02		
					D029				
MLLW-07 - RH and Large Container	MLLW	RH	Solid, liquid, debris, semi-solid, other	Non-wastewater	D001	D011	F004	Yes	Medium
					D002	D026	F005	< 50 ppm	
					D005	D035	WP01	≥ 50 ppm	
					D006	F001	WP02		
					D007	F002	WT01		
					D008	F003	WT02		
PUREX Plant	MLLW	RH	Solid	Non-wastewater	D007			No	High
PUREX Storage Tunnels	MLLW	RH	Other	Non-wastewater	D001	D007	D010	No	Medium
					D005	D008	D011		
					D006	D009	WT02		

Table 5-1. Summary of Characterization Information by Treatability Group. (10 pages)

Treatability Group Name	Type	Handling	Physical Form	RCRA Wastewater	Waste Codes			PCBs	Confidence
SST Waste	MLLW	RH	Other	Non-wastewater	D001	D019	D041	Yes	Medium
					D002	D022	D043	< 50 ppm	
					D003	D028	F001	≥ 50 ppm	
					D004	D029	F002		
					D005	D030	F003		
					D006	D033	F003		
					D007	D034	F004		
					D008	D035	F005		
					D009	D036	WP01		
					D010	D038	WP02		
					D011	D039	WT01		
					D018	D040	WT02		
TRUM-CH Large Container	TRU	CH	Solid, debris	Non-wastewater	D001	D038	U070	Yes	Medium
					D002	D039	U072	< 50 ppm	
					D004	D040	U078	≥ 50 ppm	
					D005	D043	U079		
					D006	F001	U103		
					D007	F002	U105		
					D008	F003	U108		
					D009	F004	U122		
					D010	F005	U133		
					D011	F006	U134		
					D018	F007	U151		
					D019	F009	U154		
					D021	P015	U159		
					D022	P030	U196		
					D026	P098	U209		
					D027	P099	U210		
					D028	P106	U220		

Table 5-1. Summary of Characterization Information by Treatability Group. (10 pages)

Treatability Group Name	Type	Handling	Physical Form	RCRA Wastewater	Waste Codes			PCBs	Confidence
					D029	P120	U226		
					D030	U002	U228		
					D032	U003	U239		
					D033	U019	WP01		
					D034	U037	WP02		
					D035	U043	WSC2		
					D036	U044	WT01		
					D037	U052	WT02		
TRUM-CH Small Container	TRU	CH	Solid, other	Non-wastewater	D001	D037	U070	Yes	Medium
					D002	D038	U072	< 50 ppm	
					D003	D039	U078	≥ 50 ppm	
					D004	D040	U079		
					D005	D043	U103		
					D006	F001	U105		
					D007	F002	U108		
					D008	F003	U122		
					D009	F004	U133		
					D010	F005	U134		
					D011	F006	U151		
					D018	F007	U154		
					D019	F009	U159		
					D021	P015	U196		
					D022	P030	U209		
					D026	P098	U210		
					D027	P099	U220		
					D028	P106	U226		
					D029	P120	U228		
					D030	U002	U239		
					D031	U003	WP01		

Table 5-1. Summary of Characterization Information by Treatability Group. (10 pages)

Treatability Group Name	Type	Handling	Physical Form	RCRA Wastewater	Waste Codes			PCBs	Confidence
					D032	U019	WP02		
					D033	U037	WSC2		
					D034	U043	WT01		
					D035	U044	WT02		
					D036	U052			
TRUM-RH	TRU	RH	Solid, debris	Non-wastewater	D004	D040	U072	Unknown	Medium
					D005	D043	U078		
					D006	F001	U079		
					D007	F002	U103		
					D008	F003	U105		
					D009	F004	U108		
					D010	F005	U122		
					D011	F006	U133		
					D018	F007	U134		
					D019	F009	U151		
					D021	P015	U154		
					D022	P030	U159		
					D026	P098	U196		
					D027	P099	U209		
					D028	P106	U210		
					D029	P120	U220		
					D030	U002	U226		
					D032	U003	U228		
					D033	U019	U239		
					D034	U037	WP01		
					D035	U043	WP02		
					D036	U044	WSC2		
					D037	U052	WT01		
					D038	U070	WT02		

Table 5-1. Summary of Characterization Information by Treatability Group. (10 pages)

Treatability Group Name	Type	Handling	Physical Form	RCRA Wastewater	Waste Codes	PCBs	Confidence
					D039		

[1] The 325 HWTUs treatability group may generate both RCRA wastewater and non-wastewater. The current Land Disposal Restrictions Database limits the selection of one wastewater category, so the 325 HWTU treatability group data sheet lists only non-wastewater.

[2] UHCs for the DST Waste treatability group include antimony, beryllium, cyanide (total), nickel, polychlorinated biphenyls (sum of Aroclors), selenium, and thallium.

[3] UHCs for the HSTF treatability group include 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2,6-dinitortoluene, 2-chloronaphthalene, 2-chlorophenol, 2-nitroaniline, 2-nitrophenol, 4,6-dinitro-2-cresol, 4bromophenyl phenyl ether, 4-chloro-3-methylphenol, 4-chloroaniline, 4-nitroaniline, 4-nitropheno,, acenapthene, acenapthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, bis(2-chloroethoxy)methane, bis(2-chloroethyl)ether, bis(2-ethylexyl)phthalate, butylbenzylphthalate, chrysene, di-n-butylphthalate, di-n-octylphthalate, dibenzo(a,h)anthracene, diethylphthalate, dimethyl phthalate, fluoranthene, fluorene, hexachlorocyclopentadiene, indeno(1,2,3,-c,d)pyrene, lead, naphthalene, polychlorinated biphenyl, phenanthrene, phenol, pyrene.

CH = contact-handled.
DST = double-shell tank.
ERDF = Environmental Restoration Disposal Facility.
ETF = Effluent Treatment Facility.
HSTF = Hexone Storage and Treatment Facility.
HWTU = Hazardous Waste Treatment Unit.
LERF = Liquid Effluent Retention Facility.
MLLW = mixed low-level waste.
PCB = polychlorinated biphenyl.
PUREX = Plutonium Uranium Extraction (Plant).
RCRA = *Resource Conservation and Recovery Act*.
REC = Radiochemical Engineering Cell(s).
RH = remote-handled.
SST = single-shell tank.
TRU = transuranic (waste).
TRUM = transuranic mixed (waste).
UHC = underlying hazardous constituent.
WMU = waste management unit.

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6.0 SUMMARY OF TREATMENT INFORMATION

This section provides a summary of treatment information by treatability group. Table 6-1 contains summarized information on treatment processes, treatment schedules, etc., by treatability group. Section 6.1 provides information on existing treatment technologies/processes, and section 6.2 provides information on treatment technologies or processes that require adaptation. Section 6.3 provides information about commercial treatment facilities, and section 6.4 provides information about DOE-owned treatment facilities.

The treatment approach for certain treatability groups has yet to be determined. These are identified in Table 6-1 and described below.

- The **222-S T8 Tunnel** treatability group wastes will be included in the closure plan of the 222-S Operating Unit Group. In accordance with the closure plan, closure of the 222-S Operating Unit Group is not anticipated to occur within the next 40 years. The actual year of closure will depend on the time required for current waste to be processed, and the role the 222-S Operating Unit Group will play in the processing of additional waste generated during future activities at the 222-S Laboratory and Hanford.

- Treatment options are still being assessed for the **241-CX Tank System** treatability group. Characterization and any required treatment will be determined and performed on a schedule determined with 200-IS-1 in accordance with DOE/RL-2002-14, *Tanks/Lines/Pits/Boxes/Septic Tank and Drain Fields Waste Group Operable Units RI/FS Work Plan and RCRA TSD Unit Sampling Plan*, and DOE/RL-2008-51, *241-CX Tank System Closure Plan*. Waste will be dispositioned with the TSD unit closure.

- A treatability study is currently underway at Perma-Fix Northwest~~planned~~ to ascertain a treatment approach for the **400 Area WMU and FFTF** treatability groups. It is anticipated that treatment schedules will be proposed based on the outcome of the treatability study. (Need to add anticipated schedule for treatment of this waste)

- Treatment options are still being assessed for the **Cesium/Strontium Capsules** treatability group through a disposition pathway evaluation under M-092-20, currently due March 31, 2022.

- The **Hexone Storage and Treatment Facility** treatability group waste was interim stabilized in fiscal year 2002 (DOE/RL-2009-112, *Hexone Storage and Treatment Facility Closure Plan*). Closure will occur in accordance with the TSD closure plan. ~~will be coordinated with the OU remediation in accordance with M-015 milestones for 200-IS-1~~.

- Treatment approaches and schedules for the treatability groups associated with two~~three~~ of the five canyons (PUREX Plant and~~,~~ B Plant~~, and T Plant~~) are awaiting final decisions under CERCLA in accordance with the CDI~~ and TPA change control form M-85-10-01~~. Affected treatability groups include ~~**221-T Containment Building**, **221-T Tank System,**~~ **B Plant Cell 4**, **B Plant Containment Building**, **PUREX Plant**, and **PUREX Storage Tunnels.**

Commented [MJW(32]: See RCR Comment #46

Commented [MJW(33]: See RCR Comment #31

Commented [MJW(34]: See RCR Comment #4

Table 6-1. Summary of Treatment Information by Treatability Group. (3 pages)

Treatability Group Name	Treatment Process	Sufficient Treatment Capacity?	Milestones Supporting Schedule	Documents Supporting Schedule
221-T Containment Building	~~Not yet determined~~(Identify treatment process here)	~~Not yet determined~~	~~M-085-00~~None	~~None~~ Final Status closure plan being developed in the Hanford Rev. 9 Permit.
221-T Tank System	~~Not yet determined~~(Identify treatment process here)	~~Not yet determined~~	~~M-085-00~~None	~~None~~ Final Status closure plan being developed in the Hanford Rev. 9 Permit.
222-S T8 Tunnel	~~Not yet determined~~Macro-encapsulation, stabilization.	Treatment capacity based on the treatment process.	None	None; however, the T-8 Tunnel is expected to be under Part III-Operating Units of the Rev. 9 Hanford permit.
241-CX Tank System	~~Not yet determined~~	Treatment capacity based on the treatment process.	~~M-015-00~~	To be determined through development of 200-IS-1 documentation.
324 Building REC Waste	ERDF – Treatment	Yes	~~M-089-00~~	DOE/RL-96-73
325 HWTUs	HWTU: neutralization, solidification, stabilization, deactivation, macroencapsulation. Commercial: macroencapsulation, deactivation, stabilization, thermal treatment.	Yes	None	~~None~~ Hanford Facility RCRA Permit, Revision 8C, Permit Number WA7890008967, Operating Unit 5
400 Area WMU	~~Not yet determined~~	~~Not yet determined~~	None	~~None~~
B Plant Cell 4	~~Not yet determined~~	~~Not yet determined~~	~~M-085-00~~	Tri-Party Agreement Action Plan, section 8.0
B Plant Containment Building	~~Not yet determined~~	~~Not yet determined~~	~~M-085-00~~	Tri-Party Agreement Action Plan, section 8.0
Cesium and Strontium Capsules	~~Not yet determined~~	~~Not yet determined~~	~~M-092-00~~	~~None~~
DST Waste	HLVIT	WTP has the planned treatment capacity to process and treat the DST waste	~~M-042-00~~ ~~M-062-00~~ ~~M-090-00~~	DSTs will be part of the Part III-Operating Units in Rev. 9 Hanford Permit.
ERDF – Treatment	Macroencapsulation, stabilization	Yes	None	Treatment and disposal are performed under a CERCLA decision document and treatment plans.

Commented [MJW(35]: See RCR Comments #4, #30, #36, #41, and #48

Table 6-1. Summary of Treatment Information by Treatability Group. (3 pages)

Treatability Group Name	Treatment Process	Sufficient Treatment Capacity?	Milestones Supporting Schedule	Documents Supporting Schedule
Hanford Site Laboratory Complex	ERDF treatment, commercial macroencapsulation, commercial stabilization, commercial thermal	Yes	None	None; however, the lab is expected to be under Part III-Operating Units of the Rev. 9 Hanford permit.
HSTF	~~Not yet determined~~ ERDF treatment, commercial macroencapsulation,	~~Not yet determined~~Yes	~~M-015-00~~None	~~To be determined through development of 200-IS-1 documentation.~~Final Status closure plan being developed in the Hanford Rev. 9 Permit.
LERF/ETF Liquid Waste	pH adjustment, filtration, UV light/peroxide destruction of organics, reverse osmosis, degasification, ion exchange	Yes	M-026-07B,C	Hanford Facility RCRA Permit, Revision 8C, Permit Number WA7890008967, Operating Unit 3
LERF/ETF Solid Waste	ERDF treatment, commercial stabilization	Yes	To be determined	Hanford Facility RCRA Permit, Revision 8C, Permit Number WA7890008967, Operating Unit 3
MLLW-02 – Inorganic Non-Debris	Commercial stabilization, commercial deactivation, T Plant Complex treatment	Yes	~~M-091-00~~Existing treatment capacity exists so needs treatment plan.	~~HNF-19169~~
MLLW-03 – Organic Non-Debris	Thermal	Yes	~~M-091-00~~ Existing treatment capacity exists so needs treatment plan.	~~HNF-19169~~
MLLW-04 – Hazardous Debris	Commercial macroencapsulation, T Plant Complex treatment	Yes[1]	~~M-091-00~~ Existing treatment capacity exists so needs treatment plan.	~~HNF-19169~~
MLLW-07 – RH and Large Container	Commercial macroencapsulation and/or future M-091 capability	Yes	~~M-091-00~~ Existing treatment capacity exists so needs treatment plan.	~~HNF-19169~~
PUREX Plant	~~Not yet determined~~	~~Not yet determined~~	~~M-085-00~~	Tri-Party Agreement Action Plan, section 8.0
PUREX Storage Tunnels	~~Not yet determined~~	~~Not yet determined~~	~~M-085-00~~	Tri-Party Agreement Action Plan, section 8.0
SST Waste	HLVIT	Sufficient treatment capacity planned for the SST waste.	~~M-062-00~~ ~~M-090-00~~	SSTs will be part of the closure units in Rev. 9 permit.

Commented [MJW(36]: See RCR Comment #31

Table 6-1. Summary of Treatment Information by Treatability Group. (3 pages)

Treatability Group Name	Treatment Process	Sufficient Treatment Capacity?	Milestones Supporting Schedule	Documents Supporting Schedule
TRUM-CH Large Container	Commercial size reduction/repackaging, future M-091 capability	No	~~M-091-00~~	HNF-19169
TRUM-CH Small Container	WRAP Facility and/or T Plant Complex, commercial size reduction/repackaging, future M-091 capability	No	~~M-091-00~~	HNF-19169
TRUM-RH	Additional M-091 capabilities and/or commercial treatment	No	~~M-091-00~~	HNF-19169

[1] Currently, there is sufficient non-thermal treatment capability/capacity to treat the stored and forecasted waste volumes. There is insufficient thermal treatment capability/capacity to treat organic/carbonaceous debris for which Hanford has an inapplicability certification from the Washington State Department of Ecology (99-EAP-055).

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

DOE/RL-96-73, 2016, *324 Building Dangerous Waste Management Units Closure Plan*, Rev. 4, U.S. Department of Energy, Richland Operations Office, Richland, Washington. (https://pdw.hanford.gov/document/AR-03608)

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

HNF-19169, 2018, *M-091 Transuranic Mixed/Mixed Low-Level Waste Project Management Plan*, Rev. 21, CH2M HILL Plateau Remediation Company, Richland, Washington. (https://pdw.hanford.gov/document/0066452H)

WA7890008967, *Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste*, Revision 8c, as amended, Washington State Department of Ecology. (https://fortress.wa.gov/ecy/nwp/permitting/hdwp/rev/8c/index.html)

CERCLA = *Comprehensive Environmental Response, Compensation, and Liability Act.*
CH = contact-handled.
DOE = U.S. Department of Energy.
DST = double-shell tank.
ERDF = Environmental Restoration Disposal Facility.
ETF = Effluent Treatment Facility.
HLVIT = high-level waste vitrification.
HSTF = Hexone Storage and Treatment Facility.
LERF = Liquid Effluent Retention Facility.
MLLW = mixed low-level waste.
PUREX = Plutonium-Uranium Extraction (Plant).
RCRA = *Resource Conservation and Recovery Act.*
REC = Radiochemical Engineering Cell(s).
RH = remote-handled.
SST = single-shell tank.
TRUM = transuranic mixed (waste).
UV = ultraviolet.
WMU = waste management unit.
WRAP = Waste Receiving and Processing Facility.

In accordance with the TPA, hazardous waste compliance, permitting, closure and post-closure action, and remedial and corrective action are coordinated and integrated to prevent overlap and duplication of work. Accordingly, many Hanford Site waste treatment and disposition decisions and commitments are documented in CERCLA process documents. Appendix D provides a subset of approved CERCLA documents that support Hanford mixed waste treatment schedules. (The subset is provided for brevity. Additional CERCLA process documentation available in the Hanford Site Administrative Record at https://pdw.hanford.gov.) Table 6-2 lists TPA milestones for completing future CERCLA documentation as of December 31, 2019.

Table 6-2. Tri-Party Agreement Milestones for Future Comprehensive Environmental Response, Compensation, and Liability Act Decision Documentation.

Milestone	Title	Due Date
M-015-93C[1]	Initiate Characterization Field Work for 200-SW-2 OU Landfills	9/30/2018
M-015-98[1]	Complete RI of U Plant Related Waste Sites Located in 200-WA-1	6/30/2019
M-085-70[1]	Submit to Ecology a RI/FS Work Plan for 200-CB-1	9/30/2019
M-015-99[1]	Complete RI of PFP Related Waste Sites Located in 200-WA-1	12/31/2019
M-015-97	Submit to Ecology the 100-OL-1 OU FS Report	8/30/2020
M-085-100	Submit Removal Action Work Plan for 224-T to EPA	9/30/2020
M-085-80	Submit RI/FS Work Plan for 200-CP-1 to Ecology	9/30/2020
M-015-112	Submit Draft B 200-IS-1 RFI/CMS/RI/FS Work Plan to Ecology with Schedule Dates	11/30/2020
M-085-90	Submit RI/FS Work Plan for 200-CR-1 to EPA	9/30/2021
M-015-84	Complete RI of 200-WA-1 and 200-BC-1 Waste Sites in Accordance with RI/FS Work Plan	12/31/2021
M-015-92B	Submit RFI/CMS and RI/FS Report and PCAD/PP for 200-EA-1 OU to Ecology	11/30/2022
M-015-93B	Submit RFI/CMS and RI/FS Report and Proposed CAD/PP for 200-SW-2 OU	1/31/2023
M-015-92C	Submit RFI/CMS and RI/FS Report and PCAD/PP for 200-IS-1 OU to Ecology	3/31/2023
M-015-38B	Submit a FS Report and PP for CW-1, CW-3 and OA-1 OUs to EPA	7/31/2023
M-015-91B	Submit FS Report and PP for the 200-BC-1/200-WA-1 OU	7/31/2023
M-015-110B	Submit CMS and FS and PP/CAD for 200-DV-1 OU to Ecology	9/30/2023
M-015-00	Complete the RI/FS (or RFI/CMS) Process for All Non-Tank Farm OUs	6/30/2026

[1] Milestone in dispute resolution as of December 31, 2019.

CAD = corrective action decision.
CMS = corrective measures study.
Ecology = Washington State Department of Ecology.
EPA = U.S. Environmental Protection Agency.
FS = feasibility study.
OU = operable unit.
PCAD = proposed corrective action decision.
PFP = Plutonium Finishing Plant.
PP = proposed plan.
RFI = *Resource Conservation and Recovery Act* facility investigation.
RI = remedial investigation.

6.1 EXISTING TREATMENT PROCESSES/TECHNOLOGIES

This section generally describes each treatment process/technology currently used to treat Hanford Site mixed wastes. Processes/technologies are listed alphabetically.

6.1.1 325 Hazardous Waste Treatment Units Treatment

The 325 HWTUs are a RCRA-permitted TSD unit used to perform tank- and bench-scale treatment of mixed waste, including stabilization, neutralization, solidification, macroencapsulation, and other small-scale treatment, and to investigate other treatment technologies. The 325 HWTUs treat small volumes of mixed waste by non-thermal methods to meet waste acceptance criteria for storage or disposal. Section 6.4.1 provides additional information about the 325 HWTUs.

6.1.2 Commercial Deactivation

Commented [MJW(37]: See RCR Comment #32

Treatability groups containing characteristic hazardous wastes designated for ignitability, corrosivity, and/or reactivity (e.g., MLLW-02) are treated via deactivation. Deactivation may include neutralization, cementing, absorption, encapsulating, and controlled reaction with water. Currently only Perma-Fix Diversified Scientific Services, Inc., provides deactivation treatment for Hanford Site mixed waste streams. Section 6.3.1 provides additional information about Perma-Fix Diversified Scientific Services, Inc.

6.1.3 Commercial Macroencapsulation

Commented [MJW(38]: See RCR Comment #32

Hanford-generated debris waste streams that cannot be treated onsite are sent to Perma-Fix Northwest for macroencapsulation. Examples include wastes from the MLLW-04, MLLW-07, and certain wastes from the Hanford Site Laboratory Complex treatability groups. Macroencapsulation consists of applying a surface coating of polymeric organics (e.g., resins and plastics) or using a jacket of inert inorganic materials (e.g., cement) to substantially reduce surface exposure to potential leaching media. 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 is allowed to treat, and will continue to treat, the MLLW-04 treatability group using macroencapsulation in accordance with a site-wide 1,609 kilometer (1,000-mile) inapplicability certification for the Washington State O/C LDR per WAC 173-303-140(4)(d)(iii) (99-EAP-055~~)~~ , "Certification to Allow Land Disposal of Hanford Organic/Carbonaceous Mixed Waste" [Rasmussen]). For macroencapsulation of MLLW-04 hazardous debris, pretreatment processes may include sorting, cutting, shearing, compaction, and super compaction. Section 6.3.2 provides additional information about Perma-Fix Northwest.

Commented [MJW(39]: See RCR Comment #10

6.1.4 Commercial Size Reduction and Repackaging

Commented [MJW(40]: See RCR Comment #32

Certain objects are too large to fit inside the containers approved for transportation and disposal at the Waste Isolation Pilot Plant (WIPP). As a result, these objects must be size-reduced and then repackaged. Methods to accomplish this may include one or more of the following:

- Manual disassembly (e.g., unbolt or unscrew mechanical fasteners)
- Mechanical cutters (e.g., nibblers, saws, shears)
- Plasma arc cutters to cut carbon and stainless steel components. Magmafusion may be used for difficult jobs. Laser also may be used.

Perma-Fix Northwest currently size-reduces and repackages certain TRUM-CH Small and TRUM-CH Large treatability group wastes. Section 6.3.2 provides additional information about Perma-Fix Northwest.

6.1.5 Commercial Stabilization

Commented [MJW(41]: See RCR Comment #32

Treatability groups comprising MLLW that do not have a significant organic content and are not debris waste (MLLW-02, certain Hanford Site Laboratory Complex wastes, certain 325 HWTU wastes, and certain LERF/ETF Solid Waste) are treated via commercial stabilization, primarily at Perma-Fix Northwest. Stabilization is the immobilization of hazardous components through chemical and/or physical fixation into low-solubility materials, and by encapsulation to reduce the potential for future releases. Usually, stabilization is accomplished by mixing the waste with Portland cement or pozzolanic materials at a preselected ratio, but stabilization can also include mixing with polymer materials. Many pretreatment processes may be employed prior to stabilization, such as drying, shredding, screening, and chemical treatments. Section 6.3.2 provides additional information about Perma-Fix Northwest.

6.1.6 Commercial Thermal

Commented [MJW(42]: See RCR Comment #32

The MLLW-03 treatability group, Organic Non-Debris, is treated thermally by Perma-Fix Diversified Scientific Services, Inc The MLLW-03 treatability group includes non-debris waste containing hazardous constituents that either require thermal treatment (specified technology), or thermal treatment is the best demonstrated available technology for meeting the applicable LDR treatment standards (concentration-based standards). In addition, certain wastes from the 325 HWTUs and Hanford Site Laboratory Complex treatability groups that cannot be treated onsite may receive commercial thermal treatment. The thermal treatment process destroys organic materials by oxidation, combustion, and/or pyrolysis.

Newly generated waste packages associated with this treatability group are characterized by the generator and packaged for offsite shipment. Legacy waste packages that have been in storage prior to 1995 undergo record information reviews, and are updated if required to meet current shipment and treatment facility acceptance requirements. Once the waste is received at the

treatment facility, confirmation sampling is performed to determine if the waste meets the treatment facility's waste profile that has been established for the waste package/stream. Section 6.3.1 provides additional information about Perma-Fix Diversified Scientific Services, Inc.

6.1.7 Environmental Restoration Disposal Facility Treatment

Waste amenable for treatment through grouting or macroencapsulation is performed at ERDF. The ERDF–Treatment treatability group comprises hazardous debris generated from various cleanup activities on the Hanford Site. 324 Building Radiochemical Engineering Cell Wastes, certain Hanford Site Laboratory Complex wastes, solid debris wastes from LERF/ETF Solids, and some wastes from the 325 HWTUs treatability group also are expected to be treated at ERDF. Treatment of these waste streams is required to meet LDRs identified in 40 CFR 268 prior to disposal at ERDF. Waste streams that conform to the 40 CFR 268.2(h) definition of debris may be immobilized at ERDF using macroencapsulation, microencapsulation, or sealing technology methods. Additional information about ERDF is provided in section 6.4.2.

6.1.8 High-Level Waste Vitrification

HLVIT is the only EPA-approved process/technology for treating radioactive HLW generated from the reprocessing of fuel rods (EPA 1990). Although some wastes placed in Hanford's DSTs and SSTs may not have been high level at origin, due to mixing and transfers, these non-HLW wastes can no longer be distinguished from the HLW.[6]

To support near-term Hanford tank waste treatment, WTP is designed to operate in two possible configurations. The first is an interim operating configuration referred to as the direct feed low-activity waste (DFLAW) operating configuration. In this configuration, qualified low-solids supernatant is fed from a DST tank through the TSCR process, a set of ion exchange columns that remove cesium-137, dedicated to pretreating low-activity waste (LAW) only. [7] After treatment through the TSCR process, the treated LAW is briefly staged and then fed directly to the LAW Facility. Within the LAW Facility, feed is blended with glass formers and fed to the melter, which vitrifies the waste into immobilized low-activity waste glass (ILAW). The ILAW cools in waste containers, and is then shipped for disposal at the Integrated Disposal Facility (IDF).

The second configuration is referred to as baseline or integrated operating configuration. In this configuration, a slurry of LAW and HLW will be fed from the tank farms to a pretreatment facility. During pretreatment, solids and cesium in the LAW stream will be removed and combined with the HLW stream, and the LAW stream will be concentrated. Pretreated feed will

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[6] The term low-activity waste generally refers to the supernatant portion of tank waste, and the term high-level waste generally is used to refer to sludges and solids slurries.

[7] Qualified feed is LAW that has been characterized and determined to be acceptable for processing.

then be transferred to the appropriate vitrification facility (HLW or LAW) and treated in a similar manner as described in the DFLAW configuration to meet LDR standards. ILAW is sent for disposal in the IDF, while immobilized HLW is destined for disposal in a national geologic repository. Additional information about WTP is provided in section 6.4.7.

6.1.9 Liquid Effluent Retention Facility/Effluent Treatment Facility Treatment

LERF/ETF Liquid Waste effluents stored in LERF are treated in ETF to remove toxic metals, radionuclides, and ammonia, and to destroy organics. The ETF treatment process constitutes the best demonstrated available technology, and includes pH adjustment, filtration, ultraviolet light/peroxide destruction of organics, reverse osmosis, degasification, and ion exchange. Storage tanks allow for holdup of the treated effluent to verify that the waste has been treated to meet concentration levels in the permit before discharge. Additional information about LERF/ETF is provided in section 6.4.3.

6.1.10 T Plant Complex Treatment

Commercial treatment of waste by stabilization and macroencapsulation to meet land disposal requirements could be supplemented or replaced by capabilities that exist, and could be developed within the T Plant Complex for treatment of MLLW-02 and MLLW-04 wastes. The T Plant Complex canyon 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 will be inspected in the 2706-T Building prior to offsite shipment for treatment at commercial treatment facilities. Also at the 2706-T Building, some treated waste will be inspected after return shipment from offsite commercial treatment facilities. Additional information about the T Plant Complex is provided in section 6.4.5.

6.1.11 Waste Receiving and Processing Facility and T Plant Complex Treatment

The primary purpose of WRAP and T Plant is to repackage and support certification of TRUM-CH Small wastes to meet WIPP waste acceptance criteria for disposal. WRAP and T Plant provide capabilities to receive waste, confirm contents of drummed and standard waste boxes, repackage waste, and support certification of waste. WRAP and T Plant currently only process CH TRUM waste in drums or standard waste boxes. Radionuclide separation is not required for TRUM wastes to meet WIPP disposal criteria. Additional information about WRAP is provided in section 6.4.6.

6.2 TREATMENT PROCESSES/TECHNOLOGIES REQUIRING ADAPTATION

This section generally describes any treatment processes/technologies that require adaptation to provide the capacity required to treat certain Hanford Site mixed wastes.

6.2.1 M-091 Capability

Current capabilities do not provide for the disposition of TRUM-CH Large, TRUM-CH Small, TRUM-RH, and certain MLLW-07 treatability group wastes. To treat and disposition these waste streams, DOE will need additional capabilities, including but not limited to the following:

- The ability to retrieve waste from alpha caissons
- New capabilities for characterizing and certifying remote-handled (RH) wastes
- The capability to certify contact-handled (CH) TRUM waste in standard large box 2 containers
- The capability to load CH standard large box 2 containers into TRUPACT-III casks
- The capability to load RH-TRUM containers into casks for shipment (CHPRC-02916, *M-091 Engineering Alternatives Study*).

Commitments for achieving these and/or other related capabilities are addressed in the M-091 milestone series. Additional information related to the future M-091 capability is provided in section 6.4.4.

6.3 COMMERCIAL TREATMENT FACILITIES

6.3.1 Perma-Fix Diversified Scientific Services, Inc.

Commented [MJW(43]: See RCR Comment #32

Located in Kingston, Tennessee, Perma-Fix Diversified Scientific Services, Inc., provides stabilization, macroencapsulation, and combustion/thermal treatment capabilities. No other thermal treatment capability is currently available to treat MLLW-03 wastes. In addition, certain wastes from the 325 HWTUs, Hanford Site Laboratory Complex, and MLLW-02 treatability groups that cannot be treated onsite may be treated at this facility. Because MLLW-03 wastes are expected to be generated through the life of Hanford Site cleanup operations, continued thermal treatment capabilities will be needed into the foreseeable future. Additional information about Perma-Fix Diversified Scientific Services, Inc., can be found on EPA's RCRAInfo website at https://enviro.epa.gov/enviro/rcrainfoquery_3.facility_information?pgm_sys_id=TND982109142.

6.3.2 Perma-Fix Northwest

Commented [MJW(44]: See RCR Comments #24, #30

Located adjacent to the Hanford Site, Perma-Fix Northwest provides the primary stabilization and macroencapsulation capabilities for processing several of Hanford's mixed waste streams. The MLLW-02 treatability group is treated via stabilization, MLLW-04 and MLLW-07 wastes are treated via macroencapsulation, and certain wastes from the Hanford Site Laboratory Complex and LERF/ETF Solids treatability groups may be treated by either, or a combination, of the two processes. In addition, certain wastes from the 325 HWTUs treatability group that cannot be treated onsite may be treated at this facility. Because these treatability groups are expected to continue generating waste through the life of the Hanford Site cleanup operations, continued commercial stabilization and macroencapsulation treatment capabilities will be needed into the foreseeable future. Perma-Fix Northwest also size-reduces and repackages certain wastes from the TRUM-CH Small and TRUM-CH Large treatability groups into WIPP-compliant containers for shipment. Additional information about Perma-Fix Northwest can be found on EPA's RCRAInfo website at https://enviro.epa.gov/enviro/rcrainfoquery_3.facility_information?pgm_sys_id=WAR000010355.

6.3.3 Perma-Fix of Florida

Commented [MJW(45]: See RCR Comment #32

Located in Gainesville, Florida, Perma-Fix of Florida is a waste processing facility that manages a wide range of low-level, mixed low-level, and non-radioactive hazardous and industrial waste. Certain wastes from the 325 HWTUs treatability group that cannot be treated onsite are treated at Perma-Fix of Florida. Additional information about Perma-Fix of Florida can be found on EPA's RCRAInfo website at https://enviro.epa.gov/enviro/rcrainfoquery_3.facility_information?pgm_sys_id=FLD980711071.

6.4 U.S. DEPARTMENT OF ENERGY TREATMENT FACILITIES

Commented [MJW(46]: See RCR Comment #32.

6.4.1 325 Hazardous Waste Treatment Units

The 325 HWTUs are authorized to perform non-thermal treatment of waste from PNNL research activities as required to meet LDRs and disposal facility acceptance criteria.

Table 6-3. 325 Hazardous Waste Treatment Unit. (2 pages)

Item or Parameter	Description or Status
Treatability groups treated at this facility	325 HWTUs[1]
Supported treatment technologies	Bench- or small-scale non-thermal treatment (e.g., neutralization, solidification, stabilization) of dangerous waste in containers occurs in the HWTU, the Cask Handling Area, and the SAL. Larger scale (i.e., greater than drum quantity) treatment in containers is limited to macroencapsulation, and takes place in the

Table 6-3. 325 Hazardous Waste Treatment Unit. (2 pages)

Item or Parameter	Description or Status
	Cask Handling Area, the Truck Lock or at the 3714 Pad. Neutralization treatment may be performed in tank TK-1.
Treatment capacity	14 m^3/day
Regulatory status	Operating under a final status RCRA permit.
Alternative facilities/foreseeable contingencies	Commercial treatment could be used for some 325 HWTUs wastes at significantly higher costs.
Associated schedules	None. Waste is treated as generated.

[1] The 325 HWTUs also treat contact and remote-handled transuranic mixed waste in preparation for Waste Isolation Pilot Plant waste acceptance requirements.

HWTU = Hazardous Waste Treatment Unit.
RCRA = *Resource Conservation and Recovery Act.*
SAL = shielded analytical laboratory (cell).

6.4.2 Environmental Restoration Disposal Facility

ERDF is a landfill authorized under CERCLA that meets the substantive requirements of RCRA. 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 and decontamination, deactivation, decommissioning, and demolition activities on the Hanford Site. Disposal cells 1 through 4 have been filled since the landfill opened in 1996, and are temporarily capped. Cells 5 through 10 are currently being filled.

Table 6-4. Environmental Restoration Disposal Facility.

Item or Parameter	Description or Status
Treatability groups treated at this facility	324 Building REC Waste, ERDF–Treatment, Hanford Site Laboratory Complex, LERF/ETF Solids
Supported treatment technologies	Macroencapsulation, microencapsulation, or other sealing technology.
Treatment capacity	Sufficient treatment capacity
Regulatory status	Facility is operating under a CERCLA ROD issued in 1995, as amended.
Alternative facilities/foreseeable contingencies	Commercial macroencapsulation could be used for some ERDF – Treatment wastes at significantly higher costs.
Associated schedules	All waste at ERDF is treated within a year of receipt.

CERCLA = *Comprehensive Environmental Response, Compensation, and Liability Act.*
ERDF = Environmental Restoration Disposal Facility.
ETF = Effluent Treatment Facility.
LERF = Liquid Effluent Retention Facility.
REC = Radiochemical Engineering Cell(s).
ROD = record of decision.

Commented [MJW(47]: See RCR Comment #29

6.4.3 Liquid Effluent Retention Facility/Effluent Treatment Facility

The LERF/ETF is an aqueous waste treatment system located in the 200 East Area that provides storage and treatment for a variety of aqueous mixed waste in the LERF/ETF Liquid Waste treatability group. The LERF consists of three RCRA-compliant surface impoundments, or basins. Each basin has an operating capacity of 30 million liters (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.

Table 6-5. Liquid Effluent Retention Facility/Effluent Treatment Facility.

Item or Parameter	Description or Status
Treatability groups treated at this facility	LERF/ETF Liquid Waste
Supported treatment technologies	pH adjustment, filtration, UV light/peroxide destruction of organics, reverse osmosis, degasification, ion exchange
Treatment capacity	210,000 m3 per year
Regulatory status	Operating under a final status RCRA permit
Alternative facilities/foreseeable contingencies	None
Associated schedules	Addendum H is the Closure Plan. Closure of LERF and 200 Area ETF is projected to 2052 to support tank waste processing.

ETF = Effluent Treatment Facility.
LERF = Liquid Effluent Retention Facility.
RCRA = *Resource Conservation and Recovery Act.*
UV = ultraviolet.

6.4.4 M-091 Capability

The requirements of M-091-01 are to provide for the processing of RH-TRUM and oversized containers of TRUM waste. In addition, based on the latest approved project management plan for M-091, a needed capability is anticipated to provide for processing of unique TRUM waste streams such as waste in underground alpha caissons and to address loadout of RH shipments.

Table 6-6. M-091 Capability.

Item or Parameter	Description or Status
Treatability groups treated at this facility	MLLW-07, TRUM-CH Large Container, TRUM-CH Small Container, TRUM-RH
Supported treatment technologies	Remote handling and large container processing
Treatment capacity	~~To be determined by design reports~~Will be developed under M-091 series
Regulatory status	Not yet permitted
Alternative facilities/foreseeable contingencies	Under evaluation
Associated schedules	~~M-091 series~~

Commented [MJW(48]: See RCR Comment #26

Commented [MJW(49]: See RCR Comment #11

CH = contact-handled.
MLLW = mixed low-level waste.
RH = remote-handled.
TRUM = transuranic mixed (waste).

6.4.5 T Plant Complex

Although the bulk of the MLLW-02 and MLLW-04 waste streams will be treated via commercial stabilization and macroencapsulation, the T Plant Complex does have these capabilities. The T Plant Complex canyon 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 wastes are inspected in the 2706-T Building prior to offsite shipment for treatment at commercial treatment facilities. Also at the 2706-T Building, some treated waste will be inspected after return shipment from the offsite commercial treatment facilities.

Table 6-7. T Plant Complex.

Item or Parameter	Description or Status
Treatability groups treated at this facility	MLLW-02, MLLW-04
Supported treatment technologies	Deactivation, stabilization, macroencapsulation, repackaging
Treatment capacity	TBD
Regulatory status	Operating under interim status to a current Part A Permit Application
Alternative facilities/foreseeable contingencies	Commercial macroencapsulation, commercial stabilization (Perma-Fix Northwest)
Associated schedules	Decisions regarding the potential use of T Plant to supplement existing capabilities will be made within the timeframe of the M-091 schedule.

MLLW = mixed low-level waste.
TBD = to be determined.

Commented [MJW(50)]: See RCR Comment #27

6.4.6 Waste Receiving and Processing Plant

The primary purpose of WRAP and T Plant is to repackage and support certification of small container CH TRUM waste to meet WIPP waste acceptance criteria for disposal. WRAP and T Plant provide capabilities to receive waste, confirm contents of drummed and standard waste boxes, repackage waste, and support certification of waste. WRAP and T Plant currently only process CH TRUM waste in drums or standard waste boxes.

Table 6-8. Waste Receiving and Processing Facility. (2 pages)

Item or Parameter	Description or Status
Treatability groups treated at this facility	TRUM-CH Small Container
Supported treatment technologies	Repackaging
Treatment capacity	13 m^3/day
Regulatory status	WRAP is operating under interim status standards pursuant to Permit Condition I.A. For T Plant regulatory status, see section 6.4.5.

Table 6-8. Waste Receiving and Processing Facility. (2 pages)

Item or Parameter	Description or Status
Alternative facilities/foreseeable contingencies	Processes are available at several other DOE locations: INL, SRS, Los Alamos, and offsite commercially. In addition, repackaging and characterization capabilities have been developed that can be deployed at sites, using temporary rather than permanent installation.
Associated schedules	The use of WRAP is dependent on future funding to re-establish operations at the facility. There will be no schedules established until funding is provided.

CH = contact-handled.
INL = Idaho National Laboratory.
SRS = Savannah River Site.
TRUM = transuranic mixed (waste).
WRAP = Waste Receiving and Processing Facility.

6.4.7 Waste Treatment and Immobilization Plant

The construction of the WTP is ongoing, with commissioning and startup of the DFLAW configuration scheduled in the waste forecasting period of this report (2019 to 2024). The WTP will treat DST waste (including SST waste transferred to the DST system) using the HLVIT treatment technology (40 CFR 268.42). While molten, vitrified waste will be poured into specially designed disposal containers (or canisters) and sealed, allowed to cool, and transferred to the appropriate disposal facility (IDF for ILAW, a national geologic repository for immobilized high-level waste) for land disposal.

Table 6-9. Waste Treatment and Immobilization Plant.

Commented [MJW(51]: See RCR Comment #28

Item or Parameter	Description or Status
Treatability groups treated at this facility	DST, SST
Supported treatment technologies	HLVIT
Treatment capacity	ILAW: 30 MTG/day IHLW: 7.5 MTG/day
Regulatory status	DFLAW operating permit submitted in 2019
Alternative facilities/foreseeable contingencies	None
Associated schedules	M-090-00, M-062-00

DFLAW = direct feed low-activity waste.
DST = double-shell tank.
HLVIT = high-level waste vitrification.
IHLW = immobilized high-level waste.
ILAW = immobilized low-activity waste.
SST = single-shell tank.

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7.0 SUMMARY OF DISPOSAL INFORMATION

7.1 LOW-LEVEL WASTE DISPOSAL

Low-level wastes from the 324 Building REC Waste, 325 HWTUs, 400 Area WMU, DST Waste, ERDF-Treatment, Hanford Site Laboratory Complex, LERF/ETF Solid Waste, MLLW-02, MLLW-03, MLLW-04, MLLW-07, and SST Waste treatability groups is or will be disposed at the mixed waste trenches and/or ERDF. The mixed waste trenches (LLBG 218-W-5, Trenches 31 and 34) are RCRA compliant, meet Subtitle C disposal requirements, and provide permanent disposal of low-level waste and MLLW. The combined capacity of the two mixed waste trenches is approximately 22,300 m^3. Approximately half of each disposal unit has been filled with waste.

ERDF is authorized to dispose of waste under CERCLA and meets substantive requirements for RCRA landfills (e.g., double liner, leachate collection). The landfill is used for disposal of environmental restoration waste being generated from cleanup activities. ERDF is designed to provide permanent disposal capacity to accommodate projected Hanford Site low-level waste and MLLW.

In 2007, an amendment to the ERDF ROD was approved, authorizing treatment and disposal at ERDF of specific Hanford Site-only waste that is not covered in other existing Hanford Site CERCLA authorizations or RODs (EPA et al., 2007). Examples of Hanford Site-only waste include waste from surveillance and maintenance at Hanford Site facilities, environmental research and development activities, sample analyses, liquid effluent waste treatment, and environmental monitoring programs.

Vitrified mixed ILAW from the WTP will be disposed onsite at the IDF. The IDF has been constructed under the Hanford Facility RCRA Permit (WA7890008967) and will accept ILAW when WTP generates the waste. Ecology has granted DOE an LDR treatability variance for Hanford tank waste (Schleif 2019) that will enable ILAW to be disposed in IDF.

7.2 TRANSURANIC MIXED WASTE DISPOSAL

TRUM-CH Large Container, TRUM-CH Small Container, and TRUM-RH will be disposed at WIPP. WIPP was reopened to receive TRUM waste on December 23, 2016, after an extended shutdown due to the radiological incident that occurred on February 14, 2014. Shipments of TRU waste to WIPP recommenced in April of 2017. It is projected that shipments of CERCLA TRU and TRUM waste to WIPP will not begin until after FY 2030.

7.3 HIGH-LEVEL WASTE DISPOSAL

High-level waste from the DST and SST Waste treatability groups will be disposed at a national repository. In addition to housing HLW, the repository is expected to provide final disposal 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.

8.0 TRI-PARTY AGREEMENT INFORMATION

The *Hanford Federal Facility Agreement and Consent Order*, commonly known as the TPA, is a legal agreement between DOE, EPA, and Ecology. Originally signed in 1989, the TPA includes a legal agreement and action plan for bringing the Hanford Site into compliance with CERCLA and RCRA provisions, including LDRs. Amongst other things, the TPA:

- Establishes responsibilities for reporting, change management, and public involvement
- Provides a basis for budgeting
- Serves as the interagency agreement required by CERCLA §120(e)
- Serves as the RCRA consent order providing a pathway to RCRA permitting and closure
- Contains dispute resolution processes that secure for DOE certain rights and protections.

The TPA Action Plan Appendix D provides the definitive work schedule and due dates for cleanup milestones. These milestones represent the actions necessary to ensure acceptable progress toward Hanford Site compliance with RCRA, CERCLA, and the Washington State *Hazardous Waste Management Act*, which includes the characterization, treatment, and disposal of land disposal restricted wastes described in this report.

Schedule milestones include major milestones, interim milestones, and target dates. A major milestone is an enforceable milestone that represents a long-term (generally > 5 years) major scope of work that, when completed, demonstrates progress towards full compliance. Major milestones usually form the basis for a series of interim milestones and/or target dates, and most end with “00” (e.g., M-016-00). An interim milestone is an enforceable milestone that represents an intermediate term (< 5 years) significant scope of work that, when completed, supports the ultimate completion of a major milestone (e.g., M-016-85). A target date is not enforceable and represents a shorter, near-term (6-18 months) scope of work or work with a high degree of uncertainty in support of interim and major milestones (e.g., M-016-119-T01). Target dates generally are used to track progress toward the completion of interim and major milestones, and include a “T” designator in the milestone number. Modifications to any part of the TPA, including changes to TPA milestones, are performed in accordance with the process defined in section 12.0 of the TPA Action Plan.

Table 8-1 identifies TPA milestones through 2052 as of December 31, 2019. Pending TPA change control actions are not included.

Table 8-1. Tri-Party Agreement Milestones and Target Dates. (8 pages)[1]

Milestone	Description	Due Date
M-062-45[2]	Complete Negotiations 6 Months after Last Issuance of System Plan	04/30/2015
M-062-45-T01[2]	Complete Negotiations 6 Months after Last Issuance of System Plan	04/30/2015
M-062-45-ZZ[2]	Negotiate a One-Time Supplemental Treatment Selection	04/30/2015
M-062-45-ZZ-A[2]	Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones	04/30/2015
M-062-31-T01[2]	Complete Final Design and Submit RCRA Part B Permit Modification Request for Enhanced WTP and/or Supplemental Treatment Facility Based on the M-062-45 Decision	04/30/2016
M-083-00A	Complete PFP Facility Transition and Selected Disposition Activities	09/30/2017
M-062-32-T01[2]	Start Construction of Supplemental Vitrification Facility and/or WTP Enhancements	04/30/2018
M-015-93C[2]	Initiate Characterization Field Work for 200-SW-2 Operable Unit Landfills	09/30/2018
M-016-255[2]	Complete Removal of All Waste Sites for FY 2018 as Updated/Modified in M-16-17-01	09/30/2018
M-035-09K[2]	Conduct Biennial Assessments of Information and Data Access Needs	03/31/2019
M-015-98[2]	Complete RI of U Plant Related Waste Sites Located in 200-WA-1	06/30/2019
M-016-256[2]	Complete Removal of All Waste Sites for FY 2019 as Updated/Modified in M-16-17-01	09/30/2019
M-085-70[2]	Submit to Ecology a RIFS Work Plan for 200-CB-1	09/30/2019
M-015-99[2]	Complete RI of PFP-Related Waste Sites Located in 200-WA-1	12/31/2019
M-016-178	Initiate Deactivation of 105-KW Fuel Storage Basin	12/31/2019
M-093-28	Submit Change Package for Proposed Interim Milestones for 105-KE/KW Reactor Interim Safe Storage	12/31/2019
M-062-01AN	Submit Semi-Annual Project Compliance Report to Ecology	01/31/2020
M-016-250E	Submit to Ecology a 3-Year Rolling Prioritized Schedule to Implement Waste Site Removal Actions	03/31/2020
M-035-09L	Conduct Biennial Assessments of Information and Data Access Needs	03/31/2020
M-026-01AD	Submit Full Hanford Land Disposal Restrictions Report (for 2019)	04/30/2020
M-024-58M	Initiate Discussions of Well Commitments	06/01/2020
M-045-93	Submit Report for Description, Analysis and Technology for Removing Drainable Liquids from SSTs	06/30/2020
M-091-03N	Submit Revision of TRUM Waste and MLLW PMP to Ecology	06/30/2020
M-062-54A	Submit Permit Application for AP Tank Farm Modifications and Operation Necessary to Support TSCR	07/15/2020
M-045-56P	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	07/31/2020
M-062-01AO	Submit Semi-Annual Project Compliance Report to Ecology	07/31/2020
M-024-71-T01	Conclude Discussions of Well Commitments Initiated Under M-024-58	08/01/2020
M-015-97	Submit to Ecology, the 100-OL-1 Operable Unit Feasibility Study Report	08/30/2020
M-037-10[3]	Complete Closure for 6 Specified TSD Units	09/30/2020

Table 8-1. Tri-Party Agreement Milestones and Target Dates. (8 pages)[1]

Milestone	Description	Due Date
M-045-99	Submit to Ecology the Preliminary Performance Assessment/Closure Analysis	09/30/2020
M-085-100	Submit Removal Action Work Plan for 224-T to EPA	09/30/2020
M-085-80	Submit RI/FS Work Plan for 200-CP-1 to Ecology	09/30/2020
M-091-44T	Submit Change Package to Complete Disposition of CH and RH TRUM	09/30/2020
M-091-49A	Submit a Change Request to Establish a Schedule for Achieving the Retrieval of RSW	09/30/2020
M-045-92AD	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities	10/31/2020
M-062-40H	Submit System Plan to Ecology	10/31/2020
M-015-112	Submit Draft B 200-IS-1 RFI/CMS/RI/FS Work Plan to Ecology with Schedule Dates	11/30/2020
M-091-52-T01C	Remove 20 Additional Mixed Waste Containers from Outside Storage Area A and/or B	11/30/2020
M-016-110-T02	Take Actions Such that Hexavalent Chromium Meets Drinking Water Standards	12/31/2020
M-016-119-T01	Operational System in Place to Contain Groundwater Plumes in the D200 National Priorities List Area	12/31/2020
M-024-71	Complete the Construction of All Wells Listed for CY 2020 and Before	12/31/2020
M-062-50	Submit to Ecology as a Secondary Document, a Mass Balance Flow	01/30/2021
M-062-01AP	Submit Semi-Annual Project Compliance Report to Ecology	01/31/2021
M-016-250F	Submit to Ecology a 3-Year Rolling Prioritized Schedule to Implement Waste Site Removal Actions	03/31/2021
M-090-14	Submit CD-1 for Facility to Store Spent Ion Exchange Columns Prior to DFLAW	03/31/2021
M-026-01AE	Submit Hanford Land Disposal Restrictions Summary Report (for 2020)	04/30/2021
M-062-33-T01[2]	Complete Construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements	04/30/2021
M-062-45-A	Complete Negotiations 6-Months After Last Issuance of System Plan	04/30/2021
M-024-58N	Initiate Discussions of Well Commitments	06/01/2021
M-091-03O	Submit Revision of TRUM Waste and MLLW Project Management Plan to Ecology	06/30/2021
M-045-56Q	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	07/31/2021
M-062-01AQ	Submit Semi-Annual Project Compliance Report to Ecology	07/31/2021
M-024-72-T01	Conclude Discussions of Well Commitments Initiated Under M-024-58	08/01/2021
M-016-85A	Complete Remote Excavation of 300-296 Waste Site	09/30/2021
M-016-86	Complete Remedial Actions for 618-11 Burial Ground in accordance with DOE/RL-2014-13-ADD1	09/30/2021
M-045-91E4	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology	09/30/2021
M-045-97	Submit to Ecology a WMA Integration Study for WMA A/AX as a Primary Document	09/30/2021

Table 8-1. Tri-Party Agreement Milestones and Target Dates. (8 pages)[1]

Milestone	Description	Due Date
M-085-90	Submit RI/FS Work Plan for 200-CR-1 to EPA	09/30/2021
M-091-52-T02	Submit to Ecology, an Interim Response Action to Resume Waste Retrieval	09/30/2021
M-045-92AE	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities	10/31/2021
M-045-92Y	Complete Construction of Barrier 3 in 241-TX Farm	10/31/2021
M-045-92Z	Submit to Ecology Design/Maintenance and Performance Monitoring Plan for Barrier 4 in 241-U Farm	10/31/2021
M-015-84[2]	Complete RI of 200-WA-1 and 200-BC-1 Waste Sites in Accordance with RI/FS Work Plan	12/31/2021
M-024-72	Complete the Construction of All Wells Listed for CY 2021 and Before	12/31/2021
M-062-45-XX	Complete Negotiations to Resolve Future Disputes M-062-45 Paragraphs 4 and 5	12/31/2021
M-062-51-T01	Submit to Ecology, as a Primary Document, a Secondary Liquid Waste Disposition Work Plan	12/31/2021
M-062-52-T01	Submit to Ecology, a Secondary Solid Waste Disposition Work Plan as a Primary Document	12/31/2021
M-036-01J	Submit to EPA and Ecology Lifecycle Scope, Schedule and Cost Report	01/31/2022
M-045-85	Initiate Negotiations of *Hanford Federal Facility Agreement and Consent Order* Interim Milestones for Closure of Remaining WMAs	01/31/2022
M-045-92AA	Barrier 4 Design Approved by Ecology	01/31/2022
M-062-01AR	Submit Semi-Annual Project Compliance Report to Ecology	01/31/2022
M-016-250G	Submit to Ecology a 3-Year Rolling Prioritized Schedule to Implement Waste Site Removal Actions	03/31/2022
M-026-07D	Evaluation of Tritium Treatment Technology to EPA and Ecology	03/31/2022
M-035-09M	Conduct Biennial Assessments of Information and Data Access Needs	03/31/2022
M-092-20	Submit to Ecology a Disposition Pathways Evaluation for the Cesium and Strontium Capsules	03/31/2022
M-026-01AF	Submit Hanford Land Disposal Restrictions Summary Report (for 2021)	04/30/2022
M-062-53A	Achieve Substantial Completion of EMF Construction	04/30/2022
M-062-51-T02	Submit to Ecology, Permit Modification Request for Redesign Upgrades and Operations to Support Volumes of Waste Types Expected	05/15/2022
M-062-52-T02	Submit to Ecology, Permit Modification Request for Ancillary Facilities/Capabilities to Support Treatment of Secondary Waste	05/15/2022
M-024-58O	Initiate Discussions of Well Commitments	06/01/2022
M-062-57A	Submit Permit Modification to Add Secondary Waste Disposal at the IDF	06/15/2022
M-091-03P	Submit Revision of TRUM Waste and MLLW PMP to Ecology	06/30/2022
M-045-56R	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	07/31/2022
M-062-01AS	Submit Semi-Annual Project Compliance Report to Ecology	07/31/2022
M-024-73-T01	Conclude Discussions of Well Commitments Initiated Under M-024-58	08/01/2022

Table 8-1. Tri-Party Agreement Milestones and Target Dates. (8 pages)[1]

Milestone	Description	Due Date
M-016-173	Select K Basin Sludge Treatment and Packaging Technology and Propose New Interim Milestones	09/30/2022
M-037-13[3]	Complete Closure for the 241-CX Tank System	09/30/2022
M-045-102	Submit to Ecology a Performance Assessment Maintenance Plan for the WMA A/AX Performance Assessment	09/30/2022
M-045-15	Completion of Tank A-103 SST Waste Retrieval	09/30/2022
M-045-15A	Submit a Retrieval Data Report Pursuant to Agreement Appendix I	09/30/2022
M-045-15D	Exception to Waste Retrieval Criteria Pursuant to Agreement Appendix H	09/30/2022
M-045-98	Submit to Ecology a RFI/CMS Work Plan for WMA A/AX as a Primary Document	09/30/2022
M-091-52-T03	Submit to Ecology, a Conceptual Design Report for the Facility/Capability for Contact-Handled Waste Containers	09/30/2022
M-045-92AF	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities	10/31/2022
M-062-40I	Select a Minimum of Three Scenarios	10/31/2022
M-015-92B	Submit RFI/CMS and RI/FS Report and Proposed Corrective Action Decision/Proposed Plan for 200-EA-1 Operable Unit to Ecology	11/30/2022
M-062-34-T01[2]	Complete Hot Commissioning of Supplemental Treatment Vitrification Facility and/or WTP Enhancements	12/30/2022
M-024-73	Complete the Construction of All Wells Listed for CY 2022 and Before	12/31/2022
M-042-10-T01	Complete Leak Test/Internal Inspections, or Other Tank Integrity Examination of DST Components	12/31/2022
M-062-54B	Achieve Substantial Completion of LAW Pretreatment Capability Construction for DFLAW Initial Operations	12/31/2022
M-015-93B	Submit RCRA RFI/CMS and RI/FS Report and Proposed Corrective Action Decision/Proposed Plan for 200-SW-2 Operable Unit	01/31/2023
M-062-01AT	Submit Semi-Annual Project Compliance Report to Ecology	01/31/2023
M-062-21	Annually Submit Data that Demonstrate Operation of WTP at a Rate Sufficient to Meet M-062-00	02/28/2023
M-015-92C	Submit RFI/CMS and RI/FS Report and Proposed Corrective Action Decision/Proposed Plan for 200-IS-1 Operable Unit to Ecology	03/31/2023
M-062-51	Achieve Substantial Completion of Liquid Effluent Retention Facility/Effluent Treatment Facility Construction Upgrades Necessary for LAW Hot Commissioning	04/15/2023
M-026-01AG	Submit Hanford Land Disposal Restrictions Summary Report (for 2022)	04/30/2023
M-062-54	Low Activity Waste Pretreatment Capability; Cold Commissioning Complete	04/30/2023
M-062-52	Achieve Substantial Completion of Secondary Waste Construction Necessary for LAW Hot Commissioning	06/30/2023
M-091-03Q	Submit Revision of TRUM Waste and MLLW Project Management Plan to Ecology	06/30/2023
M-015-38B	Submit a FS Report and PP for CW-1, CW-3 and OA-1 OUs to EPA	07/31/2023

Table 8-1. Tri-Party Agreement Milestones and Target Dates. (8 pages)[1]

Milestone	Description	Due Date
M-015-91B[2]	Submit Feasibility Study Report and Proposed Plan for the 200-BC-1/200-WA-1 Operable Units	07/31/2023
M-062-01AU	Submit Semi-Annual Project Compliance Report to Ecology	07/31/2023
M-062-53	EMF Cold Commissioning Start	08/15/2023
M-062-55	LAW Pretreatment Capability Necessary to Feed DFLAW; Hot Commissioning Complete	08/15/2023
M-015-110B	Submit CMS and FS and Proposed Plan/Corrective Action Decision for 200-DV-1 Operable Units to Ecology	09/30/2023
M-016-181	Complete Deactivation, Demolition and Removal of 105-KW Fuel Storage Basin	09/30/2023
M-045-91E5	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology	09/30/2023
M-045-91K	Complete Initial Baseline Visual Inspections of All SSTs	09/30/2023
M-062-57	Integrated Disposal Facility Operational	09/30/2023
M-045-92	Complete Installation of Four Additional Interim Barriers	10/31/2023
M-045-92AB	Complete Construction of Barrier 4 in 241-U Farm	10/31/2023
M-045-92AG	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities	10/31/2023
M-062-40J	Submit System Plan to Ecology	10/31/2023
M-016-186	Initiate Soil Remediation Under 105-KW Fuel Storage Basin	12/31/2023
M-062-56	Submit Permit Application for Design and Construction of the Low-Activity Waste Pretreatment Capability	12/31/2023
M-062-21A	Annually Submit Data that Demonstrate Operation of WTP at a Rate Sufficient to Meet M-062-00	02/28/2024
M-035-09N	Conduct Biennial Assessments of Information and Data Access Needs	03/31/2024
M-045-91K-T01	Submit Report of the Initial Baseline Visual Inspection of All SSTs Remaining to be Inspected	03/31/2024
M-026-01AH	Submit Hanford Land Disposal Restrictions Summary Report (for 2023)	04/30/2024
M-091-03R	Submit Revision of TRUM Waste and MLLW Project Management Plan to Ecology	06/30/2024
M-016-00C	Complete All Response Actions In The 100 K Area	09/30/2024
M-016-143	Complete the Interim Response Actions for the 100K Area Phase 2	09/30/2024
M-016-200A	Complete U Plant Canyon (221 U Facility) Demolition	09/30/2024
M-037-11[3]	Complete Closure Requirements for 216-B-3 and 216-S-10	09/30/2024
M-093-27	Complete 105-KE and 105-KW Reactor Interim Safe Storage in Accordance with Removal Action Work Plan	09/30/2024
M-045-92AH	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities	10/31/2024
M-036-01K	Submit to EPA and Ecology Lifecycle Scope, Schedule and Cost Report	01/31/2025
M-062-21B	Annually Submit Data that Demonstrate Operation of WTP at a Rate Sufficient to Meet M-062-00	02/28/2025
M-026-01AI	Submit Full Hanford Land Disposal Restrictions Report (for 2024)	04/30/2025

Table 8-1. Tri-Party Agreement Milestones and Target Dates. (8 pages)[1]

Milestone	Description	Due Date
M-091-03S	Submit Revision of TRUM Waste and MLLW Project Management Plan to Ecology	06/30/2025
M-092-21	Complete the Transfer of the Cesium and Strontium Capsules from the Waste Encapsulation and Storage Facility	08/31/2025
M-016-85	Complete Remedial Actions for 300-296 and Disposition for 324 Building and Ancillary Buildings	09/30/2025
M-045-91E6	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology	09/30/2025
M-085-76	Initiate Response Actions for B Plant Remedial/Removal Action Work Plan	09/30/2025
M-085-84	Initiate Response Actions for PUREX in accordance with Schedule in Approved Remedial/Removal Action Work Plan	09/30/2025
M-090-13	CD-1 for Interim Hanford Storage Project and a Tri-Party Agreement Change Request for CD-2 to Ecology	09/30/2025
M-062-21C	Annually Submit Data that Demonstrate Operation of WTP at a Rate Sufficient to Meet M-062-00	02/28/2026
M-092-20A	Submit to Ecology a Disposition Pathways Evaluation for the Cesium and Strontium Capsules	03/31/2026
M-015-00	Complete the RI/FS (or RFI/CMS) Process for All Non-Tank Farm Operable Units	06/30/2026
M-085-01	Submit a Change Package to Establish a Date for Major Milestone M-085-00	06/30/2026
M-091-03T	Submit Revision of TRUM Waste and MLLW Project Management Plan to Ecology	06/30/2026
M-045-103	Submit to Ecology a Permit Modification Request with Tier 2 RCRA Closure Plan for WMA A/AX and Schedule for Tier 3 Schedule	09/30/2026
M-091-52-T04	Remove All Mixed Waste Containers from Outside Storage Areas A and B	09/30/2026
M-042-10	Complete Tank Integrity Examination of DST Components to Assess Integrity	12/31/2026
M-092-09	Submit to Ecology a Conceptual Design Report Package (30% Design) for the Sodium Reaction Facility	12/31/2026
M-062-21D	Annually Submit Data that Demonstrate Operation of WTP at a Rate Sufficient to Meet M-062-00	02/28/2027
M-026-07E	Evaluation of Tritium Treatment Technology to EPA and Ecology	03/31/2027
M-062-45-B	Complete Negotiations 6-Months After Last Issuance of System Plan	04/30/2027
M-091-03U	Submit Revision of TRUM Waste and MLLW PMP to Ecology	06/30/2027
M-016-200B	Complete U Plant (221 U Facility) Barrier Construction	09/30/2027
M-036-01L	Submit to EPA and Ecology Lifecycle Scope, Schedule and Cost Report	01/31/2028
M-062-21E	Annually Submit Data that Demonstrated Operation of WTP at a Rate Sufficient to Meet M-062-00	02/28/2028
M-091-03V	Submit Revision of TRUM Waste and MLLW Project Management Plan to Ecology	06/30/2028

Table 8-1. Tri-Party Agreement Milestones and Target Dates. (8 pages)[1]

Milestone	Description	Due Date
M-092-09-T01	Submit to Ecology a Preliminary Design Report Package (60% Design) for the Sodium Reaction Facility	06/30/2028
M-045-104	Submit to Ecology as a Permit Modification Request the Post-Closure Plan for WMA A/AX	09/30/2028
M-091-49	Complete Retrieval and Designation of RH and CH RSW	09/30/2028
M-092-09-T02	Submit to Ecology a Final Design Report (90%-100% Design) for the Sodium Reaction Facility	09/30/2029
M-091-48	Complete the Offsite Shipment of All TRUM Waste	09/30/2030
M-045-91L	Obtain Assessment Reviewed/Certified by an IQRPE Attesting to SST Structural Integrity	09/30/2034
M-090-00[2]	Acquire/Modify Facilities for Storage of First Two Years of Immobilized High-Level Waste from WTP Operations	12/31/2036
M-092-21-T01	Submit to Ecology a Conceptual Design Report Package (30% Design) to Dispose of Cs/Sr Capsules	12/30/2040
M-045-70	Complete Waste Retrieval from all Remaining SSTs	12/31/2040
M-092-21-T02	Submit to Ecology a Preliminary Design Report Package (60% Design) to Dispose of Cs/Sr Capsules	06/30/2042
M-016-00	Complete Remedial Actions for All Non-Tank Farm and Non-Canyon Operable Units	09/30/2042
M-045-00	Complete Closure of All SST Farms	01/31/2043
M-092-21-T03	Submit to Ecology a Final Design Report Package (90%-100% Design) to Dispose of Cs/Sr Capsules	09/30/2043
M-062-00	Complete Pretreatment Processing and Vitrification of HLW and LAW Tank Wastes	12/31/2047
M-092-00	Acquire Facilities for Cs/Sr, and Na	12/31/2047
M-042-00A	Complete the Closure of All DST Farms	09/30/2052
M-016-250	Submit to Ecology a 3-Year Rolling Prioritized Schedule to Implement Waste Site Removal Actions	TBD[4]
M-024-00O	Complete Well Installations with RCRA/CERCLA Requirements	TBD[4]
M-024-58	Initiate Discussions of Well Commitments	TBD[4]
M-035-00	Complete Data Management Enhancements	TBD[4]
M-045-13	Interim Completion of Tank S-112 SST Waste Retrieval and Closure	TBD[4]
M-045-13E	Complete Negotiations for Interim Milestones for Closure of S-112	TBD[4]
M-045-56	Complete Implementation of Agreed-to Interim Measures	TBD[4]
M-045-59	Control Surface Water Infiltration Pathways as Needed	TBD[4]
M-045-62	Submit the Draft Tier 3 Closure Plan with Corrective Measures in Phase 2 Corrective Measures Implementation Work Plan for WMA C	TBD[4]
M-045-83	Complete the Closure of WMA C by Completing Closure Activities Specified in the Tier 2 Closure Plan	TBD[4]
M-045-86	Submit Retrieval Data Report to Ecology for 19 Tanks Retrieved Under Consent Decree	TBD[4]

Table 8-1. Tri-Party Agreement Milestones and Target Dates. (8 pages)[1]

Milestone	Description	Due Date
M-045-86L	Submit Retrieval Data Report to Ecology for Remaining Nine SSTs	TBD[4]
M-045-86M	Submit Retrieval Data Report to Ecology for Remaining Nine SSTs	TBD[4]
M-045-86N	Submit Retrieval Data Report to Ecology for Remaining Nine SSTs	TBD[4]
M-045-86O	Submit Retrieval Data Report to Ecology for Remaining Nine SSTs	TBD[4]
M-045-86P	Submit Retrieval Data Report to Ecology for Remaining Nine SSTs	TBD[4]
M-045-86Q	Submit Retrieval Data Report to Ecology for Remaining Nine SSTs	TBD[4]
M-045-86R	Submit Retrieval Data Report to Ecology for Remaining Nine SSTs	TBD[4]
M-045-86S	Submit Retrieval Data Report to Ecology for Remaining Nine SSTs	TBD[4]
M-047-00[2]	Completion of Work for Management of Secondary Waste from the WTP	TBD[4]
M-062-40	Submit System Plan to Ecology/Select Minimum of Three Scenarios	TBD[4]
M-085-00	Complete Response Actions for Specified Canyon Facilities and Waste Sites	TBD[4]
M-089-00	Closure of Mixed Waste Units in 324 Building Radiochemical Engineering Cells B and D and High and Low-Level Vaults	TBD[4]
M-091-00	Complete Treatment to Land Disposal Restriction Standards for All RCRA MLLW and TRUM Waste	TBD[4]
M-091-03	Submit Revision of TRUM Waste and MLLW Project Management Plan To Ecology	TBD[4]
M-093-00	Complete Final Disposition of All 100 Area Surplus Production Reactor Buildings	TBD[4]

[1] Milestones as of December 31, 2019, sorted chronologically by due date.
[2] Milestone in dispute resolution as of December 31, 2019.
[3] Milestone in negotiations as of December 31, 2019.
[4] Milestones with due dates of TBD are dependent on completion of other milestones, completion of primary documents, or some other triggering event that will change the due date from TBD to a specific date.

CD = Critical Decision.
CERCLA = *Comprehensive Environmental Response, Compensation, and Liability Act.*
CH = contact-handled.
CMS = corrective measures study.
CY = calendar year.
DFLAW = direct feed low-activity waste.
DOE = U.S. Department of Energy.
DST = double-shell tank.
Ecology = Washington State Department of Ecology.
EMF = Effluent Management Facility.
EPA = U.S. Environmental Protection Agency.
FS = feasibility study.
FY = fiscal year.
HLW = high-level waste.
IDF = Integrated Disposal Facility.
IQRPE = Independent Qualified Registered Professional Engineer.
LAW = Low-Activity Waste (Facility).
MLLW = mixed low-level waste.
OU = operable unit.
PFP = Plutonium Finishing Plant.
PMP = Project Management Plan.
PP = proposed plan.
PUREX = Plutonium-Uranium Extraction (Plant).
RCRA = *Resource Conservation and Recovery Act.*
RFI = RCRA facility investigation.
RH = remote-handled.
RI = remedial investigation.
RSW = retrievably stored waste.
SST = single-shell tank.
TBD = to be determined.
TRUM = transuranic mixed (waste).
TSCR = tank-side cesium removal.
TSD = treatment, storage, and disposal unit.
WMA = waste management area.
WTP = Waste Treatment and Immobilization Plant.

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APPENDIX A

LAND DISPOSAL RESTRICTIONS REPORTING REQUIREMENTS

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APPENDIX A

LAND DISPOSAL RESTRICTIONS REPORTING REQUIREMENTS

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

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

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

Table A-1 crosswalks current LDR reporting requirements to the location in this *Calendar Year 2019 Hanford Site Mixed Waste Land Disposal Restrictions Full Report* where the requirements are addressed. Some of the items identified in the table were one-time requirements that have since been fulfilled. For those items, the table indicates how the one-time requirements were satisfied.

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

Item[1]	Section ID[2]	Requirement[3]	Location of Information[4]
1	1.a (1990) IV.3.A.1, pg 16 (FD) IV.3.A.1.a, pg 16 (FD) IV.3.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 LSDS 1.1, 1.2, and 1.3 Appendix C
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	Tables 1-1, 2-1, 3-1, 5-1, and 6-1 TGDS 1.2 and 3.0 LSDS 1.0
3	1.a (1990) IV.3.A.1.b, pg 16 (FD)	RCRA hazardous waste code(s) and state-only waste designations	Table 5-1 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 1.2, 1.3, and 2.12
6	1.a (1990) IV.3.A.1.c, pg 16 (FD)	History of how the waste was generated	Table 1-1 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
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 1.3 and 2.1.2
10	1.a (1990) IV.3.A.1.d, pg 16 (FD)	Radioactivity type	Tables 2-1 and 5-1 TGDS 3.1.1 and 3.1.2

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

Item[1]	Section ID[2]	Requirement[3]	Location of Information[4]
11	1.a (1990) IV.3.A.1.e, pg 16 (FD)	Physical form of the waste	Tables 2-1 and 5-1 TGDS 3.2.1 and 3.3.2
12	1.b (1990) IV.3.A.1.f, pg 16 (FD)	Quantity of waste	Tables 2-1 and 3-1 TGDS 2.1 LSDS 2.3
13	1.c (1990) IV.3.A.1.g, pg 16 (FD) IV.3.A.1, pg 17 (FD)	Physical location	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	Section 3.2 LSDS 2.7 Appendix C
17	IV.3.A.2, pg 17 (FD)	Notification of which DOE organization is responsible for assessment within 60 days of final determination issuance	DOE provided timely notification in letter 00-ORL-055. Item complete.
18	IV.3.A.2, pg 17 (FD)	Procedure used for storage method compliance assessments must meet minimum regulatory requirements (WAC 173-303 and 40 CFR 265)	DOE provided timely notification in letter 00-ORL-055. Item complete.
19	IV.3.A.2, pg 17 (FD)	Opportunity for Ecology review and comment must be provided while developing storage method compliance assessment schedules and procedures	DOE provided timely notification in letter 00-ORL-055. Item complete.
20	1.e (1990) IV.3.A.1.i, pg 17 (FD)	Identification of any releases of hazardous waste or hazardous constituents to the environment from these storage units	Section 3.3 LSDS 2.9
21	1.f (1990) IV.3.A.1.j, pg 17 (FD)	Generation rates	Tables 2-1 and 3-1 TGDS 2.2 LSDS 2.6

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

Item[1]	Section ID[2]	Requirement[3]	Location of Information[4]
22	1.f (1990) IV.3.A.1.j, pg 17 (FD)	Estimate of the storage capacity	LSDS 2.4
23	1.f (1990) IV.3.A.1.j, pg 17 (FD)	When storage capacity will be reached	LSDS 2.4
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 and 2.12
25	1.g (1990) IV.3.A.1.k, pg 17 (FD)	Plans to submit requests for variances, case-by-case extensions of the LDR requirements, or other exemptions	~~Section 3.1, if applicable~~ TGDS 4.8 and 5.0 LSDS 2.10
26	2 (1990) IV.3.A.1.k, pg 17 (FD)	Provide for the submittal of requests for case-by-case extensions, variances, and other exemptions of the LDR requirements in accordance with Section 3004 of RCRA	~~Section 3.1, if applicable~~ TGDS 4.8 and 5.0 LSDS 2.10
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
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
29	3 (1990) IV.3.A.3, pg 19 (FD)	Report characterization results to EPA and Ecology	Section 5.0 Tables 2-1 and 5-1 TGDS 3.0
30	3 (1990)	Steps necessary to confirm which waste and which waste streams are subject to the LDR	TGDS 3.3.6.
31	4.a (1990)	Treatment and disposal technologies	Sections 6.1 and 6.2 TGDS 3.3.2 and 5.0
32	4.a (1990)	Treatment capacity	TGDS 4.3
33	4.b (1990)	Commercial treatment technologies	Sections 6.1 and 6.3
34	4.b (1990)	Capacity currently available	TGDS 4.3
35	4.c (1990)	DOE treatment technologies	Sections 6.1, 6.2, and 6.4
36	4.c (1990)	Extent of capacity currently available	Section 6.4 TGDS 4.3

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

Item[1]	Section ID[2]	Requirement[3]	Location of Information[4]
37	4.d (1990)	Whether any new commercial or DOE treatment capacity is scheduled to be available	Section 6.0
38	4.d (1990)	When such new capacity will be available	Table 6-1 Section 6.0
39	4.e (1990)	Alternate technologies which are in development and which may be used to manage these LDR wastes	Section 6.0
40	4.e (1990)	Assessment of when such alternate technologies may become available	Table 6-1 Section 6.0
41	4.f (1990)	Basis and assumptions used	TGDS 4.9
42	4.f (1990)	Foreseeable contingencies	Section 6.0
43	5 (1990) IV.3.A.3, pg 18 (FD)	Milestones and schedules for the development and implementation of treatment technologies	Section 6.0 Tables 6-1, 6-2, 8-1 TGDS 4.4, 4.5, and 4.6 Appendix D
44	5 (1990) IV.3.A.3, pg 18 (FD) IV.3.A.3.a, pg 18 (FD)	All applicable milestones and associated schedules for developing and implementing treatment or management technologies	Section 6.0 Table 6-1, 6-2, 8-1 TGDS 4.4, 4.5, and 4.6 Appendix D
45	IV.3.A.3.a, pg 18 (FD)	Schedules for submitting applicable permit applications, initiating construction, conducting systems testing, commencing operations, and processing backlogged and currently generated waste, for those waste types for which treatment technologies exist	Section 6.0 TGDS 4.4, 4.5, and 4.6
46	IV.3.A.3.b, pg 18 (FD)	Schedules for identifying and developing treatment technologies for those waste types for which no treatment technologies currently exist, to include identification of funding requirements for the identification and development of such technologies, submitting treatability study exemptions, and submitting research and development permit applications	Section 6.0 TGDS 4.4, 4.5, and 4.6
47	IV.3.A.3.c, pg 18 (FD)	Requirements for all cases where DOE proposes radionuclide separation of mixed waste or materials derived from mixed waste	Section~~s 6.1.6 and~~ 6.1.8
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 TPA Action Plan (Section 12)	No longer applicable.[5]

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

Item[1]	Section ID[2]	Requirement[3]	Location of Information[4]
50	7 (1990)	Identified methods for minimizing the generation of LDR waste	Section 4.0 LSDS 3.2
51	7 (1990)	Process changes that can be made to reduce or eliminate LDR waste	Section 4.0 LSDS 3.2
52	7 (1990)	Methods to minimize the volume of regulated and restricted waste through segregation and avoidance of commingling	Section 4.0 LSDS 3.2 and 3.3.3
53	7 (1990)	Substitution of less toxic materials for materials currently used at the Hanford Site	Section 4.0 LSDS 3.2 and 3.3.3
54	7 (1990)	Schedule for implementing waste minimization procedures	LSDS 3.3.2 and 3.3.3
55	7 (1990)	Projections for reducing newly generated waste	LSDS 3.3.2
56	7 (1990)	Basis for developing projections	LSDS 3.3.3
57	7 (1990)	Assumptions used in developing the projections	LSDS 3.3.3
58	7 (1990)	Annually revise and submit as part of the annual report that portion of the storage report associated with item 1 of this table, to conform with the generation projections contained in the Waste Minimization Plan	Tables 2-1 and 3-1 TGDS 4.7 LSDS 3.0 ~~Section 4.0~~
59	7 (1990)	As part of the annual report, DOE shall submit an amendment to the Waste Minimization Plan	~~Section 4.0~~ TGDS 4.7 LSDS 3.0
60	7 (1990)	Annually, DOE shall revise and submit that portion of the Storage Report associated with item 1 (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
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	LSDS 2.11
62	8 (1990)	Describe how information, plans, and schedules contained in the LDR Plan will be updated as part of the annual report	Section 1.6.
63	8 (1990)	Describe how and when the LDR Plan will be revised and reissued	Section 1.6.

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

Item[1]	Section ID[2]	Requirement[3]	Location of Information[4]
64	IV.3.B.c, pg 19 (FD)	Each waste stream has an associated statement by DOE documenting whether sufficient work has been performed for continued compliance	Not applicable based on Pollution Control Hearings Board stipulations.
65	IV.3.B.d, pg 19 (FD)	The Annual LDR Report will serve as a vehicle to propose schedules for newly discovered or to be generated mixed waste not yet covered by the report or the TPA	No longer applicable.[5]
66	IV.3.B.e, pg 19 (FD)	Annual LDR report will serve as vehicle to propose modified TPA schedules as necessary to achieve compliance with LDR treatment requirements in a manner equivalent to STPs as required by FFCA	No longer applicable.[5]
67	IV.3.A.3.a, pg 19 (FD)	Proposed plans and schedules to sufficiently characterize mixed waste, including an inventory of mixed waste not sufficiently characterized by sampling and analysis	No longer applicable.[5]
68	IV.3.B.b, pg 19 (FD) IV.3.B.f, pg 20 (FD)	LDR report will be published as a primary document and will propose new waste streams as necessary	Signature page and section 1.4
69	IV.3.B.b, pg 19 (FD)	LDR report will support equivalency to FFCA STPs	M-026-01 milestone description. While not identical to an STP, the LDR report is equivalent to an STP.
70	IV.3.B.c, pg 19 (FD)	LDR report will serve as unified site-wide document detailing requirements of LDR Requirements Document[2]	Table A-1. Refer to all items in second column of this table marked with "(1990)."
71	IV.3.B.c, pg 19 (FD)	LDR report will report DOE actions planned and taken to achieve and maintain full compliance with LDR and associated TPA requirements in effect as of LDR report submittal date	Table A-1
72	IV.3.B.f, pg 20 (FD)	Inclusion of specific statement regarding the LDR report being a primary document, and regarding binding and enforceable nature of contents: "This document has been prepared, submitted, revised and approved as a primary document in response to the requirements of Tri-Party Agreement Milestone Series M-026-01 and related RCRA LDR and Tri-Party Agreement requirements. As such, this document serves as a binding and enforceable document under the Tri-Party Agreement."	Signature page
73	IV.3.B.f, pg 20 (FD)	Inclusion of specific statement regarding approval by DOE and Ecology: "Approval of DOE's annual LDR Report as a Tri-Party Agreement primary document shall be by written approval of DOE and Ecology IAMIT representatives." Signature blocks are to follow the above statement.	Signature page

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

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.	DOE/RL-2000-39

1 Item number supplied for the convenience of the reader.

2 The notation "(1990)" refers to the "Requirements for Hanford LDR Plan" (Ecology and EPA 1990). The notation "(FD)" refers to the "Director's Final Determination" issued by Ecology on March 29, 2000 (Fitzsimmons 2000). The notation "(Ltr)" refers to the January 25, 2000, clarification letter from Ecology delineating the wastes required to be reported (Stanley 2000).

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

4 The information in this column refers to the location of the information within this report.

5 In accordance with the DOE/RL-2015-08 review comment record (item 16), the agencies agree that proposed TPA milestones (i.e., schedules) or changes to TPA milestones (i.e., schedules) are identified and processed using existing processes contained in the TPA Action Plan section 12.0, and not as a part of the annual LDR report review and approval process. Modifications to TPA milestones listed in the LDR report are incorporated into the next year's report. Commitments other than TPA milestones can be proposed in the LDR Report when required.

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

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

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

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

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

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

DOE = U.S. Department of Energy.
Ecology = Washington State Department of Ecology.
EPA = U.S. Environmental Protection Agency.
FD = final determination.
FFCA = *Federal Facilities Compliance Act.*
IAMIT = Interagency Management Integration Team.
LDR = land disposal restriction.
LSDS = location-specific data sheet.
PMW = potential mixed waste.
RCRA = *Resource Conservation and Recovery Act.*
STP = site treatment plan.
TGDS = treatability group data sheet.
TPA = Tri-Party Agreement.

REFERENCES

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

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

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

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

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

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

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

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

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

APPENDIX B

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TREATABILITY GROUP AND LOCATION-SPECIFIC DATA SHEETS

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APPENDIX B

TREATABILITY GROUP AND LOCATION-SPECIFIC DATA SHEETS

Each treatability group data sheet (TGDS) is followed by one or more location-specific data sheet (LSDS) that fall within that treatability group. Figure B-1 illustrates how the two types of data sheets relate to each other. Table B-1 provides an index of data sheets included in this report.

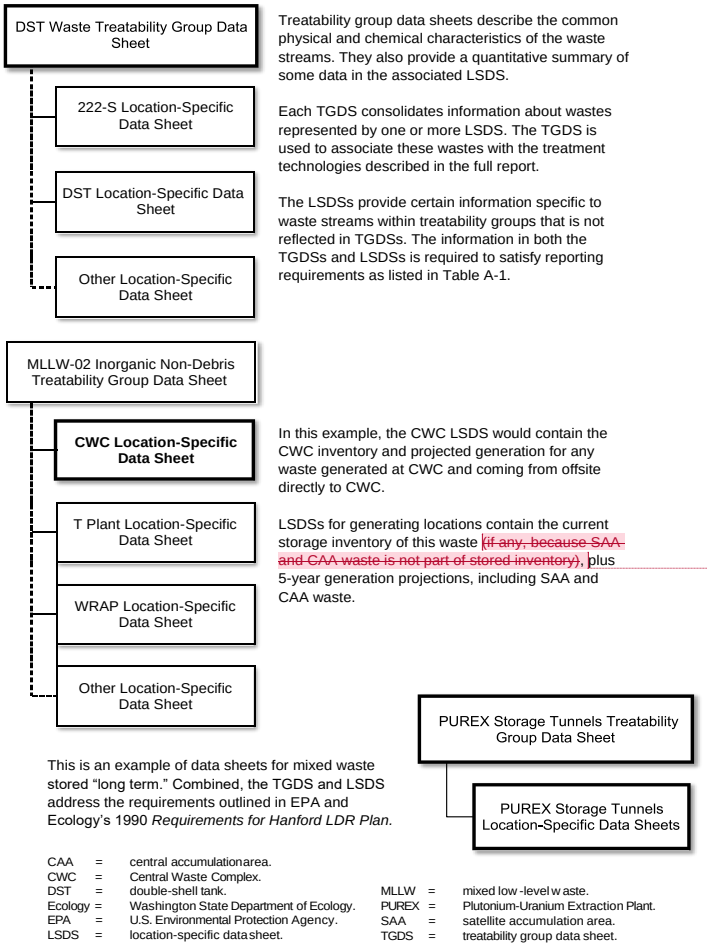

Figure B-1. Example Relationship Between Location-Specific and Treatability Group Data Sheets.

Commented [MJW(56]: RCR #50

Table B-1. Data Sheet Index. (5 pages)

Treatability Group Data Sheets	Location Specific Data Sheets		
Treatability Group Name	**Physical Location**	**Waste Stream**	**Contractor**
221-T Containment Building			**CHPRC**
	T Plant Complex	221-T Containment Building	CHPRC
221-T Tank System			**CHPRC**
	T Plant Complex	RCRA Tank Systems	CHPRC
222-S T8 Tunnel			**WRPS**
	222-S Laboratory Complex	T8 Tunnel RH-MLLW	WRPS
241-CX Tank System			**CHPRC**
	241-CX Tank System	CX Tank System	CHPRC
324 Building REC Waste			**CHPRC**
	324 Building	Radiochemical Engineering Cells	CHPRC
325 HWTU			**PNNL**
	325 HWTU	325 HWTU	PNNL
400 Area WMU			**CHPRC**
	400 Area WMU	Mixed Waste	CHPRC
B Plant Cell 4			**CHPRC**
	B Plant Complex	Cell 4	CHPRC
B Plant Containment Building			**CHPRC**
	B Plant Complex	Containment Building Storage	CHPRC
Cesium and Strontium Capsules			**CHPRC**
	WESF	Cesium and Strontium Capsules	CHPRC
DST Waste			**WRPS**
	204-AR Waste Unloading Station, TK-1 Catch Tank	Aqueous Mixed Waste	WRPS
	222-S Laboratory Complex/ 219-S Waste Handling Facility	Bulk Aqueous Liquids	WRPS
	DST System	DST System	WRPS
	LAW Facility	Immobilized Low-Activity Waste	WTP
	Tank Farms	TSCR Ion Exchange Columns	WRPS

Table B-1. Data Sheet Index. (5 pages)

Treatability Group Data Sheets	Location Specific Data Sheets		
Treatability Group Name	**Physical Location**	**Waste Stream**	**Contractor**
ERDF—Treatment	PFP	D&D Hazardous Debris to ERDF	**CHPRC**
	222-S Laboratory	Hazardous Debris to ERDF	WRPS
	325 HWTU	Radioactive Lead and Debris	PNNL
	CERCLA Waste	CERCLA Waste	CHPRC
	CS&I	Hazardous Debris to ERDF	MSA
	Soil and Groundwater	Hazardous Debris to ERDF	CHPRC
	Tank Farms	Hazardous Debris to ERDF	WRPS
Hanford Site Laboratory Complex			**WRPS**
	222-S	Containerized mixed waste	WRPS
	Tank Farm Facilities	Mixed waste from 616	WRPS
HSTF			**CHPRC**
	HSTF	HSTF 276-S-141/142	CHPRC
LERF/ETF Liquid Waste			**WRPS**
	242-A Evaporator	Evaporator Process Condensate	WRPS
	Effluent Management Facility	Condensate	WTP
	LERF/ETF	Wastewater	WRPS
	LLBG/Mixed Waste Trench	TR34 and TR31 Leachate	CHPRC
	T Plant Complex/2706-T Tank System	2706-T Tank System	CHPRC
LERF/ETF Solid Waste			**WRPS**
	ETF	Powder Drums	WRPS
	LERF/ETF	Operations and Maintenance Waste	WRPS
MLLW-02 - Inorganic Non-Debris			**CHPRC**
	CWC	Inorganic Non-Debris Solids and Labpacks	CHPRC
	LLBG	Inorganic Non-Debris	CHPRC
	T Plant Complex	Inorganic Non-Debris	CHPRC

Table B-1. Data Sheet Index. (5 pages)

Treatability Group Data Sheets	Location Specific Data Sheets		
Treatability Group Name	**Physical Location**	**Waste Stream**	**Contractor**
MLLW-03 - Organic Non-Debris			**CHPRC**
	CWC	Organic Non-Debris	CHPRC
	LAB	Spent Chemical/Reagents	WTP
	LAW Facility	LVP Sulfur Impregnated Carbon Absorbent Media	WTP
	LLBG	MLLW Retrieval Organic Non-Debris	CHPRC
	T Plant Complex	Organic Non-Debris	CHPRC
MLLW-04 - Hazardous Debris			**CHPRC**
	CWC	Hazardous Debris	CHPRC
	Effluent Management Facility	Contaminated PPE	WTP
	Effluent Management Facility	Miscellaneous Debris	WTP
	LAW Facility	LMP Glass Debris from the Bagging Station	WTP
	LAW Facility	LMP Melter Consumables	WTP
	LAW Facility	LMP Melter Pool Bubblers/Thermowells	WTP
	LAW Facility	LVP HEPA Filters	WTP
	LAW Facility	LVP Selective Catalytic Reduction Media	WTP
	LAW Facility	LVP Thermal Catalytic Oxidizer Media	WTP
	LAW Facility	Miscellaneous Metal Parts	WTP
	LAW/EMF/LAB	Miscellaneous Compactable Debris	WTP
	LLBG	MLLW Retrieval Hazardous Debris	CHPRC
	T Plant Complex	Hazardous Debris	CHPRC
	WRAP	Hazardous Debris	CHPRC

Table B-1. Data Sheet Index. (5 pages)

Treatability Group Data Sheets	Location Specific Data Sheets		
Treatability Group Name	**Physical Location**	**Waste Stream**	**Contractor**
MLLW-07 - RH and Large Container			**CHPRC**
	CWC	MLLW-07	CHPRC
	LLBG	MLLW-07	CHPRC
	T Plant Complex	RH and Large Container	CHPRC
	WRPS Tank Closure	RH and Large Container	WRPS
PUREX Plant			**CHPRC**
	PUREX Plant	PUREX Containment Building	CHPRC
PUREX Storage Tunnels			**CHPRC**
	PUREX Storage Tunnels	Tunnels 1 and 2	CHPRC
SST Waste			**WRPS**
	SST System	SST System	WRPS
TRUM – CH Large Container			**CHPRC**
	CWC	TRUM Boxes	CHPRC
	LLBG	TRUM Retrieval Boxes	CHPRC
	T Plant Complex	TRUM Box	CHPRC
	WRAP	TRUM Large Container	CHPRC
TRUM – CH Small Container			**CHPRC**
	325 HWTU	TRUM-CH	PNNL
	CWC	CH TRUM	CHPRC
	LLBG	TRUM-CH Retrieval	CHPRC
	PFP	TRUM Debris	CHPRC
	T Plant Complex	TRUM-CH	CHPRC
	WRAP	TRUM-CH	CHPRC

Table B-1. Data Sheet Index. (5 pages)

Treatability Group Data Sheets	Location Specific Data Sheets		
Treatability Group Name	**Physical Location**	**Waste Stream**	**Contractor**
TRUM - RH			**CHPRC**
	325 HWTU	TRUM-RH	PNNL
	CWC	RH TRUM	CHPRC
	LLBG	RH TRUM	CHPRC
	T Plant Complex	TRUM-RH	CHPRC
	WRAP	TRUM-RH	CHPRC

CERCLA = *Comprehensive Environmental Response, Compensation, and Liability Act.*
CH = contact handled.
CHPRC = CH2M HILL Plateau Remediation Company.
CS&I = Closure Services & Infrastructure.
CWC = Central Waste Complex.
D&D = decontamination and decommissioning.
DST = double-shell tank.
ERDF = Environmental Restoration Disposal Facility.
EMF = Effluent Management Facility.
ETF = Effluent Treatment Facility.
HEPA = high-efficiency particulate air.
HSTF = Hexone Storage and Treatment Facility.
HWTU = Hazardous Waste Treatment Units.
LAB = Analytical Laboratory.
LAW = Low-Activity Waste (Facility).
LERF = Liquid Effluent Retention Facility.
LLBG = low-level burial grounds.
LMP = LAW Melter Process System.
LVP = LAW Secondary Offgas/Vessel Vent Process System.
MLLW = mixed low-level waste.
MSA = Mission Support Alliance, LLC.
PFP = Plutonium Finishing Plant.
PNNL = Pacific Northwest National Laboratory.
PPE = personal protective equipment.
PUREX= Plutonium-Uranium Extraction Plant.
RCRA = *Resource Conservation and Recovery Act.*
REC = Radiochemical Engineering Cells.
RH = remote handled.
SST = single-shell tank.
TRUM = transuranic mixed (waste).
TSCR = tank-side cesium removal.
WESF = Waste Encapsulation and Storage Facility.
WMU = waste management unit.
WRAP = Waste Receiving and Processing Facility.
WRPS = Washington River Protection Solutions LLC.
WTP = Waste Treatment and Immobilization Plant.

The following data sheet instructions are numbered to correspond with the numbers on the respective TGDS and LSDS. The basis for land disposal restriction (LDR) reporting in this document is calendar year (CY) 2019, unless stated otherwise.

B1.0 TREATABILITY GROUP DATA SHEET DATA FIELD INSTRUCTIONS[1]

1.0 WASTE STREAM IDENTIFICATION

1.1 Treatability Group Name

Provide a short, descriptive name of the waste within the treatability group.

1.2 Description of waste (list WSRd [waste specification record] numbers for this waste stream, as applicable).

Provide a description of the waste streams reported under the treatability group. Include WSRd numbers, if applicable.[2]

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).~~[3]~~

The LDR database automatically sums this value from stored inventory reported in individual LSDSs contributing to the TGDS.

[1] Prior to the calendar year 2019 report, this portion of Appendix B included descriptions of each database field. Instructions were included in the calendar year 2019 report to facilitate consistent data reporting when there was insufficient time to update database instructions according to agreements made during the prior full report's primary document review process. The LDR database instructions will be updated to be consistent with this Appendix B in subsequent full report activities.

[2] WSRd numbers indicate a waste treatment and/or disposal pathway, and are used principally for waste stored at the Central Waste Complex (CWC) or received from offsite.

~~[3] The term "storage" is used throughout the LSDSs based upon the WAC 173-303-040 definition. "Accumulation" or management in a *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) area of contamination is not considered "storage."~~

Commented [MJW(57]: RCR #50

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

The LDR database automatically sums these values, which are listed by year and include cubic meters and/or kilograms from the individual LSDSs contributing to the TGDS.

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological Characteristics

3.1.1 Mixed waste type.

Use the radio buttons to select the treatability group's radiological classification: "High-level," "Transuranic," or "Low-level." If more than one selection applies to the TGDS, select the most appropriate classification and enter explanatory comments in section 3.1.3.

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

Select either "Contact-handled" or "Remote-handled" to describe how the subject wastes would be handled if no longer packaged for storage, but instead unpackaged and handled for treatment. If more than one selection applies to the subject TGDS, 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).

Provide comments from sections 3.1.1 and 3.1.2 and any other explanatory information on radiological characteristics of the waste not provided above. If there are no comments, enter "None."

3.2 Physical Form

3.2.1 Physical form of the waste.

Use the check boxes to select one or more physical form of the subject wastes: "Solid," "Liquid," "Semi-solid," "Debris," or "Other." If "Other" is selected, or if there are any additional comments on the physical form, enter explanatory comments in section 3.2.2.

3.2.2 Comments on physical form.

Use this text field to provide explanatory information when "Other" is selected in 3.2.1, or to provide any additional explanatory information on the physical form of the waste not provided above. If there are no comments, enter "None."

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA.

Select the checkbox to indicate whether, under federal LDR requirements defined in 40 CFR 268.2, the waste stream is considered "Wastewater," "Non-wastewater," "Unknown," or "N/A: state only dangerous waste." If "Unknown" is selected, include a plan and schedule for refining the waste's characterization to specify the LDR treatability group.

3.3.2 Regulated constituents table including treatment requirements and UHCs [underlying hazardous constituents], if applicable.

Provide the following information in table format, if applicable. Use the text field following the table to provide additional information in a footnote format.

- **EPA [U.S. Environmental Protection Agency]/State number.** Provide the EPA or state-only listed or characteristic waste numbers (e.g., D001, F005). Note that not all waste numbers listed in the table for waste reported on any particular TGDS will be applicable to all subcategories of waste in the treatability group, nor will all waste numbers apply to each LSDS 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.

- **Waste Description.** Indicate the characteristics of the waste or constituents of concern (e.g., ignitable, methyl ethyl ketone).

- **LDR Sub-Category.** Indicate 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. 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).** Provide the concentration of the constituent, if known, as a range or a single value. If the concentration is not known, enter "TBD" and explain with a footnote to the table.

- **Basis.** Describe how the concentration information was determined (e.g., process knowledge, analytical data).

- **LDR Treatment Concentration Standard or Technology Code.** List either the regulatory-required method for treating the waste, or the required final concentration, from the applicable regulations. Note that TRUM 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.

Select one of the three options to indicate the treatment status of the waste in the treatability group: "List," "No LDR treatment required," or "None." When the "List" option is selected, enter the waste numbers from section 3.3.2 that meet applicable treatment standards.

3.3.4 Does this waste stream contain PCBs [polychlorinated biphenyls]?

Select "Yes," "No," or "Unknown." The basis for the choice made can be process knowledge or laboratory analysis. If no or unknown, skip to section 3.3.5.

3.3.4.1 Is waste stream subject to TSCA [*Toxic Substances Control Act*] regulations for PCBs?

If you answered "Yes" to section 3.3.4, indicate whether or not the waste is subject to TSCA regulations. Otherwise, leave blank.

3.3.4.2 Indicate the PCB concentration range (ppm).

If you answered yes to section 3.3.4, select the PCB concentration range of the subject waste stream: < 50 ppm, > 50 ppm, or unknown. Otherwise, leave blank.

3.3.5 What is the confidence level for the regulated constituents?

Select your (subjective) confidence level in the accuracy of information related to regulated constituents: "Low," "Medium," or "High."

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

Provide explanatory information on regulated constituents and wastewater/non-wastewater that is not otherwise supplied in the format provided for section 3.3.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

Select either "Yes" or "No." If yes, include treatment details in the text field. If no, enter "N/A" into the text field.

4.2 Planned treatment.

Select one of four options: "No treatment required," "Treating or plan to treat onsite," "Treating or plan to treat offsite," or "Treatment options still being assessed." If no treatment is required, skip to section 5.0.

4.3 Planned treatment method, facility, and extent of treatment capacity available.

Provide details of the planned treatment methods for onsite treatment, storage, and disposal units and offsite facilities. Include details of how much of the required treatment capacity is available.

4.4 Treatment schedule information.

Provide treatment schedule information, including 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, ~~Include~~ the status of any active negotiations, or applicable actions are described instead~~if applicable~~.

Commented [MJW(58]: See RCR Comment #38

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

Select all Tri-Party Agreement (TPA) milestones associated with treatment for the subject treatability group. Click the ellipses to open a list of current TPA milestones. Select a milestone by clicking on it; press Ctrl + click to select multiple milestones. Then click "Select." Milestones cited as commitments for treatment must be the specific milestone(s) that, on completion, will satisfy the LDR requirements for treatment. "N/A" will be indicated when the table is left empty.

4.6 Proposed new Tri-Party Agreement treatment milestones.

Use this space to indicate if any proposed treatment milestones associated with this treatability group are in current TPA negotiations. If none, enter "None."

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 you selected "Treating or plan to treat onsite" in section 4.2, indicate whether there are any waste minimization plans for the waste during treatment. If yes, describe the plans in the text field provided. If anything other than "Treating or plan to treat onsite" was selected in section 4.2, check N/A, and enter "N/A based on section 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.

Provide 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)] for the subject treatability group. If there are none, type "None."

4.9 Key Assumptions

List any assumptions concerning treatment that cannot otherwise be supplied in the

format provided. If there are no key assumptions, type “None.”

5.0 WASTE STREAM DISPOSAL

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

Describe disposal methods, locations, variances required, technology, etc., as applicable.

B2.0 LOCATION-SPECIFIC DATA SHEET DATA FIELD INSTRUCTIONS

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

1.1 Unit/Plant Name:

Provide a unique name that clearly identifies the generating location of the waste.

Waste Stream:

Provide a short, descriptive name for the waste.

Treatability group name:

Select the treatability group to which the waste described in the particular LSDS is assigned.

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

List the 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, enter "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):

Describe where the waste came from, the general matrix, and constituents.

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

Describe how and where the waste was generated.

1.3.3 Source of the regulated constituents.

Describe where the regulated constituents came from.

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

Provide the source of information (e.g., analytical data, process knowledge, document number).

1.3.5 Additional notes:

Provide any information that would be helpful in identifying the waste and its generation that is not included elsewhere. If no additional notes apply, indicate "None."

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

If the waste stream reported is managed in satellite accumulation areas (SAA), central accumulation areas, or CERCLA area of contamination, skip to section 2.6.[4]

Commented [MJW(59]: See RCR Comment #120

2.1 Current storage method.

Select one of seven options to describe the type of storage used. Leave blank if the waste reported on the data sheet is only managed in accumulation areas or a CERCLA area of contamination. Storage pursuant to the TPA must be addressed by checking the appropriate boxes.

Note: 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.

Use the text field to provide additional information about the storage location when "Other" is checked (e.g., containment building).

2.1.1 How was the waste managed prior to storage?

Describe routine and special management of the waste.

Note: For waste in accumulation areas or CERCLA areas of contamination, enter "N/A."

2.1.2 Timeframe when waste was placed into storage?

Enter the date or dates the waste was placed in storage (waste storage history) in narrative format. Examples might be, "This waste has been generated and stored at this location

[4] Accumulated waste or CERCLA areas of contamination volume is reported only in section 2.6 of the LSDS as an estimated generation projection, as applicable.

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 waste in accumulation areas or CERCLA areas of contamination, enter "N/A."

2.2 Storage inventory locations:

In the first column currently labeled in the database as "Building/Room Number," provide the physical location of the waste, including the building and room numbers, ~~if applicable.~~[5] In the second column, currently titled "Number of Containers/Tanks," provide the method of storage (e.g., container, tank, surface impoundment, waste pile). Include number of containers/tanks if applicable.

Commented [MJW(60]: See RCR Comment #39

Note: This section of this data sheet does not include satellite or central accumulation areas. For reporting of waste in accumulation areas or CERCLA areas of contamination, enter "N/A" in both table cells.

2.3 Current stored inventory for this stream.

Provide the total volume of waste in cubic meters and the reporting date in mm/dd/yyyy format. The default reporting date is December 31, 2019. Note: Enter "N/A" or zero for waste in accumulation areas or CERCLA areas of contamination. Note also that the volume will display three decimal points in the database. Enter comments on waste inventory. If there are no comments, enter "None."

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

Select either "yes" or "no."

- If "yes," enter the total estimated storage capacity, when the capacity is expected to be reached, and associated bases and assumptions in estimating storage capacity limitations.
- If "no," leave blank, and "N/A" will be displayed.

Note: For waste reported in accumulation areas or CERCLA areas of contamination, enter "N/A."

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[5] ~~This is a change for the CY 2019 report. Insufficient time remains to complete database changes to the column headings and/or the system's help guidance. Contractors are expected to populate section 2.2 in accordance with these instructions and not the database help guide. MSA will perform a global change to the column headings in the final report once it has exported.~~

2.5 Planned storage areas for this waste:

Select any of the five types of storage areas provided: "Current location," "CWC," "DST," "None," and "Other Area(s)." More than one choice could apply. If the waste was in its current location as of December 31, 2019, or will remain in its current location for a finite period of time, select the "current location" box as well as any other known planned storage locations 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, central accumulation areas, or CERCLA areas of contamination):

Provide the estimated volume (m^3) 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 SAAs, central accumulation areas, or CERCLA areas of contamination at the end of the calendar year are reported in an LSDS for the first year's forecast. Note that the volume will display three decimal points.

2.7 DOE Storage Method Compliance Assessment information:

Select one of three options: "Assessment has been completed," "Assessment has been scheduled," or "Other."

- If the assessment has been completed, include the document number and date. For the CY 2019 report, include a hyperlink to the completed storage method compliance assessment in LSDS section 2.12 in narrative format (e.g., the storage method compliance assessment for B Plant Cell 4 was completed in 2001 and is available online at https://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0069374H).
- If an assessment has not been completed but is scheduled, enter the date the assessment is scheduled for completion.
- If "Other" is selected, explain why neither of the other options is appropriate.
- 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.

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

Use the dropdown menu to select applicable TPA milestones and associated due dates for storage at this location. Enter "N/A" to indicate that this question is not applicable (i.e., waste is only in accumulation areas or there are no milestones).

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

Select either "Yes" or "No." If yes, summarize the release(s), quantities, and date(s), and reference the section of the LDR report that discusses the releases (section 3.3).

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

Select either "Yes" or "No." If yes, provide an explanation. If no, enter "N/A."
Note: Variances and/or exemptions associated with waste treatment are addressed in TGDSs, section 4.8.

2.11 Characterization:

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

Select either "Yes," "No," or "Unknown at this time."

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 must reference (1) an associated TPA milestone, (2) an agreement to obtain the information, (3) active negotiations addressing the commitment, (4) a commitment to obtain the information, or (5) a description explaining 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).

If the answer is yes and TPA milestones exist that address characterization, use the dropdown menu to select the associated TPA milestone in the table provided. If no milestones are selected from the dropdown 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.

Answer the question "no," if the mixed waste is in a SAA or central accumulation area and is ready to be placed into storage, or if the waste is already is storage.

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

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

Select either "Yes," "No," or "Unknown at this time." 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. The explanation must reference (1) an associated TPA milestone, (2) an agreement to obtain the information, (3) active negotiations addressing the commitment, (4) a commitment to obtain the information, or (5) a description explaining why a commitment is not necessary. Reference the example circumstances in section 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. If this "unknown at this time" is selected, an explanation in the comment field is required. The explanation must identify what step(s) needs to be completed before the question can be answered.

If the answer is "yes" and TPA milestones exist that address characterization, use the dropdown menu to select the associated TPA milestone in the table provided. If no milestones are selected from the dropdown 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?

Select either "Yes," "No," or "Unknown at this time."

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. The explanation must reference (1) an associated TPA milestone, (2) an agreement to obtain the information, (3) active negotiations addressing the commitment, (4) a commitment to obtain the information, or (5) a description explaining why a commitment is not necessary. Reference the example circumstances in section 2.11.1 for situations where a commitment is not required.

Select "no" if all the LDR treatment standards for the mixed waste are performance-based treatment standards (e.g., a specified technology, debris rule macroencapsulation) or if the waste is TRUM destined for the Waste Isolation Pilot Plant.

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

If the answer is "yes" and TPA milestones exist that address characterization, use the dropdown menu to select the associated TPA milestone in the table provided. If no milestones are selected from the dropdown 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:

Explain anything about this waste that will provide greater understanding and clarification, or that cannot otherwise be supplied in the format provided. Identify any assumptions that, if incorrect, would affect information in the data sheet or elsewhere in the report. If a storage method compliance assessment was completed and recorded in LSDS section 2.7, include a hyperlink to the completed assessment in narrative format in this text field (e.g., the storage method compliance assessment for B Plant Cell 4 was completed in 2001 and is available online at https://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0069374H).

3.0 WASTE MINIMIZATION

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

Select either "Yes" or "No." If "yes," provide the date the assessment was conducted, as well as the document number or other identification of the assessment and/or results in the date and document number text fields provided. Include sufficient information to allow a reader to find the document.

If no, provide a date an assessment will be completed in the date field.

If the waste stream is no longer generated, then indicate N/A in the date and document number text fields.

Note: If the waste is not generated at this location (i.e., if the location is for storage only), then the third text field 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):

Describe current and proposed methods for minimizing the generation of this waste stream.

3.3 Waste minimization schedule

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

Indicate how much waste the facility avoided generating in CY 2019 as part of the waste minimization program.

3.3.2 Projected future waste volume reductions:

List the next 5 years' projected volume reductions in volume (m^3) or mass (kg). The database will automatically add the individual years' entries to supply the LSDS 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 LSDS, 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 LSDS.

B3.0 REFERENCES

40 CFR 260.20, "General," Title 40, *Code of Federal Regulations*, Part 260.20, as amended. (https://www.govregs.com/regulations/title40_chapterI_part260_subpartC_section260.20)

40 CFR 268.2, "Definitions applicable in this part," Title 40, *Code of Federal Regulations*, Part 268.2, as amended. (https://www.govregs.com/regulations/title40_chapterI_part268_subpartA_section268.2)

40 CFR 268.42, "Treatment standards expressed as specified technologies," Title 40, *Code of Federal Regulations*, Part 268.42, as amended. (https://www.govregs.com/regulations/title40_chapterI_part268_subpartD_section268.42)

40 CFR 268.44, "Variance from a treatment standard," Title 40, *Code of Federal Regulations*, Part 268.44, as amended. (https://www.govregs.com/regulations/title40_chapterI_part268_subpartD_section268.44)

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

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

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

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

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

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

WAC 173-303-910, "Petitions," *Washington Administrative Code*, Olympia, Washington, as amended. (https://apps.leg.wa.gov/WAC/default.aspx?cite=173-303-910)

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)

Equipment (e.g., jumpers, tanks, centrifuges), other debris (e.g., pieces of concrete), and non-debris (e.g., sandblasting grit) generated during canyon deck and/or process cell cleanout, or from treatment and/or decontamination 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): 58.000

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	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):

Typically remote handled waste but can also be contact handled large equipment/debris. There is also at least one container classified as TRUM. The remainder of the waste is considered low-level waste.

Commented [MJW(61]: RCR Comment #25 for all Appendix B which reference mixed-waste mercury.

Commented [MJW(62]: See RCR Comment #155

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:

Large equipment and/or debris.

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
D004	Arsenic	N/A	unknown	Process knowledge	unknown
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
D010	Selenium	N/A	unknown	Process knowledge	unknown
D011	Silver	N/A	unknown	Process knowledge	unknown
D019	Carbon Tetrachloride	N/A	unknown	Process knowledge	unknown
D030	2, 4-Dinitrotoluene	N/A	unknown	Process knowledge	unknown
D034	Hexachloroethane	N/A	unknown	Process knowledge	unknown
D037	Pentachlorophenal	N/A	unknown	Process knowledge	unknown
D043	Vinly Chloride	N/A	unknown	Process knowledge	unknown
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

LDR REPORT TREATABILITY GROUP DATA SHEET

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
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
WSC2	Solid Corrosive	N/A	unknown	Process knowledge	unknown

* 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).

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:

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:

~~T Plant is one of five canyons agreed to by the Tri-Parties to be addressed by the Canyon Disposition Initiative under CERCLA. Until a final decision is made under CERCLA in accordance with the Canyon Disposition Initiative, no commitments will be made for waste disposal.~~

4.4 Treatment schedule information:

~~Schedule will be established after final decision is made under CERCLA in accordance with the Tri-Parties' agreement on application of the Canyon Disposition Initiative for T Plant.~~

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:

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:

None.

LDR REPORT TREATABILITY GROUP DATA SHEET

5.0 WASTE STREAM DISPOSAL

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

~~Disposal to be determined in accordance with the Tri-Parties' agreement on application of the Canyon Disposition Initiative.~~

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(63]: See RCR Comment #156

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

Treatabilitiy 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), other debris (e.g., pieces of concrete), 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 3L, 7L, 8R, 9L, 10L, 13L, 13R, 14R, 15L, 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 (e.g., K-Basin Sludge).

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
221-T Canyon	Containment building (7L, 9L, 13R, 17R), deck, RR
N/A	

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 58.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

Waste contents placed into process cells is documented in HNF-17211 as well as video taped.
Cells 8R, 14R and 16R currently reported as cleaned out per HNF-17211. Contents of these cells transferred to cells 7L, 13R, and 17R

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
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Document Number	Date
WSD-TP-EP-05-MA-37	07/08/2008

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	

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:

~~Process knowledge for dangerous waste designation is adequate to store waste for long-term.~~ SMCA available online at https://pdw.hanford.gov/document/0069369H.

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

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 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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).

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(64]: See RCR Comment #157

1.1 Treatability Group Name: 221-T Tank System

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

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

2.0 WASTE INVENTORY AND GENERATION

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

Total volume (cubic meters): 3.593

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological Characteristics

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

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

☐ Contact-handled ☒ Remote-handled

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

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

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 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
D002	Corrosive	Corrosive Charac.	"	Analytical Data	DEACT, meet 268.48
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
D010		N/A	"	Analytical Data	5.7 mg/l TCLP, meet 268.48
F001	1,1,1-Trichloroethane	Spent Solvent	Unknown	Process knowledge	6.0 mg/kg
F002	Methylene chloride	Spent Solvent	"	"	30.0 mg/kg
F003	Acetone, MIK	Spent Solvent	"	"	160 & 33 mg/kg
F004	Cresols	Spent Solvent	"	"	5.6 mg/kg
F005	MEK	Spent Solvent	"	"	36 mg/kg

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

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

UHCs have not been determined for this waste stream.

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

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:

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

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

☐ Yes ☒ No

If yes, provide details: N/A

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

☐ No treatment required (skip to Section 5.0)

☐ Treating or plan to treat onsite

☐ Treating or plan to treat offsite

☒ Treatment options still being assessed

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

Disposition of T-Plant will occur according to the closure plan in the Hanford Site Permit. ~~T Plant is one of five canyons agreed to by the Tri-Parties to be addressed by the Canyon Disposition Initiative under CERCLA. Until a final decision is made under CERCLA in accordance with the Canyon Disposition Initiative, no commitments will be made for waste disposal.~~

4.4 Treatment schedule information:

LDR REPORT TREATABILITY GROUP DATA SHEET

Waste treatment will occur according to the closure plan in the Hanford Site Permit. ~~Schedule will be established after final decision is made under CERCLA in accordance with the Tri-Parties' agreement on application of the Canyon Disposition Initiative for T Plant.~~

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:

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:

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):

Disposal will occur according to the closure plan in the Hanford Site Permit ~~Disposal to be determined in accordance with the Tri-Parties' agreement on application of the Canyon Disposition Initiative.~~

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(65]: See RCR Comment #158

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

Treatabilitiy Group Name: 221-T Tank System

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

None.

1.3 Waste stream source information

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

Liquid mixed waste with settled solids. See Section 1.3.2 for additional description. NOTE: The contents of the 221-T Tank System were addressed in the 221-T Tank System Closure Plan included in the 2013 CAFO submittal (13-ESQ-0074). Additional language modifications to the CAFO closure plan will be negotiated with Ecology at a future date.

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

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

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

☒ Tank ☐ DST ☐ SST

☐ Other (explain): N/A

2.1.1 How was the waste managed prior to storage?

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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	Tank System, 6 tanks

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 1.700

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

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

☐ Yes ☒ No

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

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

Bases and assumptions used:

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

2.5 Planned storage areas for this waste:

☒ Current Location ☐ CWC ☒ DST

☒ Other Area(s) (list): The contents of the 221-T Tank System were addressed in the 221-T Tank System Closure Plan included in the 2013 CAFO submittal (13-ESQ-0074). Additional language modifications to the CAFO closure plans is being negotiated with Ecology. These language modifications will likely include waste management activities associated with the 221-T Tank System.

☐ None

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
WSD-TP-EP-06-MA-37	07/08/2008

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☐ No ☒ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

~~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

If yes or unknown, comment on characterization for treatment.

~~The treatment capability must be establshed 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:

Disposition of the 221-T RCRA Tank System was identified in the 2013 CAFO submittal (13-ESQ-0074). However, additional detailed language for the CAFO closure plans is currently being negotiated with Ecology. According to engineering and also identified in the CAFO, there is no liquid waste remaining in the 221-T Tank System. Reported tank inventory assumes a 1-inch residual waste heel in the 221-T tanks. This was included in the CAFO closure plan. Administrative and engineering controls have been put in place to prevent additional liquids from entering this tank system. SMCA available online at https://pdw.hanford.gov/document/0069369H.

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(66]: See RCR Comment #159

1.1 Unit/Plant name: T Plant Complex **Waste Stream:** Tank 11-L

Treatabilitiy Group Name: 221-T 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):

Tank 11-L is an open top tank located within Cell 11-L of the 221-T Canyon Building at the T Plant Complex. The tank contains approximately 500 gallons of a green liquid and salt-cake mixture. The content was sampled in 2002 and yielded analytical results indicating the presence of corrosivity (D002), cadmium (D006), chromium (D007), lead (D008), and selenium (D010). The tank content may also include listed mixed waste (F001 – F005) based on process knowledge from decontamination activities.

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

Between 1957 and 1995, the T Plant Complex served as a decontamination and repair facility. A portion of the 221-T Canyon Building was specifically used to decontaminate equipment using a wide variety of decontamination methods. Process knowledge indicates that Tank 11-L likely supported decontamination activities such as washing and immersing contaminated equipment in chemical solutions. The tank content was collected as a result of these past decontamination activities. The tank content was collected sometime prior to August 19, 1987, as evidenced by a video recording taken in 1986.

1.3.3 Source of the regulated constituents:

The regulated constituents most likely came from contamination on equipment.

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

Analytical Data

1.3.5 Additional notes:

In previous LDR Reports the waste was tracked in Appendix C as waste not actively managed. Beginning with the 2019 LDR Report, DOE has agreed to disposition the waste/close the tank under RCRA.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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 placed in the tank prior to August 19, 1987 and was abandoned in place prior to that date with the intent of dispositioning it under past-practice authority as documented in Appendix C of past LDR Reports. Beginning with the 2019 LDR Report, DOE has agreed to close the tank under RCRA.~~

2.1.2 Timeframe when waste was placed to storage?

~~The waste was considered in RCRA storage as of the issuance of the 2019 LDR Report based on agreement between DOE and Ecology. The waste was put into the tank prior to August 19, 1987 and had been documented in previous LDR Reports as legacy waste not actively managed within the meaning of RCRA.~~

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
Cell 11-L	Tank, 1

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 1.893

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

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

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

Bases and assumptions used:

2.5 Planned storage areas for this waste:

☒ Current Location ☐ CWC ☐ DST
☐ Other Area(s) (list):
☐ None

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date
None	

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: N/A

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment. ~~N/A~~ Tank 11-L waste will be characterized as required to meet the waste acceptance criteria of the treatment facility.

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.

Tank 11-L waste will be characterized as required to meet the waste acceptance criteria of the treatment facility and to verify LDR concentrations limits were met with treatment.

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

Tank was never designed to store mixed waste under RCRA. ~~Wastes were placed in the tank prior to August 19, 1987.~~ The tank will be closed under RCRA by agreement between DOE and Ecology.

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:

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

No waste generization to minimize.

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(67]: See RCR Comment #108

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 tank system waste. The debris is designated as remote-handled mixed low-level waste 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-specfic data sheets for this treatability group].

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	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 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 Waste Handling Facility 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:

~~Planned treatment methods have not been determined.~~ The closure of the Tunnel is not expected for at least another 40 years.

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):

LDR REPORT TREATABILITY GROUP DATA SHEET

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.

TBD

4.9 Key Assumptions:

~~None.~~Treatment will be conducted in accordance with the 222-S Laboratory Complex Closure Plan in the Hanford Re. 9 Permit.

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~~ conducted in accordance with the 222-S Laboratory Complex Closure Plan in the Hanford Rev 9 Permit~~a part of the 222-S Laboratory Complex closure~~.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(68]: See RCR Comment #109

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

Treatabilitiy 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 Waste Handling Facility.

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 the 219-S Waste Handling Facility.

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

Approval of waste entering 219-S Waste Handling Facility is performed in accordance 222-S Waste Analysis Plan (WAP), RPP-29498 which superseded 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 shielded alcove of the T8 tunnel, a service tunnel located under the 222-S Laboratory.

2.1.1 How was the waste managed prior to storage?

This waste was being staged in the shielded T-8 tunnel alcove per Ecology approval (letter 0047988).

2.1.2 Timeframe when waste was placed to storage?

October 1997.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
219-S T8 Tunnel	N/A - Pile

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.200

Date of inventory values: 12/31/2019

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~~ stored in a shielded alcove of T-8 tunnel. Final disposition will be included in the closure plan for~~determined at~~ the ~~time of~~ 222-S Laboratory Complex ~~closure~~. The T8 tunnel will be a closing TSD unit through the Rev 9 permit~~ting procedure~~.

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

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	12/03/2001

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	

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:

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

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 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

N/A

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(69]: See RCR Comment #54

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 Reduction-Oxidation (REDOX) Plant, Plutonium-Uranium Extraction (PUREX) Plant, 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): 5.980

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	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):

Waste in the CX-72 tank - high personnel dose potential, remote handled. 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

Not a lot of definitive 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.

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.~~

Commented [MJW(70]: See RCR#54

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 and any required treatment will be determined in accordance with the sampling and analysis plan, M-015-92C, M-015-112, M-037-24 TPA Milestones, ~~DOE/RL-2002-14~~, and the Closure Plan in the Hanford Dangerous Waste Permit~~, DOE/RL-2008-51~~.

Commented [MJW(71]: See RCR #54

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:

Characterization and any required treatment will be determined in accordance with the sampling and analysis plan, M-015-92C, M-015-112, M-037-24 TPA Milestones, and the closure plan ~~(DOE/RL-2002-14 and DOE/RL-2008-51)~~ in the Hanford Dangerous Waste Permit. Characterization and any required treatment will be performed on a schedule determined with 200-IS-1.

4.4 Treatment schedule information:

Waste will be dispositioned with the TSD unit closure, M-015-92C, M-015-112, M-037-24 TPA Milestones, and the closure plan in the Dangerous Waste Permit, which will occur in coordination with the schedule for 200-IS-1.

Commented [MJW(72]: See RCR #54

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

LDR REPORT TREATABILITY GROUP DATA SHEET

Milestone Number	Due Date
~~M-015-00~~ M-015-92C, M-015-112, M-037-24	~~06/30/2026~~(Add due dates for cited Milestones

Commented [MJW(73]: See RCR #54

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.

Unknown at this time.

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 dispositioned with the TSD unit closure.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(74]: See RCR Comment #56

1.1 Unit/Plant name: 241-CX Tank System **Waste Stream:** CX Tank System

Treatabilitiy 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 Transuranic Waste Storage and Assay Facility and then Central Waste Complex. The tank was dried and is considered empty. The Part A Permit Application identify that Tanks 241-CX-71 and 241-CX-72 contain 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 and analytical data.

1.3.5 Additional notes:

All of the tanks have been out of service for at least 35 years. Further details can be found in the Part A permit application and DOE/RL-2002-14.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

☒ Tank ☐ DST ☐ SST

☐ Other (explain): N/A

2.1.1 How was the waste managed prior to storage?

Waste was placed directly into storage from operations.

Commented [MJW(75]: See RCR #56

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
241-CX-72	Tank System, 1 tank
241-CX-71	Tank System, 1 tank

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 5.980

Date of inventory values: 12/31/2019

Comments on waste inventory:

2.460 cubic meters is estimated for 241-CX-72 and 3.520 cubic meters is estimated for 241-CX-71 based on values documented DOE/RL-2002-14, Rev 1. The stored volume documented contains uncertainty as to the actual 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
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Document Number	Date
0085135	09/25/2009

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: The 2009 assessment does not have a document number. The title of the assessment is "D AND D PROJECT MANAGEMENT ASSESSMENT PLAN AND REPORT LDR ASSESSMENT OF THE 241-CX TANK SYSTEM" and can be found in the Administrative Record under Accession Number 1002180696.

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☒ Yes ☐ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

Sampling and analysis of the contents of 241-CX-72 will be performed in conjunction with the CERCLA remedial investigation and in accordance with the approved sampling and analysis plan, DOE/RL-2002-14. Characterization results will be used to designate tank contents and support a tank disposition study to evaluate tank closure options (DOE/RL-2008-51).

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.

Sampling and analysis of the contents of 241-CX-72 will be performed in conjunction with the CERCLA remedial investigation and in accordance with the approved sampling and analysis plan~~,~~ ~~DOE/RL-2002-14~~ and closure plan in the dangerous waste permit. Characterization results will be used to designate tank contents and support a tank disposition study to evaluate tank closure options ~~(DOE/RL-2008-51)~~.

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

214-CX Tank SMCA is availble online at https://pdw.hanford.gov/document/1002180696

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 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Year	m^3 and/or	kg
2020	0.00	0.00
2021	0.00	0.00
2022	0.00	0.00
2023	0.00	0.00
2024	0.00	0.00
Total	0.00	0.00

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3.3 Bases and assumptions used in above estimates:

The facility is inactive. No waste is being generated.

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(76]: See RCR Comment #76

1.1 Treatability Group Name: 324 Building REC Waste

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

Radioactive waste containing regulated quantities of toxic heavy metals. Mixed waste residue may be generated from the future radiochemical engineering cells (REC) decontamination and deactivation activities and disposed as CERCLA waste in accordance with M-094-00.

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-specfic data sheets for this treatability group].

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	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):

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:

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	21 mg/l TCLP
D006	Cadmium	TC-Cadmium	1.0 ppm	Sample analysis	0.11 mg/l TCLP
D007	Chromium	N/A	6.3 ppm	Sample analysis	0.60 mg/l TCLP
D008	Lead	Rad. Lead Solids	>5.0	Process knowledge	Macroencapsulation
D008	Lead	TC-Lead	34.6 ppm	Sample analysis	0.75 mg/l TCLP

* 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:

Surplus equipment waste may be treated as debris using alternative treatment standards specified in 40 CFR 268.45 Table 1, "Alternative Treatment Standards for Hazardous Debris" (incorporated by WAC 173-303-140(2)(a)). This applies to all equipment disposed and grouted in the B-Cell and D-Cell as well as the vault tanks and pipes. Liners and walls in the hot cells that are assumed to have mixed waste on the surfaces (e.g., the B-Cell walls) will be treated through the application of a surface coating. This is an alternative treatment standard as specified in 40 CFR 268.45 Table 1 (incorporated by WAC 173-3 03 -140(2)(a)).

4.4 Treatment schedule information:

Waste will be treated as it is generated during the Building 324 closure activities. A schedule for the closure activities is included in section H1.10 of the 324 Building Dangerous Waste Management Units Closure Plan (DOE/RL-96-73 Rev. 4).

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

Milestone Number	Due Date
M-016-85	09/30/2025

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

LDR REPORT TREATABILITY GROUP DATA SHEET

If yes, describe: Waste minimization is addressed in section 4.2.2 of the Removal Action Work Plan (RAWP) for 300 Area Facilities (DOE/RL-2004-77 Rev. 3). As stated in the RAWP, waste minimization practices will be followed to the extent technically and economically feasible during all phases of waste management.

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:

The 324 Building is assumed to be limited to mixed low-level waste that can be treated to meet ERDF waste acceptance criteria.

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 at ERDF.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(77]: See RCR Comment #77

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

Treatabilitiy 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 DOE/RL-96-73, 324 Building Radiochemical Engineering Cells, High Level Vault, Low Level Vault, and Associated Areas Closure Plan.

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.

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 DOE/RL-96-73.

2.1.2 Timeframe when waste was placed to storage?

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

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

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 5.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

Facility is in deactivation and will not be accepting additional waste.

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): ERDF

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
0301054	02/26/2003

☐ Assessment has been scheduled. Scheduled date:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☒ Other. Explain: Note, TPA change control form M-89-12-02 was approved on 4/30/13 with a TBE due date for M-089-00 and a new target date M-089-06-T01 for a 30% design and interim milestone M-089-06 for a permit mod.

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

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:

324 Building SMCA is available online at https://pdw.hanford.gov/document/0069368H.

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 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

None.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(78]: See RCR Comment #110

1.1 Treatability Group Name: 325 HWTU

1.2 Description of waste (list WSRd numbers for this waste stream, asapplicable)

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. Waste Specification Records (WSRds) in this waste stream include PNNL-930-07 and PNNL-931-06.

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): 12.200

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

Year	m^3	and/or	kg
2020	9.100		0.000
2021	9.100		0.000
2022	9.100		0.000
2023	9.100		0.000
2024	9.100		0.000
Total	45.500		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 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.

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; RORGS; or CMBST
D002	Corrosive	NA	***	***	DEACT & meet 268.48
D003	Reactive	Other Reactives	***	***	DEACT & meet 268.48
D003	Reactive	Reactive Cyanides	***	***	590 mg/kg (total), 30 mg/kg (amenable)
D003	Reactive	Reactive Sulfides	***	***	DEACT
D003	Reactive	Water Reactive	***	***	DEACT & meet 268.48
D004	TC-Arsenic	NA	***	***	5.0 mg/L TCLP & meet 268.48
D005	TC-Barium	NA	***	***	21 mg/L TCLP & meet 268.48
D006	TC-Cadmium	Cadmium Charac.	***	***	0.11 mg/L TCLP & meet 268.48
D006	TC-Cadmium	Cadmium-Contai ning Batteries	***	***	RTHRM
D006	TC-Cadmium	Radioactively contaminated cadmium consisting of b	***	***	Macroencapsulation IAW 40 CFR 268.45
D007	TC-Chromium	NA	***	***	0.6 mg/L TCLP & 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
D008	TC-Lead	Lead Charac.	***	***	0.75 mg/L TCLP & meet 268.48
D008	TC-Lead	Radioactive Lead Solids	***	***	MACRO
D009	TC-Mercury	Elemental Hg contaminated with radioactivity	***	***	AMLGM
D009	TC-Mercury	Low Mercury	<260 mg/kg	***	0.2 mg/L TCLP & meet 268.48
D009	TC-Mercury	Radioactively contaminated mercury-containi ng batt	***	***	Macroencapsulation IAW 268.45
D010	TC-Selenium	NA	***	***	5.7 mg/L TCLP & meet 268.48
D011	TC-Silver	NA	***	***	0.14 mg/L TCLP & meet 268.48
D011	TC-Silver	Radioactively contaminated silver containing batte	***	***	Macroencapsulation IAW 268.45
D018	Benzene	NA	***	***	10 mg/kg & meet 268.48
D019	Carbon Tetrachloride	NA	***	***	6.0 mg/kg & meet 268.48
D021	Chlorobenzene	NA	***	***	6.0 mg/kg & meet 268.48
D022	Chloroform	NA	***	***	6.0 mg/kg & meet 268.48
D027	p-Dichlorobenzene	NA	***	***	6.0 mg/kg & meet 268.48
D028	1,2-Dichloroethane	NA	***	***	6.0 mg/kg & meet 268.48
D029	1,1-Dichloroethylene	NA	***	***	6.0 mg/kg & meet 268.48
D030	2,4-Dinitrotoluene	NA	***	***	140.0 mg/kg & meet 268.48
D033	Hexachlorobutadiene	NA	***	***	5.6 mg/kg & meet 268.48
D035	Methyl Ethyl Ketone	NA	***	***	36 mg/kg & meet 268.48
D038	Pyridine	NA	***	***	16 mg/kg & meet 268.48
D039	Tetrachloroethylene	NA	***	***	6.0 mg/kg & meet 268.48
D040	Trichloroethylene	NA	***	***	6.0 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
D043	Vinyl Chloride	NA	***	***	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	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	NA	***	***	None (1)
WP02	Persistent, DW	NA	***	***	N/A
WP03	Persistent, EHW	NA	***	***	None (1)
WSC2	Solid Corrosive	NA	***	***	Remove solid-acid characteristic
WT01	Toxic, EHW	NA	***	***	N/A (1)
WT02	Toxic, DW	NA	***	***	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 provided in the waste profile.

(1) Mixed extremely hazardous wastes may be land disposed in Wahington 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).

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:

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:

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 offsite commercial treatment will be treated at those facilities; facilities planned to be used are Perma-Fix Northwest in Richland and Perma-Fix/DSSI in Oak Ridge, Tennessee and Gainesville, Florida. 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 exemption to the current requirements to receive only 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 and/or shipped as soon as practical but may be held over one year for various reasons. Waste shipped to CWC ~~under an exemption~~ will not be treated within one year~~; such waste will be subject to the schedules for treatment set forth in TPA milestone M-091-42 (for contact-handled waste)~~.

LDR REPORT TREATABILITY GROUP DATA SHEET

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: 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.

None

4.9 Key Assumptions:

None

5.0 WASTE STREAM DISPOSAL

After treatment, how will the waste stream be disposed of (include locations, milestone numbers, variances required, 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

Commented [MJW(79]: See RCR Comment #111

1.1 Unit/Plant name: 325 HWTU **Waste Stream:** 325 HWTU

Treatabilitiy Group Name: 325 HWTU

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

PNNL-930-07; PNNL-931-06

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 consists of mixed waste generated from routine PNNL research and facility operations.

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

Waste is generated on a routine basis in the course of PNNL research and facility operations. The waste is generated in the 325RPL building and other PNNL radiological facilities.

1.3.3 Source of the regulated constituents:

Regulated constituents come from reagents and samples used in research projects, chemical products used for facility maintenance, and contaminated facility equipment.

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

Wastes are characterized as specified in the 325 HWTUs Waste Analysis Plan.

1.3.5 Additional notes:

The waste profile numbers listed in 1.2 represents the mixed waste profiles that PNNL is approved to ship to Hanford disposal facilities other than ERDF. This waste stream is treated in the 325HWTUs or shipped to offsite to commercial TSD facilities for LDR treatment prior to disposal.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

☐ Tank ☐ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

The waste was managed in satellite accumulation areas and central accumulation areas prior to being transferred to the 325HWTUs.

2.1.2 Timeframe when waste was placed to storage?

The waste currently stored at 325 building was placed in storage between 11/9/2016 and 12/11/2019.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
325/HWTU	183
325/SAL	1
325/3714 Pad	3

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 12.200

Date of inventory values: 12/31/2019

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): Some waste is stored at commercial TSD facilities prior to and following 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
2020	9.100		0.000
2021	9.100		0.000
2022	9.100		0.000
2023	9.100		0.000
2024	9.100		0.000
Total	45.500		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-DWR-LDR	04/2020

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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	

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 obtains a full chemical and radiological characterization from waste generating projects/activities 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.

PNNL obtains s full chemical and radiological characterization from waste generating projects/activities prior to receiving the waste into the HWTU 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	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

Following treatment, waste with concentration-based LDR treatment standards is tested to demonstrate compliance with the treatment standard. For waste treated at the 325HWTUs, this characterization is performed per the 325HWTUs Waste Analysis Plan. For waste treated at offsite commercial facilities, the treatment facility performs the LDR testing.

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

Projected future waste volumes are based on average generation rates over the past 5 years. Waste volumes will vary significantly from year to year as research projects change and facility modifications are performed, but long-term generation volumes are anticipated to remain steady.
https://pdw.hanford.gov/document/0069366H

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 minimization is integrated into PNNL's project planning and waste planning processes.

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. PNNL waste management staff routinely evaluate methods to reduce waste volume and toxicity through source reduction, segregation, treatment and other methods.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (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
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

PNNL tightly integrates waste minimization principles into its research and waste planning processes. PNNL is confident that the integrated waste minimization program results in significant reductions in the volume and toxicity of waste generated, relative to a baseline of having no waste minimization program. However, it is not possible to determine the actual volume of waste reduction in any defensible way, since there is no recent baseline with which to compare it. Because of this, we are not claiming specific waste volumes reduced in Sections 3.3.1 and 3.3.2.

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(80]: See RCR Comment #78

1.1 Treatability Group Name: 400 Area WMU

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

Mixed waste generated from Hanford activities, primarily from the deactivation of the Fast Flux Test Facility.

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): 1.900

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	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):

Most waste is low-level. Some shielding may be required from time-to-time.

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
D001	Ignitable	Low TOC	***	Process Knowledge	DEACT and meet 268.48 standards
D003	Reactive	Other Reactives	N/A	Process Knowledge	DEACT and meet 268.48 standards
WSC2	Solid Corrosive	N/A	***	Process Knowledge	Remove Solid Acid Charac.

* 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:

High-purity elemental sodium that was used as a reactor coolant.

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:

Treatability study is planned to ascertain treatment approach.

4.4 Treatment schedule information:

It is anticipated that treatment schedules will be proposed based on the outcome of planned treatability study.

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:

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:

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):

ERDF, LLBG trenches 31 or 34, or ETF.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(81]: See RCR Comment #79

1.1 Unit/Plant name: 400 Area WMU **Waste Stream:** Mixed waste

Treatabilitiy Group Name: 400 Area WMU

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):

Sodium in Core Component Pots (CCP) and NaK resulting from sodium drain activities at FFTF and NaK from discarded equipment. Drip cups from refueling machines containing small amounts of sodium. Small pieces of metallic sodium collected during deactivation activities. The volume generated depends on the deactivation actives taking place.

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

CCPs had to be removed from Interim Decay Storage Vessel to allow vessel drain. The drip cups have been removed from refueling machines to allow machine layup. CCPs and drip cups contain residual sodium. The sodium and NaK is generated during activities supporting deactivation of the facility.

1.3.3 Source of the regulated constituents:

High-purity sodium used as the reactor coolant at the facility. During the draining process not all of the sodium could be removed from the pots. Small amounts of sodium and NaK collected from the systems and components as they are prepared to allow for facility deactivation.

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):

2.1.1 How was the waste managed prior to storage?

Waste was managed in an accumulation area and then placed in storage area.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed to storage?

Waste placed in accumulation area with start date of July 19, 2006. A 30-day extension on accumulation granted on October 6, 2006. Temporary authorization issued to allow storage in 400 WMU on November 16, 2006. A 180-day extension to the temporary authorization authorized the storage of waste in the 400 WMU until November 11, 2007. The 400 Area WMU (Building 403 and ISA) was authorized for the storage of waste on November 21, 2007.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
403	Container Storage, 2 containers
Interim Storage Area	Container Storage, 19 containers

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 1.900

Date of inventory values: 12/31/2019

Comments on waste inventory:

The listed inventory (updated 6/7/12) consists of approximately 400 gallons of sodium waste in the 403 Building and 23 gallons of sodium and 0.2 gallons of NaK in the ISA. The inventory calculations are based on a total of 423.2 gallons (dry measure) to cubic meters (1.86 m3). Dry measure was used as the sodium is a solid. [Calculation: 423.2 gallons (dry) x 0.00576 cubic yards = 2.437 cubic yards; 2.437 cubic yards x 0.76456 cubic meters = 1.86 cubic meters; reference; "Engineering Unit Conversations, Second Edition, by Michael R. Lindeburg, P.E.]

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):
☐ None

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

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

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If yes or unknown, comment on characterization for storage.

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.

Current disposition plans do not include disposal.

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:

There are no opportunuities for waste minimazation on this stream.

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 2019 (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
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

None.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(82]: See RCR Comment #80

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 Waste Encapsulation and Storage Facility (WESF) hot cell maintenance waste (i.e. manipulator boots, light bulbs, high-efficiency particulate [HEPA] filters, misc. debris). B Plant, including Cell 4, was placed in long-term surveillance and maintenance (S&M) 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-specfic data sheets for this treatability group].

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	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):

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.

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:

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).

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:

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:

B Plant is one of ~~five~~ four canyons agreed to by the Tri-Parties to be addressed by the Canyon Disposition Initiative under CERCLA. Until a final decision is made under CERCLA in accordance with the Canyon Disposition Initiative, no commitments will be made for waste disposal.

4.4 Treatment schedule information:

Schedule will be established after a final decision has been made under CERCLA in accordance with Tri-Parties agreement on the Canyon Disposition Initiative.

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

Milestone Number	Due Date
M-085-00	01/01/2077

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 Disposition 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 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

Treatabilitiy 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 (e.g., 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 the 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 vender 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 and 1997.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
221-B, Cell 4	Container Storage, 7 drums

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 1.400

Date of inventory values: 12/31/2019

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
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-00-ASS-075	02/28/2001

☐ 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	

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. SMCA available online at https://pdw.hanford.gov/document/0069374H.

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 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(83]: See RCR Comment #81

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) 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. 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): 0.000

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	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):

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:

B Plant is one of ~~five~~ four canyons agreed to by the Tri-Parties to be addressed by the Canyon Disposition Initiative under CERCLA. Until a final decision is made under CERCLA in accordance with the Canyon Disposition Initiative, no commitments will be made for waste disposal.

4.4 Treatment schedule information:

Schedule will be established after a final decision has been made under CERCLA in accordance with Tri-Parties agreement on the Canyon Disposition Initiative.

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

Milestone Number	Due Date
M-085-00	01/01/2077

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 Disposition 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

Commented [MJW(84]: See RCR Comment #82

1.1 Unit/Plant name: B Plant Complex **Waste Stream:** Containment Building Storage

Treatabilitiy 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) 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	Containment Building, N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2019

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
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-00-ASS-075	02/28/2001

☐ 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	

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. SMCA available at https://pdw.hanford.gov/document/0069374H.

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 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(85]: See RCR Comment #83

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 and a Part A permit application was subsequently submitted to Ecology. 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-specfic data sheets for this treatability group].

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological Characteristics

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

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

☐ Contact-handled ☒ Remote-handled

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

The contents 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:

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☐ 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 through a disposition pathways evaluation under M-092-20.

4.4 Treatment schedule information:

The treatment schedule is tied to the disposition pathways evaluation under M-092-20.

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

Milestone Number	Due Date
M-092-00	12/31/2047

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.

To be determined based on outcome of dispostion pathways evaluation under M-092-20.

4.9 Key Assumptions:

Disposition pathways evaluation to be performed in accordance with M-092-20.

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 to be determined based on outcome of dispostion pathways evaluation under M-092-20.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(86]: See RCR Comment #84

1.1 Unit/Plant name: WESF **Waste Stream:** Cs and Sr Capsules

Treatabilitiy 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, 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

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

☐ Tank ☐ DST ☐ SST

☒ Other (explain): Underwater capsule storage in indoor pool cells.

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: 12/31/2019

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 current location until shipped for treatment or transferred to interim dry storage pending fuel 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
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	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-GLDR	04/27/2021

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

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:

To be determined based on outcome of dispostion pathways evaluation under M-092-20. SMCA available online at https://pdw.hanford.gov/document/0069376H.

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 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

None.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(87]: See RCR Comment #68

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 1971 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): 98,019.323

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

Year	m^3	and/or	kg
2020	3,323.000		23,043.000
2021	2,823.000		04,861.000
2022	7,631.000		95,198.000
2023	9,780.000		95,198.000
2024	7,880.000		95,198.000
Total	31,437.000		13,498.000

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 DST system waste contains radionuclides including the following: 3H, 14C, 59Ni, 60Co, 63Ni, 79Se, 90Sr, 90Y, 93Zr, 93mNb, 99Tc, 106Ru, 113mCd, 125Sb, 126Sn, 129I, 134Cs, 137Cs, 137mBa, 151Sm, 152Eu, 154Eu, 155Eu, 226Ra, 227Ac, 228Ra, 229Th, 231Pa, 232Th, 232U, 233U, 234U, 235U, 236U, 237Np, 238Pu, 238U, 239Pu, 240Pu, 241Am, 241Pu, 242Cm, 242Pu, 243Am, 243Cm, 244Cm.
As a whole, the DST wastes are managed as remote-handled, high level waste.
However, some tanks may contain potential TRU mixed waste.

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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.

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)

LDR REPORT TREATABILITY GROUP DATA SHEET

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

LDR REPORT TREATABILITY GROUP DATA SHEET

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 DST system since 1995. For more information see comments in 3.3.6.
(5) See Section 3.3.6.
(6) TCLP

Although F039 was added to the DST Part A permit application in 1994, a review of the tank transfer summary data compiled to support preparation of the Waste Tank Summary Report, HNF-EP-0182, verifies that no F039 leachate from the burial grounds was transferred to the DSTs.

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).

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:

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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 Polychlorinate Biphenyls (PCBs) in Hanford Tank Waste," dated August 31, 2000 that some DSTs contain PCB remediation waste. The risk-based disposal approval process will address the disposal of PCB remediation waste through the waste treatment plant where it is being addressed as a constituent of concern.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

☒ Yes ☐ No

If yes, provide details: Waste streams are treated with sodium hydroxide and sodium nitrite to minimize tank corrosion and to address compatibility issues. Also volume reduction occurs at the 242-A Evaporator.

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 will 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:

The DST waste will be transferred to the WTP system and eventually be treated and disposed of as WTP waste per TPA milestones.

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

Milestone Number	Due Date
M-062-00	12/31/2047

4.6 Proposed new Tri-Party Agreement treatment milestones:

None.

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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 generation will be minimized to the extent practical during the retrieval process via the use of available supernate from other tanks as the motivating medium as opposed to the addition of excess water.
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. In addition, tank waste will be blended when possible to maximize glass loading, and minimize the amount of waste (glass logs) generated at the vitrification facility.

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:

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):

The vitrified low-activity waste fraction will be disposed onsite in a retrievable form. The vitrified HLW fraction will be stored on site until a permanent repository is available to receive wastes for disposal.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(88]: See RCR Comment #70

1.1 Unit/Plant name: 204-AR Waste Unloading Station, TK-1 Catch Tank **Waste Stream:** Aqueous Mixed Waste

Treatabilitiy 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 current function of the 204 AR Waste Unloading Station (WUS) is to provide storage for dilute aqueous mixed waste collected in Tank TK 1 from previous waste unloading activities and building operations.

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

The 204-AR Waste Unloading Station began waste management operations in February 1982, but is currently not used for its original intent. The 204-AR WUS was used for the treatment of liquid mixed waste that exhibited a pH of less than 12. The waste was chemically adjusted in-line at the 204-AR WUS by adding caustic (sodium hydroxide and sodium nitrate) to increase the pH of the waste to meet DST System corrosion specifications for storage in the DST System. The 204 AR WUS received liquid mixed waste transported in railroad tank cars or tank trucks of varying capacity.

1.3.3 Source of the regulated constituents:

The mixed waste was generated from decontamination and regeneration operations in the 100 and 200 Areas, from recovery and laboratory operations in the 200 and 300 Areas, and from decontamination operations in the 400 Area.

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

Process knowledge.

1.3.5 Additional notes:

Due to the non-compliant transfer system between AW Tank Farm and the 204 AR WUS, no waste can be received at the 204 AR WUS for direct transfer into the DST System until the transfer system has been made RCRA compliant.

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?

The 204-AR WUS was used for the treatment of liquid mixed waste that exhibited a pH of less than 12. The waste was chemically adjusted in-line at the 204-AR WUS by adding caustic (sodium hydroxide and sodium nitrate) to increase the pH of the waste to meet DST System corrosion specifications for storage in the DST System.

2.1.2 Timeframe when waste was placed to storage?

The 204-AR Waste Unloading Station began waste management operations in February 1982.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
204-AR WUS	1 tank (TK-1 Catch Tank)

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 3.690

Date of inventory values: 12/31/2019

Comments on waste inventory:

Tank volumes are determined by waste level measurements, which are then converted to volumes.

Source: Washington River Protection Solutions, Tank Waste Information System (TWINS), Best Basis Inventory, query 01/27/11.

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:

None.

2.5 Planned storage areas for this waste:

☒ Current Location ☐ CWC ☒ DST

☐ Other Area(s) (list):
☐ None

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date
N/A	

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: No storage assessment required.

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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 204-AR WUS waste will be characterized as required to meet the waste acceptance criteria of the treatment facility.

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:

Waste will be sampled and characterized as necessary to meet 2.11.2.

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

None.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (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
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(89]: See RCR Comment #114

1.1 Unit/Plant name: 222-S Laboratory Complex/219-S Waste Handling Facility **Waste Stream:** Bulk Aqueous Liquids

Treatabilitiy 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 procedure operations, unused or expired standards and reagents, unused samples from Tank Farms and other customer locations, maintenance and operations activities at the 222-S Laboratory.

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, analytical testing, and the maintenance and operation of the 222-S Laboratory. The facility will generate this waste throughout the 222-S Laboratory Complex (analytical procedures, hot cell, 219-S Waste Handling Facility operations).

1.3.3 Source of the regulated constituents:

Unused samples from Hanford Site generating locations (e.g., LLBG, PFP, Tank Farms, K-Basins, ETF). 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, Generator Knowlege of Samples, analytical results from sample analysis, Waste Planning Checklists for maintenance waste.

1.3.5 Additional notes:

219S WHF only accepts radioactively contaminated aqueous waste.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

☒ Tank ☐ DST ☐ SST

☐ Other (explain):

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.1 How was the waste managed prior to storage?

Per the Hanford Facility Dangerous Waste Permit Application, 222-S Laboratory Complex (DOE/RL-91-27 Revision 2).

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): 15.633

Date of inventory values: 12/31/2019

Comments on waste inventory:

The waste volume was based on actual tank readings. Tank 103 is inactive and has been pumped, rinsed, disconnected, blanked and is out of service. Tank 103 does not contribute to this volume. Volume is based on Tanks 101, 102 and 104 of the 219-S system.

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):

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Year	m^3	and/or	kg
2020	23.000		23,043.000
2021	23.000		23,043.000
2022	23.000		23,043.000
2023	23.000		23,043.000
2024	23.000		23,043.000
Total	115.000		15,215.000

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

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

☐ 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	

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 has been emptied, rinsed, disconnected, blanked, and is out of service. 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.

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

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 work planning process, 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. New analytical equipment is also procured that generate less waste than prior versions.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (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
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

The analytical processes generating this stream is continuously evaluated for waste minimization opportunities. Waste generation rates are dependant on quantity of sample analyses.

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

Treatabilitiy 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. Process effluents from nuclear reprocessing, consisting of sludge, saltcake, and liquid 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 retrievals 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 DST are from maintenance and operation of the DST as well as waste transfers into the DST system from SSTs, 222-S, 242-A, and miscellaneous sources along with historical waste transfers. These may include chemicals used during operations and maintenance, newly generated laboratory analysis waste, excess tank samples, R&D work, SST waste retrieval, treatment of DST waste within the DST System and at 242-A Evaporator. 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 Waste Information System (TWINS) Best Basis Inventory, and analytical data from Waste Stream Profile Sheets.

1.3.5 Additional notes:

None.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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 managed at the specific contributing operating facility or in the SST System.

2.1.2 Timeframe when waste was placed to storage?

From April 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 Catch Tank
241-AW	6 Tanks
241-AY	2 Tanks
241-AZ	2 Tanks
241-SY	3 Tanks
DST System	2 catch tanks
	N/A
	N/A
	N/A

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 98,000.000

Date of inventory values: 12/31/2019

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. All other volume changes due to Best Basis Inventory updates.

LDR REPORT WASTE LOCATION-SPECIFIC 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? 120,000

When is this capacity expected to be reached? See Bases and Assumptions

Bases and assumptions used:

The volume is rounded to the nearest 1,000 cubic meter. The total estimated storage capacity is based on volumes listed on the DST RCRA part A permit. 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 or other treatment processes, the order and schedule for retrieval of SST wastes, and the schedule for operation of the Waste Treatment Plant.

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
2020	3,300.000		0.000
2021	2,800.000		0.000
2022	5,000.000		0.000
2023	5,400.000		0.000
2024	3,500.000		0.000
Total	20,000.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
RPP-ENV-LDR-2003-01	05/11/2003
A-01-OPD-TANKFARM-011	06/29/2001
A-02-EMD-TF-03	08/12/2002
FY2005-SPMA-S-0317	11/17/2005

☐ 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	

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.

The DST waste will be characterized as required to meet the waste acceptance criteria of the treatment facility.

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 anticipated that further information will be needed for disposal. Awaiting waste acceptance criteria for the disposal location.

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Additional characterization will be performed under Rev 9 Addenda B for the Waste Treatment & Immobilization Plant Operating Unit 10 (OUG-10). The WAP will state what analysis must be perfomred on the tank waste for waste acceptance. As a whole, the DST wastes are managed as remote-handled, high level waste. However, some tanks may contain potential TRU mixed waste.
DOE Storage Method Compliance Assessment links:
RPP-ENV-LDR-2003-01: https://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0069364H A-01-OPD-TANKFARM-011: https://pdw.hanford.gov/alsearch?s=A-01-OPD-TANKFARM-011
A-02-EMD-TF-03: https://pdw.hanford.gov/document/AR-03518
FY2005-SPMA-S-0317: https://pdw.hanford.gov/document/AR-03520

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

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 have also been minimized and tank waste supernate used in lieu of raw water to minimize waste generation.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	6,300.00		0.00
2023	5,300.00		0.00
2024	8,200.00		0.00
Total	19,800.00		0.00

3.3.3 Bases and assumptions used in above estimates:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

DSTs are utilized to store waste retrieved from the SSTs until such time as the waste treatment facility (vitrification plant - WTP) has been constructed and brought on line. 242-A may perform volume reduction of DST waste, but primarily from SST waste. In general, any waste addition resulting from the use of raw water for retrieval activities is eliminated via processing through the 242-A Evaporator.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(90]: See RCR Comment #94

1.1 Unit/Plant name: LAW Facility **Waste Stream:** Immobilized Low-Activity Waste

Treatabilitiy 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):

Vitrified low-activity DST waste.

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

Waste is treated DST waste.

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.)

Characterization data and process knowledge.

1.3.5 Additional notes:

Waste has yet to be generated. When generated, the waste will be stored in ~~a permitted storage area~~ WTP ILAW Permitted Storage Area (Staging Area) and transferred to others for shipment and disposal. Disposal will occur at IDF.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed to storage?

N/A

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
B-135	LAW Facility/ Immobilized Low-Activity Waste

N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters):

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

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

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

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

☐ Current Location ☐ CWC ☐ DST

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

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	2,608.000		0.000
2023	4,357.000		0.000
2024	4,357.000		0.000
Total	11,322.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

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 will be characterized prior to treatment in accordance with the WTP dangerous waste permit WA7890008967.

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:

ILAW glass composition is estimated based upon feed characterization, batch processing information, modeling, known glass former additions. This information is used to support waste profile development to assess the ILAW against IDF acceptance criteria prior to disposal.

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

An LDR treatability variance has been granted for this waste.
Ref: Ecology, 2019, Letter from S. Schleif, State of Washington Department of Ecology, to B. Vance, US Department of Energy, "Re: Approval of Land Disposal Restriction Treatability Variance Petition for Hanford Tank Waste," 19-NWP-165, Richland, Washington, October 21. (https://pdw.hanford.gov/document/AR-03170).

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

Waste has yet to be generated. ILAW is formulated for optimal waste loading. ILAW is contained in specifically designed waste containers and is not amenable to further volume reduction because of its nature.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(91]: See RCR Comment #95

1.1 Unit/Plant name: Tank Farms **Waste Stream:** TSCR Ion Exchange Columns

Treatabilitiy Group Name: DST Waste

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

TBD

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):

Secondary solid mixed waste generated from TSCR operations.

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

First waste generation forecasted to begin in 2022.

1.3.3 Source of the regulated constituents:

Tank waste.

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

Contact testing and process knowledge.

1.3.5 Additional notes:

N/A

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 has not been generated.

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
241AP11	150

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

First waste generation forecasted to begin in 2022

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): Future forecasting
☒ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		81,818.000
2022	0.000		72,155.000
2023	0.000		72,155.000
2024	0.000		72,155.000
Total	0.000		98,283.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: N/A

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Milestone Number	Due Date
N/A	

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.

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

☐ Yes ☐ No ☒ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(92]: See RCR Comment #61

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, CAA, or RCRA TSD before being ~~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): 114.500

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

Year	m^3	and/or	kg
2020	588.932		0.000
2021	259.693		0.000
2022	234.184		0.000
2023	204.434		0.000
2024	218.684		0.000
Total	1,505.927		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):

ERDF accepts waste from RCRA TSDs, CAAs, and CERCLA clean up actions performed across the Hanford Site. The waste disposed at ERDF meets the ERDF Waste Acceptance Criteria, WCH-191, (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:

LDR REPORT TREATABILITY GROUP DATA SHEET

Contaminated soils, chromium and lead are stabilized in place at time of disposal.
MSW and debris are macroencapsulated and disposed when cured.

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
D004	Arsenic	Misc solid waste and debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D005	Barium	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D006	Cadmium	Debris & soils	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45 and/or 268.49 alternative LDR treatment standard
D007	Chromium (total)	Debris & soils	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45 and/or 268.49 alternative LDR treatment standard
D008	Lead	Debris & soils	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45 and/or 268.49 alternative LDR treatment standard
D009	Mercury	Debris & soils	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45 and/or 268.49 alternative LDR treatment standard
D010	Selenium	Misc solid waste and debris	**	proess knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45

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
D011	Silver	Misc solid waste &	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D012	Endrin	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D013	Lindane	Misc solid was	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D014	Methoxychlor	Misc solid waste	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D015	Toxaphene	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D016	2,4-D(2,4-Dichlororphe noxyactic acid	Misc solid waste	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D017	2,4,5-TP(Silvex)	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D018	Benzene	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D019	Carbon Tetrachloride	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D020	Chlordane	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45

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
D021	Chlorobenzene	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D022	Chloroform	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D023	0-Cresol	Misc solid waste &	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D024	m- Cresol (difficult to distinguish from p-cresol)	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D025	p-Cresol (difficult to distinguish from m-cresol)	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D026	Cresol-mixed isomers	Misc sold waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D027	p-Dichlorobenzene	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D028	1,2-Dichlorobenzene	Misc solid waste &	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D029	1,1-Dichloroethane	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D030	2,4-Dinitrotoluene	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45

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
D031	Heptachlor	Misc solid waste &	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D032	Hexachlorobenzene	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D033	Hexachlorobenzene	Misc sold waste &	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D034	Hexachloroethane	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D035	Methyl Ethyl Ketone	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D036	Nitrobenzene	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D037	Pentachlorophenol	Misc solid wast &	**	process klnowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D038	Pyridine	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D039	Tetrachlorethtlene	Misc solid waste debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D040	Trichloroethylene	Misc solid waste &	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45

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
D041	2,4,5 Trichlorophenol	Misc solid waste &	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D042	2,4,6-Trichlorophenol	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
D043	Vinyl chloride	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
F001	Solvents	Misc solid waste &	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
F002	Solvents	Misc solid waste &	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
F003	Solvents	Misc solid waste &	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
F004	Solvents	Misc soldi waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
F005	Solvents	Misc solid waste &	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45
F039	Leachate	Misc solid waste & debris	**	process knowledge and analytical data	Macroencapsulation in accordance with 40 CFR 268.45

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.

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

☒ List: U210 and some F001-F005 and F039 below LDR standards, and wastes not subject to treatment

☐ 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:

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. Treatment of mixed waste debris and soil stabilization are addressed in section 3.2.2.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

☒ Yes ☐ No

If yes, provide details: Waste is stabilized or macroencapsulated, as appropriate.

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:

Stabilization and macroencapsulation 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: Segregation of mixed waste from LLW debris reduces volume requiring treatment.

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.

4.9 Key Assumptions:

Waste at CWC, WRAP, LLBG, or T Plant that is 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

Commented [MJW(93]: See RCR Comment #115

1.1 Unit/Plant name: 222-S Laboratory **Waste Stream:** Hazardous Debris to ERDF

Treatabilitiy Group Name: ERDF -- Treatment

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

222SRENODBS001, Miixed waste debris requires macroencapsultation

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):

Analytical laboratory waste generated from analytical analysis secondary waste, unusable equipment, operational and maintenance waste debris that requires macroencapsulation.

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

Generated at the laboratory facilities from analysis of samples, instrument and facility maintenance, equipment repairs, unusable equipment, general mixed debris waste.

1.3.3 Source of the regulated constituents:

Contact with tank samples, contact with ETF samples, contamination from analytical instruments and or chemical products.

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

Process knowledge.

1.3.5 Additional notes:

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

2.1.1 How was the waste managed prior to storage?

2.1.2 Timeframe when waste was placed to storage?

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):

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

If yes, what is the total estimated storage capacity?

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
2020	160.000		0.000
2021	150.000		0.000
2022	150.000		0.000
2023	150.000		0.000
2024	150.000		0.000
Total	760.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-SEC-01-018	02/01/2001

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

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

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):

Evaluation of excess material, submit for use by other DOE contactors.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

~~There are no waste minimization goals for this waste stream; therefore, no projected future waste volume reductions are reported in Section 3.3.2. However, p~~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

Commented [MJW(94]: See RCR Comment #116

1.1 Unit/Plant name: 325 HWTU **Waste Stream:** Radioactive Lead and Debris

Treatabilitiy Group Name: ERDF -- Treatment

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

WP-PNNLLEAD002

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):

Radioactive lead solids and hazardous debris.

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

This waste stream consists of lead in various forms, including lead shielding, leaded glass, and equipment containing lead components. The waste stream is primarily generated in the 325RPL building, but some waste is generated in other PNNL radiological facilities.

1.3.3 Source of the regulated constituents:

Lead is used as shielding, in hot cell windows, and in equipment of various types.

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

The waste stream is identified by knowledge of materials. Elemental lead is the primary component of the waste stream and is easily identified visually and by virtue of its density.

1.3.5 Additional notes:

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 managed in central accumulation areas. Removal of lead and lead components is normally not a routine process, so management of this waste stream ordinarily does not involve satellite accumulation.

2.1.2 Timeframe when waste was placed to storage?

Containers in inventory were placed into storage on 10/10/2019.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
325/3714 Pad	2

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.200

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

If yes, what is the total estimated storage capacity?

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
2020	0.600		0.000
2021	0.600		0.000
2022	0.600		0.000
2023	0.600		0.000
2024	0.600		0.000
Total	3.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-DWR-02-004	05/31/2002

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

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

☐ Yes ☒ No

If yes, explain:

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

PNNL obtains s full chemical and radiological characterization from waste generating projects/activities 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.

PNNL obtains s full chemical and radiological characterization from waste generating projects/activities prior to receiving the waste into the HWTU.

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:

Radioactive lead solids are generated sporadically from equipment disposal or facility modifications. Projected waste volumes are estimated and may vary greatly from year to year.
Link to A&E-DWR-02-004: https://pdw.hanford.gov/document/0069366H

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 - PNNL integrates waste minimization into its research and waste planning processes. PNNL does n

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):

Radioactive lead is reused for other purposes (e.g., shielding) when possible, depending on the condition and extent of radioactive contamination.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

PNNL tightly integrates waste minimization principles into its research and waste planning processes. We are confident that the integrated waste minimization program results in significant reductions in the volume and toxicity of waste relative to a baseline of no waste minimization program. However, it is not possible to estimate the actual volume of waste reduction in any defensible way, since there is no recent baseline with which to compare it. Because of this, we are not claiming specific waste volumes reduced in Sections 3.3.1 and 3.3.2.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(95]: See RCR #62

1.1 Unit/Plant name: CERCLA Waste **Waste Stream:** CERCLA Waste

Treatabilitiy 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 and ancillary facilities. Waste stream is generated pursuant to a ROD, or other CERCLA authorization documents, and disposed pursuant to the ERDF ROD.(e. g., investigation-derived waste [IDW], decontamination and decomissioning [D & D] wastes, and RCRA past-practice wastes)

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. Also waste generated at Hanford or directly derived from a Hanford-generated waste in support of RCRA and /or CERCLA cleanup actions.

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 on 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 stockpiled in a designated staging area prior to treatment.

2.1.1 How was the waste managed prior to storage?

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Soil and debris is excavated or demolished, placed in containers, and transported to ERDF for treatment and disposal.

2.1.2 Timeframe when waste was placed to storage?

N/A

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
ERDF	2 staging areas

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 101.300

Date of inventory values: 12/31/2019

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 stockpiled within a designated staging area 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
2020	245.000		0.000
2021	38.000		0.000
2022	25.000		0.000
2023	25.000		0.000
2024	25.000		0.000
Total	358.000		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
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:

Future Plateau remediation projects along with 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):

N/A

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Commented [MJW(96]: See RCR Comment #63

1.1 Unit/Plant name: CS&I **Waste Stream:** Hazardous Debris to ERDF

Treatabilitiy Group Name: ERDF -- Treatment

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

WCH - MSAUTILTLPB002 (macro of lead); MSADBR002; MSAEXITSIGN002; and MSASMOKE001;

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 during field maintenance activities.

Debris may carry waste codes D004-D011.

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

The waste is generated as a result of maintenance and disposal of replaced equipment.

1.3.3 Source of the regulated constituents:

The hazardous constituents are derived from RCRA regulated metals.

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 process knowledge.

1.3.5 Additional notes:

CS&I hazardous debris (e.g.., lead pins, exit signs) waste is managed in a SAA or a central accumulation area.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

☐ Tank ☐ DST ☐ SST

☐ Other (explain): N/A

2.1.1 How was the waste managed prior to storage?

Waste is managed in a SAA or CAA.

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: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

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

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

Bases and assumptions used:

N/A; CS&I 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):
☐ None

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

Year	m^3	and/or	kg
2020	82.332		0.000
2021	56.093		0.000
2022	43.584		0.000
2023	13.834		0.000
2024	28.084		0.000
Total	223.927		0.000

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.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

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.

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:

Container size is dependent on volume and type of waste accumulated.

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 attributes are reviewed/assessed as part of the work package planning.

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 work planning, pre-job meetings, and review of operations to minimize waste genertaion where possible.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(97]: See RCR Comment #64

1.1 Unit/Plant name: PFP **Waste Stream:** D&D Hazardous Debris to ERDF

Treatabilitiy Group Name: ERDF -- Treatment

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

PFPAG002

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):

PFP Complex structures clean out and demolition debris that does not meet ERDF's waste acceptance criteria without treatment.

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

Clean out and demolition of PFP Complex structures.

1.3.3 Source of the regulated constituents:

Materials/debris contaminated with hazardous constituents or residues from past operations.

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:

CERCLA removal action to demolish the PFP Complex buildings and structures.

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 staged and packaged to meet ERDF criteria for treatment. Waste is not stored on the CERCLA site.

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: 12/31/2019

Comments on waste inventory:

Waste is staged and packaged inside the CERCLA waste management area upon generation.

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:

None.

2.5 Planned storage areas for this waste:

☐ Current Location ☐ CWC ☐ DST

☒ Other Area(s) (list): Waste is packaged and staged in the CERCLA waste management area prior to sending to ERDF.

☐ None

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

Year	m^3	and/or	kg
2020	80.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	80.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Document Number	Date
A&E-SEC-01-015	09/12/2001

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: Assessment was conducted when buildings were still operational and before the CERCLA removal action started. All the main buildings are now gone and only small ancillary structures remain, but will also be removed in 2020.

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

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:

The storage method compliance assessment is available in the Administrative Record at https://pdw.hanford.gov/document/0069362H.

3.0 WASTE MINIMIZATION

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

☒ Yes ☐ No

If yes, provide date assessment conducted: CY 2001

If yes, provide document number or other identification:

PFP 2001 Waste Minimization Evaluation for LDR Report Waste Streams, Letter M2100-02-016

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):

The waste stream is now rubble from the buildings and structures. It cannot be minimized until the removal action is complete, at which point there will be no more waste generation from the PFP Closure Project. Scheduled to complete in 2020.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

The waste stream is now rubble from the buildings and structures. It cannot be minimized until the removal action is complete, at which point there will be no more waste generation from the PFP Closure Project. Scheduled to complete in 2020.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(98]: See RCR Comment #65

1.1 Unit/Plant name: Soil and Groundwater **Waste Stream:** Hazardous Debris to ERDF

Treatabilitiy 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 and ancillary facilities. Waste stream is generated pursuant to a ROD, or other CERCLA authorization documents, and disposed pursuant to the ERDF ROD.(e. g., investigation-derived waste [IDW], decontamination and decomissioning [D & D] wastes, and RCRA past-practice wastes)

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. Also waste generated at Hanford or directly derived from a Hanford-generated waste in support of RCRA and /or CERCLA cleanup actions.

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 on 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 stockpiled in a designated staging area prior to treatment.

2.1.1 How was the waste managed prior to storage?

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Soil and debris is excavated or demolished, placed in containers, and transported to ERDF for treatment and disposal.

2.1.2 Timeframe when waste was placed to storage?

N/A

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
ZP-1 Bioyard	1 RO/RO

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 13.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

Discarded equipment and debris in 200-ZP-1 bioyard awaiting repackaging prior to treatment and disposal.

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 stockpiled within a designated staging area 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
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		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
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:

Future Plateau remediation projects along with 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):

N/A

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Commented [MJW(99]: See RCR Comment #66

1.1 Unit/Plant name: Tank Farms **Waste Stream:** Hazardous Debris to ERDF

Treatabilitiy Group Name: ERDF -- Treatment

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

Waste profiles vary depending on which farm the waste comes from. Waste profiles are expected to be similar to ERDF-Treatment (hazardous debris). Examples include WRPSGLBLMIX002 and WRPSAY102002

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 tank waste contacted equipment and debris (e.g. jumpers, plastic, cloth, rubber, and long length equipment).

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

This waste stream is generated intermittently during tank waste management and retrieval activities.

1.3.3 Source of the regulated constituents:

Waste is debris generated as a result of contact with tank waste and potential MSDS/products used during the removal process.

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:

Waste is managed in an accumulation area until transferred to ERDF for treatment and disposal. Waste is accepted to ERDF under the 2007 ERDF ROD Amendment.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

☐ Tank ☐ DST ☐ SST

☒ Other (explain): N/A

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed 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: 12/31/2019

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?

When is this capacity expected to be reached?

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

☐ Current Location ☐ CWC ☐ DST

☒ Other Area(s) (list): Various central accumulation areas in the farms.

☐ None

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

Year	m^3	and/or	kg
2020	21.000		0.000
2021	15.000		0.000
2022	15.000		0.000
2023	15.000		0.000
2024	15.000		0.000
Total	81.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: N/A. Storage assessment not required.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

Characterization is performed as necessary to meet ERDF waste acceptance criteria.

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:

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:

Waste minimization attributes are reviewed/assessed as part of the work package planning.

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 work planning, pre-job meetings, and review of operations to minimize waste generation where possible.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

N/A

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(100]: See RCR Comment #112

1.1 Treatability Group Name: Hanford Site Laboratory Complex

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

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

2.0 WASTE INVENTORY AND GENERATION

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

Total volume (cubic meters): 6.000

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

Year	m^3	and/or	kg
2020	31.500		0.000
2021	25.000		0.000
2022	30.000		0.000
2023	30.000		0.000
2024	30.000		0.000
Total	146.500		0.000

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological Characteristics

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

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

☒ Contact-handled ☐ Remote-handled

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

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

3.2 Physical Form

3.2.1 Physical form of the waste:

☒ Solid ☒ Liquid ☒ Semi-solid ☒ Debris

☐ Other (Describe in comments.)

3.2.2 Comments on physical form:

LDR REPORT TREATABILITY GROUP DATA SHEET

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

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

☐ Wastewater ☒ Non-wastewater ☐ Unknown

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

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

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
D030	2,4-Dinitrotoluene	N/A	***	***	140.0 mg/kg & meet 268.48
D033	Hexachlorobutadiene	N/A	***	***	5.6 mg/kg & meet 268.48
D035	Methyl Ethyl Ketone	N/A	***	***	36 mg/kg & meet 268.48
D038	Pyridine	N/A	***	***	16 mg/kg & meet 268.48
D039	Tetrachloroethane	N/A	***	***	6.0 mg/kg & meet 268.48
D040	Trichloroethylene	N/A	***	***	6.0 mg/kg & meet 268.48
D043	Vinyl Chloride	N/A	***	***	6.0 mg/kg & meet 268.48
F001	1,1,1-Trichloroethane	Spent Solvent	***	***	6.0 mg/kg
F002	Methylene Chloride	Spent Solvent	***	***	30 mg/kg
F003	Acetone & Hexone	Spent Solvent	***	***	160 mg/kg
F004	o-Cresol & p-Cresol	Spent Solvent	***	***	5.6 mg/kg
F005	Methyl Ethyl Ketone	Spent Solvent	***	***	36 mg/kg
F027	Unused Formulations containing Pentchlorophenol	N/A	***	***	Multipl;e
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 Wahington State in DOE facilities in accordance with RCW 70.105.050(2).

LDR REPORT TREATABILITY GROUP DATA SHEET

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:

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

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

4.4 Treatment schedule information:

The goal of the Hanford Site Laboratory Complex is to treat waste offsite at commercial treatment facilities generally within one year. Waste that cannot be treated offsite will be shipped to CWC.

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:

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

Commented [MJW(101]: See RCR Comment #113

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

Treatabilitiy Group Name: Hanford Site Laboratory Complex

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

2013-WRPS-0014, Heterogenous debris with lead solids, no PCBs, offsite.
2007-WRPS-0013, Heterogenous debris,
2015-WRPS-0029, Heterogenous debris, lead solids, TSCA PCB
DSSI, profiles TBD, organic treatment, ignitables, reactives
2015-WRPS-0030
2007-WRPS-0012, debris waste exceeds LDR, RCRA and Washington State
2008-WRPS-0001, debris with lead
2008-WRPS-0007
2009-WRPS-0011
2010-WRPS-0014
2011-WRPS-0017

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, facility operations and maintenance. Mercury waste with no path forward, tank farms waste awaiting shipment to DSSI

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,opeations and maintenance, hot cells).

1.3.3 Source of the regulated constituents:

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

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

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

1.3.5 Additional notes:

None.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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. 2).

2.1.2 Timeframe when waste was placed to storage?

May through December 2019

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
HS-00082 A&B	10 (.208 ea, 2.08 m3
HS-00083 A&B	10 (.208 ea 2.08 m3
Room 4E	3 gal
Room 2B	7 (.208 ea 1.46m3
Room 2D	1

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 6.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

Mixed Waste is shipped to an off-site TSDF 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:

2.5 Planned storage areas for this waste:

☒ Current Location ☐ CWC ☐ DST

☐ Other Area(s) (list):
☐ None **LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET**

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Year	m^3	and/or	kg
2020	20.000		0.000
2021	15.000		0.000
2022	20.000		0.000
2023	20.000		0.000
2024	20.000		0.000
Total	95.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

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

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

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:

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

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: 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):

Proper planning is used prior to waste generation through work planning, 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.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.660 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

~~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, t~~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

Commented [MJW(102]: See RCR Comment #75

1.1 Unit/Plant name: Tank Farm Facilities **Waste Stream:** Mixed waste from 616

Treatabilitiy Group Name: Hanford Site Laboratory Complex

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 tank waste contacted debris from farm cleanup and maintenance activities.

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

This waste stream is generated in all farms during tank waste management and retrieval activities.

1.3.3 Source of the regulated constituents:

Waste is generated during work activities as a result of contact with tank waste and potential MSDS/products used.

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:

Waste is managed in an accumulation area.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

2.1.1 How was the waste managed prior to storage?

2.1.2 Timeframe when waste was placed to storage?

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks

N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

If yes, what is the total estimated storage capacity?

When is this capacity expected to be reached?

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
2020	11.500		0.000
2021	10.000		0.000
2022	10.000		0.000
2023	10.000		0.000
2024	10.000		0.000
Total	51.500		0.000

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	**LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET**

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.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

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

None. Storage assessmnet not requried.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

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 2019 (volume or mass)

0.100 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

The site goal is 10 percent 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.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(103]: See RCR Comment #59

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 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): 0.984

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	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):

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.

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-Dichlorotheylene	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

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
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
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-Dinitortoluene	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-methylphenol	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	Acenapthene	N/A	89000	analytical data	3.4 mg/kg
UHC	Acenapthylene	N/A	89000	analytical data	3.4 mg/kg
UHC	Anthracene	N/A	89000	analytical data	3.4 mg/kg

LDR REPORT TREATABILITY GROUP DATA SHEET

EPA/ State Number	Waste Description	LDR Sub-Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
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
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)methane	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)phthalate	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	Hexachlorocyclopentadiene	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

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	Phenol	N/A	89000	analytical data	6.2 mg/kg
UHC	Pyrene	N/A	89000	analytical data	8.2 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.

*** 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 has been interim stabilized. Treatment will occur per the closure plan in the approved dangerous waste permit. ~~See the Closure Plan, DOE/RL-2009-112.~~

4.4 Treatment schedule information:

Interim stabilization was completed in FY 2002. Waste will be dispositioned with the TSD unit closure. (Add Rev 9 TSD permiting schedule here for the HSTF)

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

Milestone Number	Due Date
~~M-015-00~~	~~06/30/2026~~

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.

4.9 Key Assumptions:

TSD closure will occur per the closure plan in the dangerous waste permit~~be coordinated with the OU remediation in accordance with M-15 milestones for 200-IS-1 OU~~.

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 occur per the closure plan in the dangerous waste permit ~~be coordinated with the 200-IS-1 OU remediation~~.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(104]: See RCR #60

1.1 Unit/Plant name: HSTF **Waste Stream:** HSTF 276-S-141/142

Treatabilitiy 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 Hexone Storage and Treatment Facility (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 stabalize 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 and the closure plan, DOE/RL-2009-112, Rev 0.

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 stored in the tanks after being used in the REDOX Plant.

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	Tank System, 1 Tank
276-S-142	Tank System, 1 Tank

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.984

Date of inventory values: 12/31/2019

Comments on waste inventory:

Waste is no longer generated. Estimated volume is based on the quanitity of mixed waste (130 gallons in each tank) identified in DOE/RL-2009-112, Rev. 0.

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):

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		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: Waste has been interim stabilized. Storage assessment not required.

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

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.

Further characterization will be performed as identified in the TSD Closure Plan in the dangerous waste permit~~, DOE/RL-2009-112~~.

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.

Further characterization will be performed as identified in the TSD Closure Plan in the dangerous waste permit, ~~DOE/RL-2009-112~~.

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~~ occur in accordance with the TSD closure plan in the dangerous waste permit ~~coordinated with 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 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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.

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(105]: See RCR Comment #89

1.1 Treatability Group Name: LERF/ETF Liquid Waste

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

Wastewaters are sent to the Liquid Effluent Retention Facility (LERF)/Effluent Treatment Facility (ETF) for storage and treatment.

2.0 WASTE INVENTORY AND GENERATION

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

Total volume (cubic meters): 37,712.377

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

Year	m^3	and/or	kg
2020	6,400.000		0.000
2021	2,440.000		0.000
2022	17,771.000		0.000
2023	22,881.000		0.000
2024	21,941.000		0.000
Total	71,433.000		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):

None.

3.2 Physical Form

3.2.1 Physical form of the waste:

☐ Solid ☒ Liquid ☐ Semi-solid ☐ Debris

☐ Other (Describe in comments.)

3.2.2 Comments on physical form:

N/A

LDR REPORT TREATABILITY GROUP DATA SHEET

3.3 Regulated constituents and wastewater/non-wastewater category

3.3.1 Wastewater/non-wastewater under RCRA

☒ Wastewater ☐ Non-wastewater ☐ Unknown

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

EPA/ State Number	Waste Description	LDR Sub-Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
F001	1,1,1-trichloroethane, carbon tetrachloride	F001-F005	***	knowledge/ analysis	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	multi-source leachate	N/A	***	knowledge/ analysis	multiple

* 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 LERF/ETF receives many different liquid waste types from many different generators. The generators are required to thoroughly characterize the waste per the ETF/LERF waste analysis plan. Information on actual constituent concentrations and ranges can be found in the regulatory file for each of the generator wastes located at the ETF.

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

☒ List: Some wastewaters meet treatment standards for F001-F005 and F039 on receipt.

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

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

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:

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:

LERF/ETF liquid wastes ~~generally~~ are treated and disposed within a year.

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: The LERF/ETF 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:

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):

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(106]: See RCR Comment #71

1.1 Unit/Plant name: 242-A Evaporator **Waste Stream:** Evaporator Process Condensate

Treatabilitiy 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):

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 TK-C-100 at 242-A between campaigns for use in priming the evaporator treatment system at the beginning of the next campaign (waste minimization effort).

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?

Prior to treatment and storage at the 242-A Evaporator, feed stream waste is stored in the DST System.

2.1.2 Timeframe when waste was placed to storage?

During the 242-A, Evaporator EC-10 campaign between June 24, 2019, and June 26, 2019.

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): 30.237

Date of inventory values: 12/31/2019

Comments on waste inventory:

This volume was verfied through 242-A Evaporator control room.

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 treatment and storage is available at ETF and treatment capacity is available at~~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
2020	4,900.000		0.000
2021	940.000		0.000
2022	940.000		0.000
2023	940.000		0.000
2024	0.000		0.000
Total	7,720.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Document Number	Date
A&E-00-ASL-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	

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.

Condensate must meet LERF waste acceptance criteria.

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.

Further treatment is required at LERF/ETF. Waste is sampled after treatment at LERF/ETF according to Ecology approved documents prior to disposal.

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.

DOE Storage Method Compliance Assessment link: https://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0069358H

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 for the DST waste. Process condensate is less toxic

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):

Process condensate minimization is undertaken during each campaign which includes a process condensate recycle system. This system reduces the overall process condensate discharged to LERF by approximately 4,320 gallons per day when operating and comparably reduces raw water consumption.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

32.700 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	262.00		0.00
2021	130.00		0.00
2022	130.00		0.00
2023	130.00		0.00
2024	0.00		0.00
Total	652.00		0.00

3.3.3 Bases and assumptions used in above estimates:

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It should be noted that the above numbers are estimates based on the upcoming projected baselines for each year. The evaporator process itself is a waste reduction/minimization process for DST system waste. The Waste Minimization numbers provided result from the avoidance in using raw water to maintain the mechanical seals on the evaporator process pumps. Instead, the process condensate recycle system can be used to send process condensate to the mechanical seals on the evaporator process pumps. On any given processing day approximately 4,320 gallons per day of raw water or process condensate is required to maintain the mechanical seals. The used seal water drains back to 241-AW-102 where it is incorporated into the incoming DST waste feed to the evaporator. In using the process condensate recycle system there is no net gain to the generation of process condensate from the evaporation process. This reduces the overall process condensate discharged to LERF by approximately 4,320

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(107]: See RCR Comment #96

1.1 Unit/Plant name: Effluent Management Facility **Waste Stream:** Condensate

Treatabilitiy Group Name: LERF/ETF Liquid Waste

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

HNF-3172

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):

Condensate from the Effluent Management Facility (EMF).

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

Condensate from the EMF evaporator from concentrating LAW discharge from the submerged bed scrubber (SBS), wet electrostatic precipitator (WESP), and caustic scrubber, and WTP Lab radioactive liquid waste disposal (RLD) effluents.

1.3.3 Source of the regulated constituents:

Vitrification offgas from the treatment of DST waste.

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

Characterization data and process knowledge.

1.3.5 Additional notes:

Waste has yet to be generated. When generated, the waste shall be transferred to LERF/ETF 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

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

☐ Tank ☐ DST ☐ SST

☒ Other (explain): No waste is currently stored at EMF. During operations, waste will be stored in vessels (tanks) upon receipt, throughout processing, and prior to discharge.

2.1.1 How was the waste managed prior to storage?

N/A: The waste is transferred to an EMF vessel as generated. From the EMF vessel, waste is transferred to LERF/ETF for treatment.

2.1.2 Timeframe when waste was placed to storage?

N/A: The waste has yet to be generated.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
EMF/E-106	4

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

EMF condensate is held in overhead sampling vessels DEP-VSL-00004A and -4B for characterization, then subsequently transferred to process condensate lag storage vessels DEP-VSL-00005A and -5B for holding prior to transfer to the LER/ETF.

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

☐ Yes ☒ No

If yes, what is the total estimated storage capacity?

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): EMF vessels DEP-VSL-00001, DEP-VSL-00002, DEP-VSL-00003A/B/C, DEP-VSL-00004A/B, and DEP-VSL-00005A/B.

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	15,331.000		0.000
2023	20,441.000		0.000
2024	20,441.000		0.000
Total	56,213.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number Date

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET	

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: N/A: No storage method compliance assessment has been scheduled at this time - EMF is not yet operational.

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☒ Yes ☐ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

Characterization is required to assess compliance with the LERF/ETF treatment envelope, Refer to interface control document 24590-WTP-ICD-MG-01-006.

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:

Waste has yet to be generated. When generated, the waste will be stored EMF and transferred to LERF/ETF at regular intervals for treatment.

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: This waste (condensate) is the byproduct of waste minimization by evaporation.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

This waste (condensate) is the byproduct of waste minimization by evaporation.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(108]: See RCR Comment#90

1.1 Unit/Plant name: LERF/ETF **Waste Stream:** Wastewater

Treatabilitiy Group Name: LERF/ETF Liquid Waste

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

NF-MWBT-00-2,NF-TF-13-1, NF-242APC-03-1, NF-WESF-19-1, NF-SWLL-09-1, NF-PNNL-15-1

1.3 Waste stream source information

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

Wastewaters generated during cleanup activities on the Hanford Site are transferred to LERF for interim treatment and storage prior to treatment through the ETF. Containerized wastewater generated during cleanup activities on the Hanford Site are received at the Load-In Facility and then are transferred to LERF for interim treatment and 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 / 242-A-42, -43, -44	3 Basins (i.e Surface Impoundments)
ETF / 2025E, 2025ED	14 Tanks

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 37,624.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

Total volume includes all 3 LERF basins and ETF tanks (excluding the verification tanks). ETF tank volume includes flush water additions. LERF volumes include low-level waste and cover water.

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:

ETF process tank system volume included; this volume does not include volume of delisted verification tanks

2.5 Planned storage areas for this waste:

☒ Current Location ☐ CWC ☐ DST

☐ Other Area(s) (list): Wastewater is treated through the ETF.
☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-00-ASLDR	04/2020

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☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

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.

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

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

None.

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

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 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(109]: See RCR Comment #153

1.1 Unit/Plant name: LLBG/MW Trench **Waste Stream:** TR34 and TR31 Leachate

Treatabilitiy Group Name: LERF/ETF Liquid Waste

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

NF-MWBT-00-1

1.3 Waste stream source information

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

This waste is leachate from mixed waste disposal (Trenches 31 and 34) in the 218-W-5 low-level burial ground (LLBG). This is F039 Listed waste.

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:

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

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

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

1.3.5 Additional notes:

Trenches 31 and 34 leachate is managed in ~~90-day~~ Central ~~a~~Accumulation Area tanks prior to transfer to LERF/ETF or another TSD.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

☒ Other (explain): ~~Less than 90-day~~Central Accumulation Area storage tanks, see Section 2.6.

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

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LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
Trench 31 Tank	1 tank and 2 sumps
Trench 34 Tank	1 tank and 2 sumps

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 57.600

Date of inventory values: 12/31/2019

Comments on waste inventory:

Trenches 31 and 34 F039 Listed Waste leachate is pumped from primary and secondary sumps to ~~90 day~~ Central Aaccumulation Area tanks (1 for each cell) prior to transfer to LERF/ETF or another TSD. The volume in the tanks vary with the time of year and pumping frequency. Reported volume is the volume in each Central Accumulation Area~~90 day~~ tank + the volume in the associated sumps.

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

☐ Yes ☒ No

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

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

Bases and assumptions used:

Each tank has a 10,000-gal capacity. There is sufficient capacity for the projected leachate quantities. Volumes reported include associated sump volumes.

2.5 Planned storage areas for this waste:

☐ Current Location ☐ CWC ☐ DST

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

☐ None

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

Year	m^3	and/or	kg
2020	1,500.000		0.000
2021	1,500.000		0.000
2022	1,500.000		0.000
2023	1,500.000		0.000
2024	1,500.000		0.000
Total	7,500.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Document Number	Date
A&E-SEC-02-003	03/27/2002

☐ 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	

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:

Actual generation is dependent upon the amount of precipitation received each year. The 200 ETF facility can readily process this waste. SMCA is available online at https://pdw.hanford.gov/document/0069352H.

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. NOTE: the Rain Curtain is no longer used since the disposal cells are on the second operating lift.

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 - generation is based on amount of precipitation received each year and how much of that precipitation percolates through the unit and is eventually collected in the leachate collection system.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

No feasible waste reduction.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(110]: See RCR Comment #154

1.1 Unit/Plant name: T Plant Complex/2706-T Tank System **Waste Stream:** 2706-T Tank System

Treatabilitiy 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).

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

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

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 tanks

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.540

Date of inventory values: 12/31/2019

Comments on waste inventory:

Current tank heal inventory. The inventory is 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:

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
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-00-ASLDR	04/2020

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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	

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:

None. SMCA available online at https://pdw.hanford.gov/document/0069350H.

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 on 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 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

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 on decontamination and treatment activities.

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(111]: See RCR Comment #91

1.1 Treatability Group Name: LERF/ETF Solid Waste

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

CERCLA and RCRA wastewaters are sent to the LERF/ETF for treatment and disposal. Both dried powder and operational ~~solid~~ hazardous waste are generated and stored at 2025E prior to shipment to onsite disposal facility or to an offsite facility if treatment is required.

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): 471.440

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

Year	m^3	and/or	kg
2020	730.000		0.000
2021	530.000		0.000
2022	430.000		0.000
2023	430.000		0.000
2024	330.000		0.000
Total	2,450.000		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):

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:

Solid process powder, process filters, VOG filters, and other opertions and maintenance 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
F001	1,1,1-trichloroethane, carbon tetrachloride carbon	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	multi-source leachate	N/A	***	knowledge/ analysis	multiple
WSC2	solid corrosive	N/A	pH<=2	knowledge/ analysis	deactivation

* 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.

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

☒ List: Most all wastes meet treatment standards for F001-F005 upon generation.

☐ 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:

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:

If treatment is required, the waste can be treated at ERDF or it can be shipped to an offsite DOE approved treatment facility.

4.4 Treatment schedule information:

LERF/ETF solid waste requiring treatment will be treated using offsite commercial facilities or at ERDF. Wastes are treated and disposed within a year.

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.

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):

Secondary process waste (dry powder) generated from the treatment of wastewaters from the ETF as well as water polisher resin beads, filters, RO membranes and other unit and operations and maintenance waste is disposed at ERDF. In the event treatment is necessary, mixed waste may be sent to an offsite treatment facility prior to disposal at ERDF.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(112]: See RCR Comment #92

1.1 Unit/Plant name: ETF **Waste Stream:** Powder Drums

Treatabilitiy Group Name: LERF/ETF Solid Waste

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

Powder below LDR llevels: ETF001
Powder above LDR 2016-WRPS-0032, offsite

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):

~~Solid~~ Hazardous waste from wastewater treatment processing.

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

Generated during operation activities at the ETF.

1.3.3 Source of the regulated constituents:

Hanford Site generated wastewaters that are treated through the ETF.

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

Analytical data, process knowledge, MSDSs.

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?

Waste was in the process of generation.

2.1.2 Timeframe when waste was placed to storage?

Ongoing.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
2025E Drum storage	14 x55 gallon drums (.208 m3 each)

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 11.440

Date of inventory values: 12/31/2019

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):
☐ None

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

Year	m^3	and/or	kg
2020	30.000		0.000
2021	30.000		0.000
2022	30.000		0.000
2023	30.000		0.000
2024	30.000		0.000
Total	150.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: Storage assessment not required.

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Milestone Number	Due Date
N/A	

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.

Sampling and analysis is planned for powder thought to be below LDR treatment standards to confirm LDR status prior to disposal at ERDF.

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

☒ Yes ☐ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

Sampling and analysis is planned for powder thought to be below LDR treatment standards to confirm LDR status prior to disposal at ERDF.

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

None.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

No assessment planned at this time. Volume produced is related to volume of wastewater treated.

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):

Facility operating procedures provide instructions on packaging and segregation of waste.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

No waste minimization goals for this waste stream; therefore, no projected future waste volume reductions are reported in Section 3.3.2. However, the 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

Commented [MJW(113]: See RCR Comment #93

1.1 Unit/Plant name: LERF/ETF **Waste Stream:** Operational and Maintenance waste

Treatabilitiy Group Name: LERF/ETF Solid Waste

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

Filters and misc operational waste.debris meets LDr -ETF001 ERDF Disposal
Operations debris waste, LLW, ETF004 ERDF dipsosal
Opeations waste, MW Requires tratment ETF002 ERDF disposal
Sump Sludge - 2015-WRPS-0031 offsite
MW Debris 2015-WRPS-007, offsite
MW LDR Compliant sludge 2017-WRPS-034, offsite
LLW Aerosols, 2018-WRPS-036, offsite
LLW State Only, 2019-WRPS-037 offrsite

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 waste generated from maintenance and cleanup activities.

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

Generated during operation and maintenance activities at the ETF and associated facilities.

1.3.3 Source of the regulated constituents:

Hanford Site generated wastewaters that are treated through the ETF and used oils/greases, expired products, and Washington State Only waste from LERF/ETF equipment.

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

Analytical data, process knowledge, MSDSs.

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?

Waste was in the process of generation, then placed into central accumulation area or TSD

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed to storage?

Ongoing.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
2025E (Mavericks w/debris)	6 containers (0.76 m3 each) 4.56 m3
ETF Pad	20 RO/RO (22.54m3 each =453 m3
2025E	1 container half full .7 m3
2025E /drum storage, GAK, debris, LLW requ	13 -55 gal (.208 m3 each)- 2.07 m3

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 460.000

Date of inventory values: 12/31/2019

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):
☐ None

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

Year	m^3	and/or	kg
2020	700.000		0.000
2021	500.000		0.000
2022	400.000		0.000
2023	400.000		0.000
2024	300.000		0.000
Total	2,300.000		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 assesement not required.

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

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.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Sump sludge sampling is~~may be~~ necessary to confirm it meets F039 LDR limit for chromium ~~(if determination using process knowledge is not sufficient)~~.
Analysis obtained from basins and powders are used for application to contacted waste.

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.

Sump sludge sampling is~~may be~~ necessary to confirm it meets F039 LDR limit for chromium ~~(if determination using process knowledge is not sufficient)~~.
Analysis obtained from basins and powders are used for application to contacted waste.

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:

No assessment planned 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):

Facility operating procedures provide instructions on packaging and segregation of waste. Proper planning is used prior to waste generation through work planning, pre-job meetings and consistent review of routine operations to minimize waste generation where possible. Personnel are encouraged to seek 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 2019 (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
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

~~No waste minimization goals for this waste stream; therefore, no projected future waste volume reductions are reported in Section 3.3.2. However, the process generating this stream is continuously evaluated for waste minimization opportunities.~~

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(114]: See RCR Comment #121

1.1 Treatability Group Name: MLLW-02 - Inorganic Non-Debris

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

This treatability group is for non-debris waste that contains hazardous constituents that either requires non-thermal treatment (specified technology) or non-thermal treatment is best demonstrated available technology for meeting the applicable LDR treatment standards (concentration-based standards). The applicable WSRds for this treatability group are: 420, 421, 422, 425, 426, 428, 506, 507, 521, 523, 524, 525, 900, 901, 902, and 904. This waste consists of many different inorganic solids (e.g., particulates, absorbed liquids, sludges, resin beads, soils) and lab packs that are contaminated with regulated metals and other inorganics. This waste treatability group does not include hazardous debris other than incidental debris material commingled with the non-debris.

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): 0.208

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

Year	m^3	and/or	kg
2020	0.420		0.000
2021	0.210		0.000
2022	0.210		0.000
2023	0.210		0.000
2024	0.210		0.000
Total	1.260		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):

This waste is a general category based on dangerous waste physical and chemical characteristics; therefore, the radiological characteristics vary greatly between individual waste packages. The waste meets low-level-waste requirements as defined by DOE O 435.1. This treatability group is for Contact Handled (CH) waste. Greater than Hanford Category 1 (GTC1) waste will normally be radiologically stabilized prior to disposal; however, radiological stabilization may take place in the disposal cells.

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 consists primarily of soils, sludges, particulates, labpacked and bulk non-wastewater liquids. The majority of the waste packages are 55-gal and 85-gal drums, but smaller sized boxes are also utilized. The packages normally also contain absorbent materials, plastic liners and/or small amounts of misc. step-of-pad waste (i.e., debris) materials.

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
D001	Ignitable	Ignitable Charac.	***	***	DEACT and meet 40 CFR 268.48
D002	Corrosive	Corrosive Charac.	***	***	DEACT and meet 40 CFR 268.48
D004	TC-Arsenic	N/A	***	***	5.0 mg/l TCLP and meet 40 CFR 268.48
D005	TC-Barium	N/A	***	***	21 mg/l TCLP and meet 40 CFR 268.48
D006	TC-Cadmium	Cadmium Charac.	***	***	0.11 mg/l TCLP and meet 40 CFR 268.48
D007	TC-Chromium	N/A	***	***	0.60 mg/l TCLP and meet 40 CFR 268.48
D008	TC-Lead	Lead Charac.	***	***	0.75 mg/l TCLP and meet 40 CFR 268.48
D009	Mercury	All D009 Wastewaters	***	***	0.15 and meet 268.48 standard
D009	TC-Mercury	Low Mercury	<260 mg/kg	***	0.20 mg/l TCLP and meet 40 CFR 268.48
D010	TC-Selenium	N/A	***	***	5.7 mg/l TCLP and meet 40 CFR 268.48
D011	TC-Silver	N/A	***	***	0.14 mg/l TCLP and meet 40 CFR 268.48
F001	F001-F005 constituent	Spent Solvent	<6.0 mg/kg	****	6.0 mg/kg
F002	F001-F005 constituent	Spent Solvent	<30 mg/kg	****	30 mg/kg

F003	F001-F005 constituent	Spent Solvent	<160 mg/kg	****	160 mg/kg

LDR REPORT TREATABILITY GROUP DATA SHEET

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
F004	F001-F005 constituent	Spent Solvent	<5.6 mg/kg	****	5.6 mg/kg
F005	F001-F005 constituent	Spent Solvent	<36 mg/kg	****	36 mg/kg
F039	Applicable Metals	N/A	***	***	Applicable Metals
WP01	State Only Constituents	N/A	***	***	N/A
WP02	Persistent, DW	N/A	***	***	N/A
WSC2	Solid Corrosive	N/A	<=2.5 pH	Process Knowledge	Remove Solid Acid Charac.
WT01	Toxic, EHW	N/A	***	***	None (1)
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).

UHCs to be determined on a per-package basis during waste receipt, from characterization activities, or when the waste is sent for treatment.
(1) Mixed extremely hazardous wastes may be land-disposed in Washington State in DOE facilities in accordance with RCW 70.105.050 (2)

**** - F001 - F005 constituents are LDR compliant at the point of generation or treated for the solvent constituent.

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

☒ List: F001-F005 (Tank Farm contacted waste).

☐ 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:

Waste received under the Waste Specification System (WSS) has a high confidence level. Waste received prior to establishment of the WSS has a medium to low confidence level and may require characterization conformation by the waste treater prior to treatment and disposal. If, during the conformation process it is determined that some of the waste does not meet the MLLW-02 waste stream description, then it will be reassigned into the appropriate MLLW waste stream and treated accordingly. The LDR class, wastewater or nonwastewater will be determined per container.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

☒ Yes ☐ No

If yes, provide details: This waste is being commercially treated by Perma-Fix Northwest and DSSI.

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:

Deactivation and/or stabilization are the primary treatment methods for this waste. Currently, there is sufficient commercial treatment capability/capacity available to handle the forecasted waste volumes.

4.4 Treatment schedule information:

Treatment is ongoing for newly generated waste; however, legacy waste currently stored is on hold until funding is allocated to treat the waste based on the overall site cleanup priorities.

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

Milestone Number	Due Date
M-091-00	01/01/2077

4.6 Proposed new Tri-Party Agreement treatment milestones:

None.

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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: To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRU wastes. The volume of mixed waste is reduced by in-drum compaction when possible, and where it does not interfere with future treatment activities. To minimize the generation of mixed waste, generators actively seek nondangerous alternatives for the dangerous constituents in their processes. Minimization goals are set annually and tracked quarterly and waste treatment is used to destroy the hazardous constituents, as allowable.

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

No new petitions identified at this time for this waste stream.

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):

The treated waste is returned back to Hanford for disposal in to the Mixed Waste Disposal Units or ERDF.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(115]: See RCR Comment #122

1.1 Unit/Plant name: CWC **Waste Stream:** Inorganic Non-Debris Solids and Labpacks

Treatabilitiy Group Name: MLLW-02 - Inorganic Non-Debris

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

A WSRd identified in the Treatability Group data sheet Section 1.2.

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 consists of many different inorganic solids including particulates, absorbed liquids, sludges, labpacks, paint waste, salt waste, etc. This waste does not include hazardous debris other than incidental debris material commingled with the non-debris.

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

The waste was generated at many onsite locations/generators and by offsite generators prior to 1995.

1.3.3 Source of the regulated constituents:

Chemical constituents originated from contact with tank waste, laboratory waste, and various processes at the Hanford Site.

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:

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?

The waste packages were received in from many different waste generators and stored at the CWC.

2.1.2 Timeframe when waste was placed to storage?

Waste storage in CWC began in 1988 and continues.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
CWC	1

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.208

Date of inventory values: 12/31/2019

Comments on waste inventory:

Based on the inventory stored at the CWC facility as reported in SWITS.

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): Newly generated waste will be shipped to an offsite treatment facility (TSDF) within a year of generation for treatment and the treated waste will be returned and disposed in to the Hanford's Mixed Waste Disposal Units.

☐ None

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

Year	m^3	and/or	kg
2020	0.210		0.000
2021	0.210		0.000
2022	0.210		0.000
2023	0.210		0.000
2024	0.210		0.000
Total	1.050		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-SEC-GLDR	04/2020

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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	

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.

If characterization information is not sufficient to ensure waste meets the treatment facilities acceptance criteria, further characterization may be necessary

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.

To meet concentration based treatment standards applicable for the treatment residues, sampling and analysis will be required which is performed by the waste trteater.

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

SMCA available online at https://pdw.hanford.gov/document/0069360H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(116]: See RCR Comment #123

1.1 Unit/Plant name: LLBG **Waste Stream:** Inorganic Non-Debris

Treatabilitiy Group Name: MLLW-02 - Inorganic Non-Debris

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

A WSRd identified in the Treatability Group data sheet Section 1.2.

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):

Mixed waste solids, sorbed liquids and soils, subcategory - other solids (non-thermal treatment). This waste does not include hazardous debris other than incidental debris material commingled with the non-debris.

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

The waste was generated at many onsite locations/generators and by offsite generators prior to 1995.

1.3.3 Source of the regulated constituents:

Chemical constituents originated from contact with Tank Waste, laboratory waste, and various processes at the Hanford Site.

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

Analytical data and/or 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):	N/A	

2.1.1 How was the waste managed prior to storage?

This waste ~~is generated~~ from retrieval activities associated with retrieving suspect TRU waste that was placed in LLBGs 4C, 4B, 218-W-3A, and 218-E-12B.

2.1.2 Timeframe when waste was placed to storage?

Varies from 1970 through 1987.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
LLBG	0

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

Inventory will fluctuate do to maintenance being completed LLBGs.

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:

No new mixed waste can be stored in the RSW LLBGs.

2.5 Planned storage areas for this waste:

☒ Current Location ☐ CWC ☐ DST

☒ Other Area(s) (list): Retreived ~~Newly generated~~ waste will be shipped to an offsite treatment facility (TSDF) for treatment and the treated waste will be returned and disposed in to the Hanford's Mixed Waste Disposal Units.

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Document Number	Date
A&E-SEC-02-003	03/27/2002

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	

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:

~~Waste is stored underground and is under a Consent Agreement for storage and eventual removal.~~

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

☐ Yes ☒ No

If yes, explain: ~~Note: The M-91 Consent Agreement is already in place for the storage of this waste in the LLBG.~~

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.

If characterization information is not sufficient to ensure waste meets the treatment facilities acceptance criteria, further characterization may be necessary

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.

To meet concentration based treatment standards applicable for the treatment residues, sampling and analysis will be required which is performed by the waste treater.

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

None. SMCA available online at https://pdw.hanford.gov/document/0069352H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(117]: See RCR Comment #124

1.1 Unit/Plant name: T Plant Complex **Waste Stream:** Inorganic Non-Debris

Treatabilitiy Group Name: MLLW-02 - Inorganic Non-Debris

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

A WSRd identified in the Treatability Group data sheet Section 1.2.

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):

Mixed waste solids, sorbed liquids and soils, subcategory - other solids (non-thermal treatment). This waste does not include hazardous debris other than incidental debris material commingled with the non-debris.

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

The waste was generated at many onsite locations/generators and by offsite generators prior to 1995.

1.3.3 Source of the regulated constituents:

Chemical constituents originated from contact with Tank Waste, laboratory waste, and various processes at the Hanford Site.

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

Analytical data and/or 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):	N/A	

2.1.1 How was the waste managed prior to storage?

Generated and accumulated and packaged at various onsite locations and by offsite generators before transfer/shipment to T Plant and from T Plant maintenance/operational activities.

2.1.2 Timeframe when waste was placed to storage?

1988 to present.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
T Plant Complex	0

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

Inventory will fluctuate due to T Plant's work on dispositioning legacy waste from the CWC, WRAP, and LLBGs.

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): Newly generated waste will be shipped to an offsite treatment facility (TSDF) for treatment within one year of generation and the treated waste will be returned and disposed in to the Hanford's Mixed Waste Disposal Units.

☐ None

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

Year	m^3	and/or	kg
2020	0.210		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.210		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-00-ASLDR	04/2020

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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	

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.

If characterization information is not sufficient to ensure waste meets the treatment facilities acceptance criteria, further characterization may be necessary.

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.

To meet concentration based treatment standards applicable for the treatment residues, sampling and analysis will be required which is performed by the waste treater.

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

None. SMCA available online at https://pdw.hanford.gov/document/0069350H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(118]: See RCR Comment #125

1.1 Treatability Group Name: MLLW-03 - Organic Non-Debris

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

This treatability group is for non-debris waste that contains hazardous constituents that either requires thermal treatment (specified technology) or thermal treatment is BDAT for meeting the applicable LDR treatment standards (concentration-based standards). Stabilization of the thermal treatment residue may also be required. The primary applicable WSRds for this treatability group are: 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 427, 429, 430, 431, 432, 500, 501, 502, 503, 504, 505, 520, 522, 700, 701, 720, 721, 920, 921, 922, and 923. This waste stream consists of many different inorganic and organic solids (e.g., particulates, absorbed liquids, sludges, resins, soils) and labpacks that are contaminated with organic regulated dangerous waste constituents. This waste stream may also include dangerous waste containing PCBs that require thermal destruction. This waste stream does not include hazardous debris other than incidental debris material commingled with the non-debris.

2.0 WASTE INVENTORY AND GENERATION

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

Total volume (cubic meters): 2.208

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

Year	m^3	and/or	kg
2020	0.420		0.000
2021	1.010		0.000
2022	14.310		0.000
2023	18.710		0.000
2024	18.710		0.000
Total	53.160		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):

LDR REPORT TREATABILITY GROUP DATA SHEET

This waste is a general category based on dangerous waste physical and chemical characteristics; therefore, the radiological characteristics vary greatly between individual waste packages. The waste meets low-level-waste requirements as defined by DOE O 435.1. This treatability group is for contact-handled (CH) waste. Greater than Hanford Category 1 (GTC1) waste will normally be radiologically stabilization prior to disposal; however, radiological stabilization may take place in the disposal unit.

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 consists primarily of soils, sludges, particulates, labpacked and bulk non-wastewater liquids. The majority of the waste packages are 55-gal and 85-gal drums, but smaller sized boxes are also utilized. The packages normally also contain absorbent materials, plastic liners and/or small amounts of misc. step-off-pad waste (i.e., debris) materials.

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
D001	Ignitable	Low TOC	***	***	DEACT & meet 40 CFR 268.48
D002	Corrosive	Corrosive Charac.	***	***	DEACT & meet 40 CFR 268.48
D004	TC-Arsenic	N/A	***	***	5.0 mg/l TCLP & meet 40 CFR 268.48
D005	TC-Barium	N/A	***	***	21 mg/l TCLP & meet 40 CFR 268.48
D006	TC-Cadmium	Cadmium Charac.	***	***	0.11 mg/l TCLP & meet 40 CFR 268.48
D007	TC-Chromium	N/A	***	***	0.60 mg/l TCLP & meet 40 CFR 268.48
D008	TC-Lead	Lead Charac.	***	***	0.75 mg/l TCLP & meet 40 CFR 268.48
~~D009~~	~~TC-Mercury~~	~~Low Mercury~~	~~<260 mg/kg~~	~~***~~	~~0.20 mg/l TCLP & meet 40 CFR 268.48~~
D010	TC-Selenium	N/A	***	***	5.7 mg/l TCLP & meet 40 CFR 268.48

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EPA/ State Number	Waste Description	LDR Sub-Category*	Concentration (Typical or Range)**	Basis	LDR Treatment Concentration Standard or Technology Code
D011	TC-Silver	N/A	***	***	0.14 mg/l TCLP & meet 40 CFR 268.48
D012	Endrin	N/A	***	***	0.13 mg/kg & meet 40 CFR 268.48
D016	2,4-D	N/A	***	***	10 mg/kg & meet 40 CFR 268.48
D018	Benzene	N/A	***	***	10 mg/kg & meet 40 CFR 268.48
D019	Carbon Tetrachloride	N/A	***	***	6.0 mg/kg & meet 40 CFR 268.48
D020	Chlordane	N/A	***	***	0.26 mg/kg & meet 40 CFR 268.48
D021	Chlorobenzene	N/A	***	***	6.0 mg/kg & meet 40 CFR 268.48
D022	Chloroform	N/A	***	***	6.0 mg/kg & meet 40 CFR 268.48
D023	o-Cresol	N/A	***	***	5.6 mg/kg & meet 40 CFR 268.48
D024	m-Cresol	N/A	***	***	5.6 and meet 268.48
D025	p-Cresol	N/A	***	***	5.6 and meet 268.48
D026	Cresol	N/A	***	***	11.2 mg/kg & meet 40 CFR 268.48
D027	p-Dichlorobenzene	N/A	***	***	6.0 mg/kg & meet 40 CFR 268.48
D028	1,2-Dichloroethane	N/A	***	***	6.0 mg/kg & meet 40 CFR 268.48
D029	1,1-Dichloroethylene	N/A	***	***	6.0 mg/kg & meet 40 CFR 268.48
D030	2,4-Dinitrotoluene	N/A	***	***	140 mg/kg & meet 40 CFR 268.48
D031	Heptachlor	N/A	***	***	0.066 mg/kg & meet 40 CFR 268.48
D032	Hexachlorobenzene	N/A	***	***	10 and meet 268.48
D033	Hexachlorobutadiene	N/A	***	***	5.6 mg/kg & meet 40 CFR 268.48
D034	Hexachloroethane	N/A	***	***	30 mg/kg & meet 40 CFR 268.48
D035	Methyl Ethyl Ketone	N/A	***	***	36 mg/kg & meet 40 CFR 268.48
D036	Nitrobenzene	N/A	***	***	14 mg/kg & meet 40 CFR 268.48
D037	Pentachlorophenol	N/A	***	***	7.4 mg/kg & meet 40 CFR 268.48
D038	Pyridine	N/A	***	***	16 mg/kg & meet 40 CFR 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	Tetrachloroethylene	N/A	***	***	6.0 mg/kg & meet 40 CFR 268.48
D040	Trichlorethylene	N/A	***	***	6.0 mg/kg & meet 40 CFR 268.48
D041	2,4,5- Trichlorophenol	N/A	***	***	7.4 and meet 268.48
D042	2,4,6- Trichlorophenol	N/A	***	***	7.4 and meet 268.48
D043	Vinyl Chloride	N/A	***	***	6.0 mg/kg & meet 40 CFR 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
F022	Process Waste Tetra-penta- or hexachloro-benzenes	N/A	***	***	Various
P012	Arsenic Trioxide	N/A	***	***	5.0 mg/l
P022	Carbon Disulfide	N/A	***	***	CMBST
P023	Chloreacetaldehyde	N/A	***	***	CMBST
P024	p-Chloroaniline	N/A	***	***	16
P029	Copper Cyanide	N/A	***	***	590 Total/30 Amenable
P030	Cyanide	N/A	***	***	590/30 mg/kg
P098	Potassium Cyanide	N/A	***	***	590 Total/30 Amenable
P102	Propargyl Alcohol	N/A	***	***	CMBST
P106	Sodium Cyanide	N/A	***	***	590 Total/30 Amenable
P113	Thallic oxide	N/A	***	***	RTHRM; OR STABL
P120	Vanadium pentoxide	N/A	***	***	STABL
U001	Acetaldeyde	N/A	***	***	CMBST
U002	Acetone	N/A	***	***	160 mg/kg
U003	Acetonitrile	N/A	***	***	CMBST
U004	Acetophenone	N/A	***	***	9.7 mg/kg
U006	Acteyl Chloride	N/A	***	***	CMBST
U007	Acryl chloride	N/A	***	***	CMBST
U012	Aniline	N/A	***	***	14
U019	Benzene	N/A	***	***	10 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
U025	Bis(2-Chloroethyl)ether	N/A	***	***	6.0 mg/kg
U031	n-Butyl Alcohol	N/A	***	***	2.6 mg/kg
U037	Chlorobenzene	N/A	***	***	6.0
U044	Chloroform	N/A	***	***	6.0 mg/kg
U056	Cyclohexane	N/A	***	***	CMBST
U057	Cyclohexanone	N/A	***	***	CMBST
U063	Dibenz(a,h)anthracene	N/A	***	***	8.2
U080	Methylene Chloride	N/A	***	***	30 mg/kg
U103	Dimethyl Sulfate	N/A	***	***	CMBST
U108	1,4-Dioaxane	N/A	***	***	CMBST
U112	Ethyl Acetate	N/A	***	***	CMBST
U117	Ethyl Ether	N/A	***	***	160 mg/kg
U121	Trichloromonofluoromethane	N/A	***	***	30 mg/kg
U122	Formaldehyde	N/A	***	***	CMBST
U123	Formic Acid	N/A	***	***	CMBST
U133	Hydrazine	N/A	***	***	CMBST
U134	Hydrogen Fluoride	N/A	***	***	NEUTR
U144	Lead Acetate	N/A	***	***	0.37 mg/kg
U154	Methanol	N/A	***	***	CMBST
U159	Methyl Ethyl Ketone	N/A	***	***	36 mg/kg
U160	Methyl Ethyl Ketone Peroxide	N/A	***	***	CMBST
U161	Methyl Isobutyl Ketone	N/A	***	***	33 mg/kg
U162	Methyl Methacrylate	N/A	***	***	160 mg/kg
U165	Naphthalene	N/A	***	***	5.6 mg/kg
U169	Nitrobenzene	N/A	***	***	14 mg/kg
U170	p-Nitropropane	N/A	***	***	29 mg/kg
U187	Phenacetin	N/A	***	***	16 mg/kg
U188	Phenol	N/A	***	***	6.2 mg/kg
U189	Phosphorus Sulfide	N/A	***	***	CMBST
U196	Pyridine	N/A	***	***	16 mg/kg
U201	Resorcinol	N/A	***	***	CMBST
U203	Safrole	N/A	***	***	22 mg/kg
U204	Selenium dioxide	N/A	***	***	5.7 mg/l TCLP

U210	Tetrachloroetylene	N/A	***	***	6.0 mg/kg

LDR REPORT TREATABILITY GROUP DATA SHEET

EPA/		Concentration	LDR Treatment Concentration

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
U211	Carbon Tetrachloride	N/A	***	***	6.0 mg/kg
U213	Tetrahydrofuran	N/A	***	***	CMBST
U218	Thioacetamide	N/A	***	***	CMBST
U218	Thioacetamide	N/A	***	***	CMBST
U220	Toluene	N/A	***	***	10 mg/kg
U226	1,1,1-Trichloroethane	N/A	***	***	6.0 mg/kg
U228	Trichloroethylene	N/A	***	***	6.0 mg/kg
U239	Xylenes	N/A	***	***	30 mg/kg
U353	p-Toluidine	N/A	***	***	CMBST
U359	2-Ethoxyethanol	N/A	***	***	CMBST
WP01	Persistent, EHW	N/A	***	***	None (1)
WP02	Persistent, DW	N/A	***	***	N/A
WP03	Polycyclic Aromatic Hydrocarbons	N/A	***	***	STATE EHW
WSC2	Solid Corrosive	N/A	***	***	Remove Solid Acid Charac.
WT01	Toxic, EHW	N/A	***	***	None(1)
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).

UHCs to be determined on a per-package basis during waste receipt, from characterization activities, or when waste is sent for treatment, unless waste package is a lab pack eligible for the alternative treatment standards in 40 CFR 268.42.

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 of the F001-F005 designated waste may meet LDR treatment standards with out the need for further treatment. This may include soils from the various Tank Farm facilities, and some pump-and-treat filter media.

☐ 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 newly generated waste packages associated with this treatability group are characterized by the generator and packaged for offsite shipment to a commercial waste treater. Legacy waste packages that have been in storage prior to 1995 undergo record information reviews, and are updated if required to meet current shipment and treatment facility acceptance requirements. Once the waste is received at the waste treaters facility, they perform conformation sampling to determine if the waste meets the treatment facilities waste profile that has been established for the waste package/stream. The liquids in this treatability group are primarily non-wastewater, and any applicable UHCs are identified by the generator and communicated to the waste treater by means of the LDR notification.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

☒ Yes ☐ No

If yes, provide details: This waste is being commercially treated by Perma-Fix DSSI.

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:

This waste is being commercially treated by Perma-Fix DSSI. Currently, there is sufficient capability/capacity to treat the stored and forecasted waste volumes.

4.4 Treatment schedule information:

LDR REPORT TREATABILITY GROUP DATA SHEET

Treatment is ongoing for newly generated waste~~; however, legacy waste currently stored is on hold until funding is allocated to treat the waste based on the overall site cleanup priorities~~.

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

Milestone Number	Due Date
M-091-00	01/01/2077

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 identified at this time.

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):

The treated waste is returned to Hanford for disposal in to the Mixed Waste Disposal Units or ERDF.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(119]: See RCR Comment #126

1.1 Unit/Plant name: CWC **Waste Stream:** Organic Non-Debris

Treatabilitiy Group Name: MLLW-03 - Organic Non-Debris

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

A WSRd identified in the Treatability Group data sheet Section 1.2.

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 consists of many different inorganic and organic solids (e.g., particulates, absorbed liquids, sludges, soils, labpacks, etc.) and could contain PCBs. This waste does not include hazardous debris other than incidental debris material commingled with the non-debris.

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

The waste was generated at many onsite locations/generators and by offsite generators prior to 1995.

1.3.3 Source of the regulated constituents:

Chemical constituents originated from contact with Tank Waste, laboratory waste, and various processes at the Hanford Site.

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:

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

2.1.1 How was the waste managed prior to storage?

The waste packages were received in from many different waste generators and stored at the CWC.

2.1.2 Timeframe when waste was placed to storage?

Waste storage in CWC began in 1988 and continues

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
CWC	4

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 1.168

Date of inventory values: 12/31/2019

Comments on waste inventory:

Waste will require repackaging to meet DOT shipping requirements.

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): Newly generated waste will be shipped to an offsite treatment facility (TSDF) for treatment and the treated waste will be returned and disposed in to the Hanford's Mixed Waste Disposal Units.

☐ None

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

Year	m^3	and/or	kg
2020	0.210		0.000
2021	0.210		0.000
2022	0.210		0.000
2023	0.210		0.000
2024	0.210		0.000
Total	1.050		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-SEC-GLDR	04/2020

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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	

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.

If characterization information is not sufficient to ensure waste meets the treatment facilities acceptance criteria, further characterization may be necessary.

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.

To meet concentration based treatment standards applicable for the treatment residues, sampling and analysis will be required which is performed by the waste treater.

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

SMCA available online at https://pdw.hanford.gov/document/0069360H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(120]: See RCR Comment #119

1.1 Unit/Plant name: LAB **Waste Stream:** Spent Chemical/Reagents

Treatabilitiy Group Name: MLLW-03 - Organic Non-Debris

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):

Spent chemicals/reagents/radioisotopes (liquid lab pack).

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

WTP Lab waste generated from analytical methods validation.

1.3.3 Source of the regulated constituents:

Reagent materials (such as solvents and standards) may contain regulated constituents and trace quantities of radioactive isotopic standards.

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

Process knowledge, Vendor data and safety data sheet.

1.3.5 Additional notes:

Waste has yet to be generated. When generated, the waste will be stored in a SAA or CAA, and transferred to others for repackaging, shipment, and disposal.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

2.1.1 How was the waste managed prior to storage?

2.1.2 Timeframe when waste was placed to storage?

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks

N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters):

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

If yes, what is the total estimated storage capacity?

When is this capacity expected to be reached?

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
2020	0.000		0.000
2021	0.800		0.000
2022	1.000		0.000
2023	1.000		0.000
2024	1.000		0.000
Total	3.800		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: N/A: Storage method compliance assessment not required for this location-specific waste stream because it only includes wastes from a CAA.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☐ No ☒ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

The TSD requirement for characterization is unknown at this time.

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.

The TSD requirement for characterization is unknown at this time.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Waste has yet to be generated. When generated, the waste will be stored in a SAA or CAA, and transferred to others for volume reduction, repackaging, shipment, and disposal.

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

1) Segregation of LLW from mixed waste
2) Minimize the use of regulated products
3) Encourage the use of non-regulated products
4) Minimize the volume of regulated chemicals used.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

Waste has yet to be generated. Estimate based on lab packs limited to 15 gallons of liquid per 55-gallon drum. Waste volume reduction, repackaging, treatment and disposal to be performed by others as directed by DOE ORP.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(121]: See RCR Comment #97

1.1 Unit/Plant name: LAW Facility **Waste Stream:** LVP Sulfur Impregnated Carbon Absorbent Media

Treatabilitiy Group Name: MLLW-03 - Organic Non-Debris

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):

Spent LAW facility secondary offgas/vessel vent process system (LVP) sulfur impregnated carbon media (granular form).

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

Waste is generated by the LVP carbon adsorber.

1.3.3 Source of the regulated constituents:

DST waste (particularly mercury, iodine-129 and halides), potential byproducts of combustion (trace semi-volatile compounds).

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

Process knowledge.

1.3.5 Additional notes:

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

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

☐ Tank ☐ DST ☐ SST

☒ Other (explain): N/A

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed 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):

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

If yes, what is the total estimated storage capacity?

When is this capacity expected to be reached?

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

☐ Current Location ☐ CWC ☐ DST

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

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	13.100		0.000
2023	17.500		0.000
2024	17.500		0.000
Total	48.100		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☐ No ☒ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

The TSD requirement for characterization is unknown at this time.

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.

The TSD requirement for characterization is unknown at this time.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

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

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

N/A

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

Waste has yet to be generated. Assumed to be solid, drummed waste. Waste volume reduction, repackaging, shipment, treatment and disposal will be performed by others as directed by DOE-ORP.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(122]: See RCR Comment #127

1.1 Unit/Plant name: LLBG **Waste Stream:** MLLW Retrieval Organic Non-Debris

Treatabilitiy Group Name: MLLW-03 - Organic Non-Debris

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

A WSRd identified in the Treatability Group data sheet Section 1.2.

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 waste consists of many different inorganic and organic solids (e.g., particulates, absorbed liquids, sludges, resins and soils). This waste does not include hazardous debris other than incidental debris material commingled with non-debris.

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

The waste was generated at many onsite locations/generators and by offsite generators prior to 1995.

1.3.3 Source of the regulated constituents:

Chemical constituents originated from contact with Tank Waste, laboratory waste, and various processes at the Hanford Site.

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

Process knowledge (Retrievably Stored Waste "RSW").

1.3.5 Additional notes:

Per TPA Milestone M-91-40, all RSW is to be managed as mixed waste until shown to not being mixed; therefore, any LLW dropouts from the suspect TRU/TRUM RSW will be managed as MLLW.

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): Stored pursuant to M-091 TPA milestones in LLBGs 4C, 4B, 3A and 12B.

2.1.1 How was the waste managed prior to storage?

This waste ~~is generated~~ from retrieval activities associated with retrieving suspect TRU waste that was placed in LLBGs 4C, 4B, 218-W-3A, and 218-E-12B.

2.1.2 Timeframe when waste was placed to storage?

Varies from 1970 through 1987.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
LLBG	0

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

All of the RSW currently in the LLBG is being managed as suspect TRUM. MLLW is be generated as "dropouts" from non-destructive assaying (NDA) of the suspect TRUM. Inventory is based on that listed in SWITS.

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:

No new mixed waste can be stored in the RSW LLBGs.

2.5 Planned storage areas for this waste:

☒ Current Location ☒ CWC ☐ DST

☒ Other Area(s) (list): The MLLW dropouts will be shipped directly to treatment facilities located mostly off the Hanford Site.

Retrieved ~~Newly generated~~ waste will be shipped to an offsite treatment facility (TSDF) for treatment and the treated waste will be returned and disposed in to the Hanford's Mixed Waste Disposal Units.

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-SEC-02-003	03/27/2002

☐ 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	

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:

Waste is stored underground and is under a Consent Agreement for storage and eventual removal.

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

☐ Yes ☒ No

If yes, explain: Note: The M-91 Consent Agreement is already in place for the storage of this waste in the LLBG.

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.

If information is not sufficient to ensure waste meets CWC acceptance criteria, further characterization may be necessary.

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.

If characterization information is not sufficient to ensure waste meets the treatment facilities acceptance criteria, further characterization may be necessary

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 treatment residues, sampling and analysis will be required which is performed by the waste treater.

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

None. SMCA available online at https://pdw.hanford.gov/document/0069352H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (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
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(123]: See RCR Comment #128

1.1 Unit/Plant name: T Plant Complex **Waste Stream:** Organic Non-Debris

Treatabilitiy Group Name: MLLW-03 - Organic Non-Debris

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

A WSRd identified in the Treatability Group data sheet Section 1.2.

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 consists of many different inorganic and organic solids (e.g., particulates, absorbed liquids, sludges, soils, labpacks, etc.) and could contain PCBs. This waste does not include hazardous debris other than incidental debris material commingled with the non-debris.

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

The waste was generated at many onsite locations/generators and by offsite generators prior to 1995.

1.3.3 Source of the regulated constituents:

Chemical constituents originated from contact with Tank Waste, laboratory waste, and various processes at the Hanford Site.

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:

None.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

2.1.1 How was the waste managed prior to storage?

Generated and accumulated and packaged at various onsite locations and by offsite generators before transfer/shipment to T Plant and from T Plant maintenance/operational activities.

2.1.2 Timeframe when waste was placed to storage?

1988 to present.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
T Plant	5

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 1.040

Date of inventory values: 12/31/2019

Comments on waste inventory:

Inventory is based on that listed in SWITS.

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): Newly generated waste will be shipped to an offsite treatment facility (TSDF) for treatment within one year of generation and the treated waste will be returned and disposed in to the Hanford's Mixed Waste Disposal Units.

☐ None

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

Year	m^3	and/or	kg
2020	0.210		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.210		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-00-ASLDR	04/2020

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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	

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.

If characterization information is not sufficient to ensure waste meets the treatment facilities acceptance criteria, further characterization may be necessary

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.

To meet concentration based treatment standards applicable for the treatment residues, sampling and analysis will be required which is performed by the waste treater.

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

None. SMCA available online at https://pdw.hanford.gov/document/0069350H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(124]: See RCR Comment #129

1.1 Treatability Group Name: MLLW-04 - Hazardous Debris

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

This treatability group is for waste that meets the definition of hazardous debris as defined in 40 CFR 268.2(g). The physical characteristics include paper, plastic, wood, rubber, rags, and lesser quantities of metallic and inorganic waste components. The primary WSRds that comprise this treatability group are DBR, 627, and 647.

This waste may include organic/carbonaceous (O/C) waste constituents in excess of 10% as defined in WAC 173-303-040 and WAC 173-303-140(3)(c) (e.g., plastic, paper, wood, rubber, etc). The associated State Only O/C LDR (ref: WAC 173-303-140(4)(d)) does not apply to Hanford generated MLLW O/C debris based on the certification obtained under WAC 173-303-140(4)(d)(iii).

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): 16.953

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

Year	m^3	and/or	kg
2020	0.730		0.000
2021	0.730		0.000
2022	299.230		0.000
2023	399.230		0.000
2024	399.230		0.000
Total	1,099.150		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):

This waste is a general category based on dangerous waste physical and chemical characteristics; therefore, the radiological characteristics vary greatly between individual waste packages. The waste meets low-level-waste requirements as defined by DOE O 435.1. This treatability group is for Contact Handled (CH) waste. Greater than Hanford Category 1 (GTC1) waste will normally be radiologically stabilized prior to disposal; however, radiological stabilization may also take place in the disposal unit.

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 consists of debris materials including metal, concrete, plastic, wood, paper, etc., all non-wastewater forms. The majority of the waste packages are 55-gal and 85-gal drums, but various sized boxes are also utilized. The packages normally also contain absorbent materials and plastic liners.

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
D004	TC-Arsenic	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D005	TC-Barium	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D006	Cadmium	Radioactively contaminated cadmium containing batt	***	***	Macroencapsulation in accordance with 40 CFR 268.45
D006	TC- Cadmium	Cadmium Charac.	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D007	TC-Chromium	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D008	Radioactive Lead Solids	Radioactive Lead Solids	<50 vol% per package basis	***	Macroencapsulation
D008	TC-Lead	Lead Charac.	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)

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
~~D009~~	~~Mercury~~	~~Radioactively contaminated mercury containing batt~~	~~***~~	~~***~~	~~Macroencapsulation in accordance with 40 CFR 268.45~~
D009	TC-Mercury	Low Mercury	<260 mg/kg Hg	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D010	TC-Selenium	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D011	Silver	Radioactively	***	***	Macroencapsulation in accordance with 40 CFR 268.45
D011	TC-Silver	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D012	Endrin	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D013	Lindane	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D014	Methoxychlor	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D015	Toxaphene	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D016	2,4-D	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D017	2,4,5-TP (Silvex)	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D018	Benzene	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D019	Carbon Tetrachloride	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D020	Chlordane	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D021	Chlorobenzene	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D022	Chloroform	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)

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
D023	o-Cresol	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D024	m-Cresol	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D025	p-Cresol	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D026	Cresol	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D027	p-Dichlorobenzene	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D028	1,2-Dichlorbenzene	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D029	1,1-Dichloroethylene	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D030	2,4-Dinitrotoluene	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D031	Heptachlor	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D032	Hexachlorobenzene	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D033	Hexachlorobutadiene	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D034	Hexachloroethane	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D035	Methyl Ethyl Ketone	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D036	Nitrobenzene	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D037	Pentachlorophenol	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D038	Pyridine	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)

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	Tetrachloroethylene	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D040	Trichloroethylene	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D041	2,4,5-Trichlorophenol	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D042	2,4,6-Trichlorophenol	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
D043	Vinyl Chloride	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
F001	1,1,1-Trichlorethane	Spent Solvent	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
F002	Methylene Chloride	Spent Solvent	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
F003	Acetone & Hexone	Spent Solvent	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
F004	o-Cresol & p-Cresol	Spent Solvent	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
F005	Methyl Ethyl Ketone	Spent Solvent	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
F039	Various	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
P029	Copper Cyanide	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
P030	Cyanides	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
P098	Potassium Cyanide	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
P102	Propargyl Alcohol	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
P106	Sodium Cyanide	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)

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
P120	Vanadium Pentoxide	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
U002	Acetone	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
U006	Acetyl Chloride	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
U031	n-Butyl Alcohol	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
U043	Vinyl Chloride	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
U057	Cyclohexanone	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
U080	Methylene Chloride	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
U108	1,4-Dioxane	N/A	***	***	CMBST or 170
U123	Formic Acid	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
U133	Hydrazine	N/A	***	***	CHOXD; CHRED; or CMBST
U151	Mercury	Low Mercury	<260 mg/kg Hg	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
U154	Methanol	N/A	***	***	CMBST or 0.75 mg/l TCLP
U159	Methyl Ethyl Ketone	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
U161	Methyl Isobutyl Ketone	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
U162	Methyl methacrylate	N/A	***	***	160
U196	Pyridine	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
U210	Tetrachloroethylene	N/A	***	***	6.0
U220	Toluene	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)

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
U226	1,1,1-Trichloroethane	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
U239	Xylenes	N/A	***	***	Alternative Stds. for Haz. Debris (40 CFR 268.45)
WP01	Persistent, EHW	N/A	***	***	None (1)
WP02	Persistent, DW	N/A	***	***	N/A
WSC2	Solid Corrosive	N/A	***	***	Remove Solid Acid Charac.
WT01	Toxic, EHW	N/A	***	***	None (1)
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).

(2) The combination of waste codes varies on a per-package basis in accordance with WAC 173-303-070(3) and (5).

UHC identification not required when using the alternative treatment standards for hazardous 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).

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:

The newly generated waste packages associated with this treatability group are characterized by the generator and packaged for offsite shipment to a commercial waste treater. Legacy waste packages that have been in storage prior to 1995 undergo record information reviews, and are updated as required to meet current shipment and treatment facility acceptance requirements. Once the waste is received at the waste treaters facility, they perform confirmation inspections to determine if the waste meets the treatment facilities waste profile that has been established for the waste package/stream.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

☒ Yes ☐ No

If yes, provide details: This waste is being commercially treated by Perma-Fix Northwest. Currently, there is sufficient capability/capacity to treat the stored and forecasted waste volumes.

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 treatment method being used to treat this treatability group is primarily macroencapsulation per 40 CFR 268.45. The waste is mainly being sent offsite to Perma-Fix Northwest. Currently, there is sufficient non-thermal treatment capability/capacity to treat the stored and forecasted waste volumes. There is insufficient thermal treatment capability/capacity to treat organic/carbonaceous debris for which Hanford has an inapplicability certification from Ecology.

4.4 Treatment schedule information:

Treatment is ongoing for newly generated waste; however, legacy waste currently stored is on hold until funding is allocated to treat the waste based on the overall site cleanup priorities.

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

Milestone Number	Due Date
M-091-00	01/01/2077

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: To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRU wastes. The volume of mixed waste is reduced by in-drum compaction when possible, and where it does not interfere with future treatment activities. To minimize the generation of mixed waste, generators actively seek nondangerous alternatives for the dangerous constituents in their processes. Minimization goals are set annually and tracked quarterly, and waste treatment is used to destroy the hazardous constituents, as allowable.

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

None identified at this time.

4.9 Key Assumptions:

Commercial thermal treatment capacity is not sufficient to change the status of the LDR 1,609 kilometer (1,000 mile) inapplicability certification.

5.0 WASTE STREAM DISPOSAL

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

The treated waste is returned to Hanford for disposal in to the Mixed Waste Disposal Units or ERDF.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(125]: See RCR Comment #130

1.1 Unit/Plant name: CWC **Waste Stream:** Hazardous Debris

Treatabilitiy Group Name: MLLW-04 - Hazardous Debris

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

A WSRd identified in the Treatability Group data sheet Section 1.2.

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 waste consists of hazardous debris.

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

The waste was generated at many onsite locations/generators and by offsite generators prior to 1995.

1.3.3 Source of the regulated constituents:

Waste is debris contaminated with hazardous materials such as F, P, and U listed constituents, RCRA metals and low concentration of organics.

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:

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?

The waste packages were received in from many different waste generators and stored at the CWC.

2.1.2 Timeframe when waste was placed to storage?

Waste storage in CWC began in 1988 and continues.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
CWC	70

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 16.953

Date of inventory values: 12/31/2019

Comments on waste inventory:

Current stored inventory at the CWC as reported by the SWITS database.

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): Newly generated waste will be shipped to an offsite treatment facility (TSDF) for treatment and the treated waste will be returned and disposed in to the Hanford's Mixed Waste Disposal Units.

☐ None

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

Year	m^3	and/or	kg
2020	0.100		0.000
2021	0.100		0.000
2022	0.100		0.000
2023	0.100		0.000
2024	0.100		0.000
Total	0.500		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-SEC-02-001	01/10/2002

☐ 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	

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:

None. SMCA available online at https://pdw.hanford.gov/document/0069360H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(126]: See RCR Comment #98

1.1 Unit/Plant name: Effluent Management Facility **Waste Stream:** Contaminated PPE

Treatabilitiy Group Name: MLLW-04 - Hazardous Debris

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):

Compactible debris including PPE, rags, swipes, etc. This waste is projected to be generated in the future (refer to Section 2.6).

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

Waste generated from the routine operation and maintenance of the Effluent Management Facility (EMF).

1.3.3 Source of the regulated constituents:

Miscellaneous compactible debris (solid waste) contaminated with trace amounts of inorganics, possible organics, and radionuclides.

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

Process knowledge.

1.3.5 Additional notes:

Waste has yet to be generated. When generated, the waste will be stored in a SAA or CAA, and transferred to others for volume reduction, repackaging, shipment, treatment and disposal.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

☐ Tank ☐ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

2.1.2 Timeframe when waste was placed to storage?

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):

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

If yes, what is the total estimated storage capacity?

When is this capacity expected to be reached?

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
2020	0.000		0.000
2021	0.000		0.000
2022	12.300		0.000
2023	16.400		0.000
2024	16.400		0.000
Total	45.100		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☒ Other. Explain: N/A: Storage method compliance assessment not required for this location-specific waste stream because it only includes wastes from a CAA.

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Waste has yet to be generated. When generated, the waste will be stored in a SAA or CAA, and transferred to others for volume reduction, repackaging, shipment, treatment and disposal.

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

1) Segregation of LLW from mixed waste
2) Minimize the use of regulated products
3) Encourage the use of non-regulated products
4) Minimize the use of regulated products

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

Waste has yet to be generated. Assumed to be solid, drummed waste. The volume forecasted represents contaminated PPE and consumables associated with the hot commissioning, maintenance, and operation of the EMF. Waste volume reduction, repackaging, shipment, treatment and disposal will be performed by others as directed by DOE-ORP.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(127]: See RCR Comment #99

1.1 Unit/Plant name: Effluent Management Facility **Waste Stream:** Miscellaneous Debris

Treatabilitiy Group Name: MLLW-04 - Hazardous Debris

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):

EMF miscellaneous metal parts and spent/replaced equipment; pumps, valves, and other metal debris, Isolok needles, and parts.

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

Facility parts/equipment replaced as part of routine maintenance.

1.3.3 Source of the regulated constituents:

DST waste.

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

Process knowledge and analytical data.

1.3.5 Additional notes:

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

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed 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):

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

If yes, what is the total estimated storage capacity?

When is this capacity expected to be reached?

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

☐ Current Location ☐ CWC ☐ DST

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

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	6.600		0.000
2023	8.900		0.000
2024	8.900		0.000
Total	24.400		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

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

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

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

Segregation of LLW from mixed waste.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(128]: See RCR Comment #100

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

Treatabilitiy Group Name: MLLW-04 - Hazardous Debris

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):

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

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

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

1.3.3 Source of the regulated constituents:

DST waste.

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

Process knowledge and analytical data.

1.3.5 Additional notes:

Waste has yet to be generated. When generated, the waste will be stored in a SAA or CAA, and transferred to others for volume reduction, repackaging, shipment, and disposal.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

2.1.1 How was the waste managed prior to storage?

2.1.2 Timeframe when waste was placed to storage?

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):

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

If yes, what is the total estimated storage capacity?

When is this capacity expected to be reached?

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
2020	0.000		0.000
2021	0.000		0.000
2022	0.200		0.000
2023	0.300		0.000
2024	0.300		0.000
Total	0.800		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☒ Other. Explain: N/A: Storage method compliance assessment not required for this location-specific waste stream because it only includes wastes from a CAA.

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Waste has yet to be generated. When generated, the waste will be stored in a SAA or CAA, and transferred to others for volume reduction, repackaging, shipment, and disposal.

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

N/A

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

Waste has yet to be generated. Waste is a solid, drummed waste. Waste volume reduction, repackaging, treatment and disposal to be performed by others as directed by DOE ORP.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(129]: See RCR Comment #101

1.1 Unit/Plant name: LAW Facility **Waste Stream:** LMP Melter Consumables

Treatabilitiy Group Name: MLLW-04 - Hazardous Debris

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):

LAW melter process system (LMP) melter consumables; melter glass, pool level detectors, film cooler spray nozzles, differential pressure indicators probes, thermocouple melter refractory (packaged together).

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

Melter consumables generated from the operation of the LAW melter(s).

1.3.3 Source of the regulated constituents:

DST waste.

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

Process knowledge and analytical data.

1.3.5 Additional notes:

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

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed to storage?

N/A

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks	
B-320		LAW Facility/ LMP Melter Consumables

N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters):

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

If yes, what is the total estimated storage capacity?

When is this capacity expected to be reached?

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

☐ Current Location ☐ CWC ☐ DST

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

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	5.000		0.000
2023	7.000		0.000
2024	7.000		0.000
Total	19.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

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

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

Segregation of LLW from mixed waste.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

Waste has yet to be generated. Waste is assumed to be packaged in a 12'x4.5'x4.25' box. Waste volume reduction, repackaging, treatment and disposal to be performed by others as directed by DOE ORP.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(130]: See RCR Comment #102

1.1 Unit/Plant name: LAW Facility **Waste Stream:** LMP Melter Pool Bubblers/Thermowells

Treatabilitiy Group Name: MLLW-04 - Hazardous Debris

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):

LAW melter process system (LMP) melter bubblers and thermowells (long length debris).

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

Melter consumables generated from the operation of LAW melter(s).

1.3.3 Source of the regulated constituents:

DST waste.

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

Process knowledge and analytical data.

1.3.5 Additional notes:

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

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed 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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters):

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

If yes, what is the total estimated storage capacity?

When is this capacity expected to be reached?

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

☐ Current Location ☐ CWC ☐ DST

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

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	87.000		0.000
2023	116.000		0.000
2024	116.000		0.000
Total	319.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

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

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

Segregation of LLW from mixed waste.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

Waste has yet to be generated. Waste is assumed to be packaged in a 6'x4'x4' box. Waste volume reduction, repackaging, shipment, and disposal to be performed by others as directed by DOE.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(131]: See RCR Comment #103

1.1 Unit/Plant name: LAW Facility **Waste Stream:** LVP HEPA Filters

Treatabilitiy Group Name: MLLW-04 - Hazardous Debris

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):

LAW Facility spent radial-flow HEPA filters from the LAW secondary offgas/vessel vent process system (LVP) offgas abatement equipment.

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

Vitrification offgas.

1.3.3 Source of the regulated constituents:

DST waste.

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

Process knowledge.

1.3.5 Additional notes:

Waste has yet to be generated. When generated, the waste will be stored in a CAA, and transferred to other for volume reduction, repackaging, shipment, and disposal.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

2.1.1 How was the waste managed prior to storage?

2.1.2 Timeframe when waste was placed to storage?

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks

N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters):

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

If yes, what is the total estimated storage capacity?

When is this capacity expected to be reached?

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
2020	0.000		0.000
2021	0.000		0.000
2022	5.200		0.000
2023	6.900		0.000
2024	6.900		0.000
Total	19.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: N/A: Storage method compliance assessment not required for this location-specific waste stream because it only includes wastes from a CAA.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Waste has yet to be generated. When generated, the waste will be stored in a CAA, and transferred to other for volume reduction, repackaging, shipment, and disposal.

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

N/A

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

Waste has yet to be generated. Waste is a solid, drummed waste. Waste volume reduction, repackaging, shipment, and disposal to be performed by others as directed by DOE-ORP.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(132]: See RCR Comment #104

1.1 Unit/Plant name: LAW Facility **Waste Stream:** LVP Selective Catalytic Reduction Media

Treatabilitiy Group Name: MLLW-04 - Hazardous Debris

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 is spent selective catalytic reduction media (such as BASF NOxCat VNX SCR Catalyst, or the equivalent) used in the LAW facility. The spent media is a catalyst (ceramic module assembly) used in the LAW facility secondary offgas/vessel vent process system (LVP) for NOx removal.

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

Vitrification offgas.

1.3.3 Source of the regulated constituents:

DST waste.

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

Process knowledge.

1.3.5 Additional notes:

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

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

☐ Tank ☐ DST ☐ SST

☒ Other (explain): N/A

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed 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):

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

If yes, what is the total estimated storage capacity?

When is this capacity expected to be reached?

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

☐ Current Location ☐ CWC ☐ DST

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

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	1.100		0.000
2023	1.500		0.000
2024	1.500		0.000
Total	4.100		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

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

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

Segregation of LLW from mixed waste.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

Waste has yet to be generated. Assumed to be solid, over-sized waste, stored in a 6'x4'x4' box. Waste volume reduction, repackaging, shipment, treatment and disposal will be performed by others as directed by DOE-ORP.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(133]: See RCR Comment #105

1.1 Unit/Plant name: LAW Facility **Waste Stream:** LVP Thermal Catalytic Oxidizer Media

Treatabilitiy Group Name: MLLW-04 - Hazardous Debris

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 is spent thermal catalytic oxidizer media (such as BASF VOCat 300S catalyst, or the equivalent) used in the LAW facility. The spent media is a catalyst (ceramic honeycomb module) used in the LAW facility secondary offgas/vessel vent process system (LVP) for the destruction of organics.

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

Vitrification offgas.

1.3.3 Source of the regulated constituents:

DST waste.

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

Process knowledge.

1.3.5 Additional notes:

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

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

☐ Tank ☐ DST ☐ SST

☒ Other (explain): N/A

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed 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):

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

If yes, what is the total estimated storage capacity?

When is this capacity expected to be reached?

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

☐ Current Location ☐ CWC ☐ DST

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

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	1.100		0.000
2023	1.500		0.000
2024	1.500		0.000
Total	4.100		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

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

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

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

Segregation of LLW from mixed waste.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

Waste has yet to be generated. Assumed to be solid, over-sized waste, stored in a 6'x4'x4' box. Waste volume reduction, repackaging, shipment, treatment and disposal will be performed by others as directed by DOE-ORP.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(134]: See RCR Comment #106

1.1 Unit/Plant name: LAW Facility **Waste Stream:** Miscellaneous Metal Parts

Treatabilitiy Group Name: MLLW-04 - Hazardous Debris

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):

LAW Facility miscellaneous metal parts; jumpers, pumps, valves, and other metal debris, Isolock needles and parts.

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

Facility parts/equipment replaced as part of routine maintenance.

1.3.3 Source of the regulated constituents:

DST waste.

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

Process knowledge and analytical data.

1.3.5 Additional notes:

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

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed to storage?

N/A

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks	
B-340		LAW Facility/ Miscellaneous Metal Parts

N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters):

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

If yes, what is the total estimated storage capacity?

When is this capacity expected to be reached?

Bases and assumptions used:

N/A

2.5 Planned storage areas for this waste:

☐ Current Location ☐ CWC ☐ DST

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

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	12.000		0.000
2023	16.000		0.000
2024	16.000		0.000
Total	44.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

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

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

Segregation of LLW from mixed waste.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(135]: See RCR Comment #107

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

Treatabilitiy Group Name: MLLW-04 - Hazardous Debris

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):

Miscellaneous consumables and PPE associated with daily operation of the WTP (wipes, disposable tools, PPE, step off pad waste)

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

Waste generated from routine operation and maintenance of WTP facilities.

1.3.3 Source of the regulated constituents:

Treatment of DST waste, resulting in compactible waste contaminated with trace amounts of inorganics, possible organics, and radionuclides.

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

Process knowledge.

1.3.5 Additional notes:

Waste has yet to be generated. When generated, the waste will be stored in a SAA or CAA, and transferred to others for volume reduction, repackaging, shipment, and disposal.

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

☐ Tank ☐ DST ☐ SST

☐ Other (explain):

2.1.1 How was the waste managed prior to storage?

2.1.2 Timeframe when waste was placed to storage?

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):

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

If yes, what is the total estimated storage capacity?

When is this capacity expected to be reached?

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
2020	0.000		0.000
2021	0.000		0.000
2022	168.000		0.000
2023	224.000		0.000
2024	224.000		0.000
Total	616.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☒ Other. Explain: N/A: Storage method compliance assessment not required for this location-specific waste stream because it only includes wastes from a CAA.

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Waste is a solid, compactible material in 55-gallon drums. 3 drums/day is the assumed rate of waste generation.

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):

1) Segregation of LLW from mixed waste
2) Minimize the use of regulated products
3) Encourage the use of non-regulated products
4) Minimize the use of regulated products

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

Waste has yet to be generated. Assumed to be solid, compactible, drummed waste (3 drums/day). The volume forecasted represents contaminated PPE and consumables associated with the hot commissioning, maintenance, and operation of the WTP LAW facility, Lab, and EMF. Waste volume reduction, repackaging, shipment, treatment and disposal will be performed by others as directed by DOE-ORP.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(136]: See RCR Comment #131

1.1 Unit/Plant name: LLBG **Waste Stream:** MLLW Retrieval Hazardous Debris

Treatabilitiy Group Name: MLLW-04 - Hazardous Debris

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

A WSRd identified in the Treatability Group data sheet Section 1.2.

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 waste consists of MLLW debris (including TSCA PCB regulated MLLW debris) that drops out from the retrieval of suspect TRUM retrievably stored waste from LLBGs 4C, 4B, 218-W-3A and 218-E-12B. Additionally, miscellaneous secondary MLLW debris is generated from the removal of the Retrievably Stored Waste (RSW) which includes plywood, tarps, and PPE that have become contaminated from being in contact with breached RSW TRUM waste packages.

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

This MLLW ~~is generated~~ ("drops out") from the assaying (aka: NDA) of suspect TRUM waste that is being retrieved from the 4C, 4B, 218-W-3A and 218-E-12B LLBGs. Some newly generated MLLW debris is generated from retrieving the RSW, and from maintenance activities associated with the Mixed Waste Disposal Units (i.e., LLBG 218W5, Trenches 31 and 34).

1.3.3 Source of the regulated constituents:

Hazardous materials could potentially be commingled with suspect-TRUM waste. Hazardous constituents when placed in retrievable storage ~~were not regulated at the time of disposal but~~ are expected to be present based on acceptable knowledge waste determinations.

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

Acceptable knowledge (AK) waste determinations.

1.3.5 Additional notes:

Per TPA Milestone M-91-40, all RSW is to be managed as mixed waste until shown to not being mixed; therefore, any LLW dropouts from the suspect TRU/TRUM RSW will be managed as MLLW.

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): Stored pursuant to M-091 TPA milestones in LLBGs 4C, 4B, 3A and 12B.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.1 How was the waste managed prior to storage?

This waste ~~is generated~~ from retrieval activities associated with retrieving suspect TRU waste that was placed in LLBGs 4C, 4B, 218-W-3A, and 218-E-12B.

2.1.2 Timeframe when waste was placed to storage?

Varies from 1970 through 1987.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
LLBG	0

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

All of the RSW currently in the LLBG is being managed as suspect TRUM. MLLW is be generated as "dropouts" from non-destructive assaying (NDA) of the suspect TRUM.

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:

No new mixed waste can be stored in the RSW LLBGs.

2.5 Planned storage areas for this waste:

☒ Current Location ☒ CWC ☐ DST

☒ Other Area(s) (list): The MLLW dropouts will be shipped directly to treatment facilities located mostly off the Hanford Site.

Retrievably stored wastes and ~~N~~newly generated waste will be shipped to an offsite treatment facility (TSDF) for treatment within one year of being retrieved or being being generated for non-retrieval waste and the treated waste will be returned and disposed in in to the Hanford's Mixed Waste Disposal Units.

☐ None

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Year	m^3	and/or	kg
2020	0.210		0.000
2021	0.210		0.000
2022	0.210		0.000
2023	0.210		0.000
2024	0.210		0.000
Total	1.050		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-SEC-02-003	03/27/2002

☐ 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	

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:

Waste is stored underground and is under a Consent Agreement for storage and eventual removal.

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

☐ Yes ☒ No

If yes, explain: Note: The M-91 Consent Agreement is already in place for the storage of this waste in the LLBG.

2.11 Characterization

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

☒ Yes ☐ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If yes or unknown, comment on characterization for storage.

As part of waste generation and transferring the MLLW to storage, further characterization could be necessary.

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.

If information is not sufficient to ensure waste meets the treatment facilities acceptance criteria, further characterization may be necessary.

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. SMCA available online https://pdw.hanford.gov/document/0069352H

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(137]: See RCR Comment #132

1.1 Unit/Plant name: T Plant Complex **Waste Stream:** Hazardous Debris

Treatabilitiy Group Name: MLLW-04 - Hazardous Debris

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

A WSRd identified in the Treatability Group data sheet Section 1.2.

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):

Hazardous debris generated as a result of 221-T Canyon cleanout, maintenance, and operational activities. In addition, this waste is generated from various onsite and offsite generators in which their waste is sent to the T Plant Complex for waste verification/storage/treatment.

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

Waste generated as part of cleanup activities, maintenance, operations, and from various onsite locations and offsite generators. See discussion in Section 1.3.1.

1.3.3 Source of the regulated constituents:

Waste is debris contaminated with hazardous materials such as F, P, and U listed constituents, RCRA metals and low concentration of organics.

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:

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?

Generated and accumulated and packaged at various onsite locations and by offsite generators before transfer/shipment to T Plant and from T Plant maintenance/operational activities.

2.1.2 Timeframe when waste was placed to storage?

1988 to present.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
T Plant Complex	0

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

Current inventory at T-Plant as reported by the SWITS data system. This inventory will fluctuate based on waste disposition activities that T-Plant performs on legacy waste from CWC, WRAP and the LLBGs.

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): Newly generated waste will be shipped to an offsite treatment facility (TSDF) for treatment within a year of generation and the treated waste will be returned and disposed in to the Hanford's Mixed Waste Disposal Units.

☐ None

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

Year	m^3	and/or	kg
2020	0.210		0.000
2021	0.210		0.000
2022	0.210		0.000
2023	0.210		0.000
2024	0.210		0.000
Total	1.050		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-00-ASLDR	04/2020

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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	

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. SMCA available online at https://pdw.hanford.gov/document/0069350H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(138]: See RCR Comment #133

1.1 Unit/Plant name: WRAP **Waste Stream:** Hazardous Debris

Treatabilitiy Group Name: MLLW-04 - Hazardous Debris

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

A WSRd identified in the Treatability Group data sheet Section 1.2.

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 waste consists of hazardous debris.

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

The waste was generated at many onsite locations/generators and by offsite generators prior to 1995.

1.3.3 Source of the regulated constituents:

Waste is debris contaminated with hazardous materials such as F, P, and U listed constituents, RCRA metals and low concentration of organics.

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

Process knowledge.

1.3.5 Additional notes:

Waste at WRAP comes from various generators and generating processes around the Hanford Site due to WRAP's verification and repackaging mission.

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?

Generated and accumulated and packaged at various onsite locations and by offsite generators before transfer/shipment to WRAP, and from WRAP maintenance/operational activities.

2.1.2 Timeframe when waste was placed to storage?

MLLW at WRAP is both MLLW dating back to the late 80's as well as newly generated MLLW.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
WRAP	0

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

The inventory in WRAP fluctuates based on waste disposition activities that WRAP performs. The current inventory is as reported in the SWITS data system.

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): Newly generated waste will be shipped to an offsite treatment facility (TSDF) for treatment within a year of generation and the treated waste will be returned and disposed in to the Hanford's Mixed Waste Disposal Units.

☐ None

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

Year	m^3	and/or	kg
2020	0.210		0.000
2021	0.210		0.000
2022	0.210		0.000
2023	0.210		0.000
2024	0.210		0.000
Total	1.050		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-DWR-LDR	04/2020

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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	

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. SMCA available online.

3.0 WASTE MINIMIZATION

Has a waste minimization assessment been completed for this stream?

3.1 ☐ 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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

Waste minimization schedule

3.3

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

N/A

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(139]: See RCR Comment #134

1.1 Treatability Group Name: MLLW-07 - RH and Large Container

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

This treatability group consists of the following waste types: (1) Large containers of MLLW (large containers for MLLW are defined as greater than 10m3 in size, (2) RH- MLLW packages (RH-MLLW is defined as waste packages that have an external surface dose rate of greater than 200mR/hr on contact), and (3) RH-MLLW that is shielded down to contact handling levels for safe handling and storage (shielding can be internal, external, and/or integral to the waste container). The primary WSRds that comprise this treatability group are DBL, HRW, 450, 550, and 650. The waste is generated by many onsite generating organizations.

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): 4.218

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	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):

This waste is a general category based on dangerous waste physical and chemical characteristics; therefore, the radiological characteristics vary greatly between individual waste packages. The waste meets low-level-waste requirements as defined by DOE O 435.1. This treatability group is for CH waste that is in packages greater than 10m3 in volume and/or RH waste in all sizes of waste packages. Some of the RH waste has various types of shielding (e.g., lead, concrete, steel, rubber, etc) to reduce the exposure to ALARA. Greater than Hanford Category 1 (GTC1) waste will normally be radiologically stabilization prior to disposal; however, radiological

stabilization may take place in the disposal unit.

LDR REPORT TREATABILITY GROUP DATA SHEET

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 is a very diverse treatability group from a physical waste form perspective.

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
D001	Ignitable	Ingnitable charac.	***	***	DEACT & meet 40 CFR 268.48
D002	Corrosive	Corrosiv charac.	***	***	DEACT & meet 40 CFR 268.48
D005	Barium Characteristic	N/A	***	***	21 mg/l tclp and meet 268.48 standards
D006	TC-Cadmium	Cadmium charac	***	***	0.11 mg/l TCLP & meet 40 CFR 268.48
D007	TC-Chromium	N/A	***	***	0.60 mg/l TCLP & meet 40 CFR 268.48
D008	TC-Lead	Lead charac.	***	***	0.75 mg/l TCLP & meet 40 CFR 268.48
D011	TC-Silver	N/A	***	***	0.14 mg/l TCLP & meet 40 CFR 268.48
D026	Cresols(Total)	N/A	***	***	11.2 and meet 268.48 standards
D035	Methyl Ethyl Ketone	N/A	***	***	36 and meet 268.48 standards
F001	1,1,1-Trichlorethane	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

WT01	Toxic, EHW	N/A	***	***	NONE (1)

LDR REPORT TREATABILITY GROUP DATA SHEET

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
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).

UHCs to be determined on a per package basis during waste "up-grading" and/or when the waste is sent for treatment.

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:

The newly generated waste packages associated with this treatability group are characterized by the generator and packaged for offsite shipment to a commercial waste treater. Legacy waste packages that have been in storage prior to 1995 undergo record information reviews, and are updated in required to meet current shipment and treatment facility acceptance requirements. Once the waste is received at the waste treaters facility, they perform conformation inspections to determine if the waste meets the treatment facilities waste profile that has been established for the waste package/stream.

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: The majority of the legacy inventory of this waste stream has been shipped offsite to commercial treatment facilities (e.g., Perma-Fix). Treatment of the remaining legacy waste and any newly generated waste will continue.

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 for this waste stream will be performed by immobilization technology onsite and by commercial treatment contract. Immobilization technology will include macroencapsulation in accordance with 40 CFR 268.42 and alternative treatment for hazardous debris in accordance with 40 CFR 268.45.

4.4 Treatment schedule information:

Treatment is ongoing for newly generated waste. ~~; however, I~~Legacy waste currently illegally stored ~~is on hold until funding is allocated to~~will be treated ~~the waste based on the overall site cleanup priorities~~ in accordance with TPA Milestone M-091-52-T04 and any updates to this milestone.

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

Milestone Number	Due Date
M-091-~~00~~52-T04	~~01/01/2077~~09/30/2026

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: When feasible and/or practical, decontamination and segregation will be performed on this waste to reduce the ultimate disposal volumes.

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

One or more site-specific LDR treatment variance will be required to disposition different sub-populations of this waste stream.

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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):

The treated waste is returned to Hanford for disposal in to the Mixed Waste Disposal Units or ERDF.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(140)]: See RCR Comment #135

1.1 Unit/Plant name: CWC **Waste Stream:** MLLW-07

Treatabilitiy Group Name: MLLW-07 - RH and Large Container

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

A WSRd identified in the Treatability Group data sheet Section 1.2.

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 is from various sources, however, the primary waste type is heterogeneous debris from the SST/DST Systems operations. Waste also includes pre-FFCA waste from the Navy.

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

The waste was generated at many onsite locations/generators and by offsite generators prior to 1995.

1.3.3 Source of the regulated constituents:

Chemical constituents originated from contact with Tank Waste, laboratory waste, and various processes at the Hanford Site.

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

Analytical data and/or process knowledge.

1.3.5 Additional notes:

Waste is may be shielded to meet contact handled dose limits for CWC.

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 packages were received in from many different waste generators and stored at the CWC.

2.1.2 Timeframe when waste was placed to storage?

Waste storage in CWC began in 1988 and continues.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks

CWC	16

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LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 3.898

Date of inventory values: 12/31/2019

Comments on waste inventory:

Based on the stored inventory at the CWC as reported by the SWITS data system.

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): Newly generated waste will be shipped to an offsite treatment facility (TSDF) for treatment within one year of generation and the treated waste will be returned and disposed in to the Hanford's Mixed Waste Disposal Units.

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	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-02-001	01/10/2002

☐ 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	

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.

If characterization information is not sufficient to ensure waste meets the treatment facilities acceptance criteria, further characterization may be necessary

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 treatment residues, sampling and analysis will be required which is performed by the waste trteater.

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

None. SMCA is available online at https://pdw.hanford.gov/document/0069360H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(141)]: See RCR Comment #136

1.1 Unit/Plant name: LLBG **Waste Stream:** MLLW-07

Treatabilitiy Group Name: MLLW-07 - RH and Large Container

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

A WSRd identified in the Treatability Group data sheet Section 1.2.

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 waste consists of MLLW debris (including TSCA PCB regulated MLLW debris) in large packages and/or is remote handled (RH) that drops out from the retrieval of suspect TRUM retrievably stored waste from LLBGs 4C, 4B, 218-W-3A and 218-E-12B. Additionally, miscellaneous secondary MLLW debris is generated from the removal of the Retrievably Stored Waste (RSW) which includes plywood, tarps, and PPE that have become contaminated from being in contact with breached RSW TRUM waste packages.

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

This MLLW ~~is generated~~ ("drops out") from the assaying (aka: NDA) of suspect TRUM waste that is being retrieved from the 4C, 4B, 218-W-3A and 218-E-12B LLBGs. Some newly generated MLLW debris is generated from retrieving the RSW.

1.3.3 Source of the regulated constituents:

Hazardous materials could potentially be commingled with suspect-TRUM waste. Hazardous constituents when placed in retrievable storage ~~were not regulated at the time of disposal but~~ are expected to be present based on acceptable knowledge waste determinations.

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

Acceptable knowledge (AK) waste determinations.

1.3.5 Additional notes:

Per TPA Milestone M-91-40, all RSW is to be managed as mixed waste until shown to not being mixed; therefore, any LLW dropouts from the suspect TRU/TRUM RSW will be managed as MLLW.

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): Stored pursuant to M-091 TPA milestones in LLBGs 4C, 4B, 3A and 12B.

2.1.1 How was the waste managed prior to storage?

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

This waste ~~is generated~~ from retrieval activities associated with retrieving suspect TRU waste that was placed in LLBGs 4C, 4B, 218-W-3A, and 218-E-12B.

2.1.2 Timeframe when waste was placed to storage?

Varies from 1970 through 1987.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
LLBG	0

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

All of the RSW currently in the LLBG is being managed as suspect TRUM. Large container and/or RH MLLW may be generated from retrieval of the RSW from the 4C, 4B, 218-W-3A and 218-E-12B LLBGs.

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:

No new mixed waste can be stored in the RSW LLBGs.

2.5 Planned storage areas for this waste:

☒ Current Location ☒ CWC ☐ DST

☒ Other Area(s) (list): The MLLW dropouts will be shipped directly to treatment facilities located mostly off the Hanford Site.

Retrieved~~Newly generated~~ waste will be shipped to an offsite treatment facility (TSDF) for treatment and the treated waste will be returned and disposed in the Hanford's Mixed Waste Disposal Units.

☐ None

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-SEC-02-003	03/27/2002

☐ 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	

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:

Waste is stored underground and is under a Consent Agreement for storage and eventual removal.

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

☐ Yes ☒ No

If yes, explain: Note: The M-91 Consent Agreement is already in place for the storage of this waste in the LLBG.

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.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

If characterization information is not sufficient to ensure waste meets the treatment facilities acceptance criteria, further characterization may be necessary

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 treatment residues, sampling and analysis will be required which is performed by the waste trteater.

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

None. SMCA is available online at https://pdw.hanford.gov/document/0069352H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (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
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(142]: See RCR Comment #137

1.1 Unit/Plant name: T Plant Complex **Waste Stream:** RH and Large Container

Treatabilitiy Group Name: MLLW-07 - RH and Large Container

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

A WSRd identified in the Treatability Group data sheet Section 1.2.

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):

RH-MLLW sample returns packaged in labpack form.

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

The waste was generated at many onsite locations/generators and by offsite generators prior to 1995.

1.3.3 Source of the regulated constituents:

Chemical constituents originated from contact with Tank Waste, laboratory waste, and various processes at the Hanford Site.

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:

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?

Generated and accumulated and packaged at various onsite locations and by offsite generators before transfer/shipment to T Plant and from T Plant maintenance/operational activities.

2.1.2 Timeframe when waste was placed to storage?

1988 through current.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks

T Plant Complex	1

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.320

Date of inventory values: 12/31/2019

Comments on waste inventory:

The current stored waste package is RH-MLLW and it contains liquids. This package does not meet DOT and requires repackaging before it can be shipped to treatment. Based on the stored inventory at T-Plant as reported by the SWITS data system.

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): Newly generated waste will be shipped to an offsite treatment facility (TSDF) for treatment within one year of generation and the treated waste will be returned and disposed in to the Hanford's Mixed Waste Disposal Units.

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-00-ASS-072	11/14/2000

☐ Assessment has been scheduled. Scheduled date:

☐ Other. Explain:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

N/A

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

☐ Yes ☐ No ☒ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for treatment.

If characterization information is not sufficient to ensure waste meets the treatment facilities acceptance criteria, further characterization may be necessary

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 treatment residues, sampling and analysis will be required which is performed by the waste trteater.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

None. SMCA is available online at https://pdw.hanford.gov/document/0069350H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(143]: See RCR Comment #72

1.1 Unit/Plant name: WRPS Tank Closure **Waste Stream:** RH and Large Container

Treatabilitiy Group Name: MLLW-07 - RH and Large Container

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):

Maintenance related waste from future tank farm closure activities

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

No history since this waste stream is anticipated to be generated ~~tank farm closure activities are~~ in ~~the~~ future tank farm closure activities.

1.3.3 Source of the regulated constituents:

Tank Waste

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

1.3.5 Additional notes:

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 from WRPS Tank Closure that has not yet been generated.

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

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

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

Bases and assumptions used:

2.5 Planned storage areas for this waste:

☐ Current Location ☐ CWC ☐ DST

☒ Other Area(s) (list): This will depend on the types of waste generated during tank closure activities. Liquid wastes may be transferred to the DSTs or containers. Solids may be stored in containers or managed in central accumulation areas.

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: Tank closure negotiations are ongoing. Storage compliance assessment needs will be addressed as part of the waste planning process associated with closure.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

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:

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 minimization will be included as part of the tank closure waste planning process.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 kg

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

This waste stream has not yet been generated.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(144]: See RCR Comment #85

1.1 Treatability Group Name: PUREX Plant

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

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.

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): 1.000

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological Characteristics

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

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

☐ Contact-handled ☒ Remote-handled

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

The waste was generated during replacement of a vessel and renovation of the E-Cell floor. Concrete debris was placed in a metal box that is now stored in F-Cell. The chemical processing performed in E Cell was primarily treatment of disolved fuel cladding waste. Based on the Pu content and the radiological characteristics of the waste (emits approximately 500 rad/hr), it is categorized as remote-handled TRU. The confidence level is 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:

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
D007	Chromium	N/A	~1000 ppm	Analytical results	DEBRIS MACRO

* 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:

Based on laboratory analysis.

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:

PUREX Plant is one of ~~five~~ four canyons agreed to by the Tri-Parties to be addressed by the Canyon Disposition Initiative under CERCLA. Until a final decision is made under CERCLA in accordance with the Canyon Disposition Initiative, no commitments will be made for waste disposal.

4.4 Treatment schedule information:

Schedule will be established after final decision is made under CERCLA in accordance with the Tri-Parties' agreement on application of the Canyon Disposition Initiative for PUREX.

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

Milestone Number	Due Date
M-085-00	01/01/2077

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.

Unknown.

LDR REPORT TREATABILITY GROUP DATA SHEET

4.9 Key Assumptions:

Decommissioning of the PUREX Plant is addressed under Chapter 8 of the Tri-Party Agreement. The PUREX Plant is under long-term surveillance and maintenance in accordance with Section 8.0, Facility Disposition Process, of the Tri-Party Agreement Action Plan.

5.0 WASTE STREAM DISPOSAL

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

A decision on the Canyon Disposition Initiative will affect the final disposition of the PUREX Plant and its contents.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(145]: See RCR Comment #86

1.1 Unit/Plant name: PUREX Plant **Waste Stream:** PUREX Containment Building

Treatabilitiy Group Name: PUREX Plant

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):

Concrete rubble from the E-Cell canyon floor was placed in a metal box during the floor renovation.

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

Waste was generated from renovation of the E-Cell floor.

1.3.3 Source of the regulated constituents:

Process solutions spilled to the E-Cell canyon floor..

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

Analytical data.

1.3.5 Additional notes:

Waste was generated in September, 1989.

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): PUREX Containment Building.

2.1.1 How was the waste managed prior to storage?

It was placed into this storage configuration upon being generated.

2.1.2 Timeframe when waste was placed to storage?

Waste was generated in September 1989.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
202A/ F-Cell	1 box

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: 12/31/2019

Comments on waste inventory:

Waste is located in a single metal box on the F-Cell Canyon Floor.

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
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☐ Assessment has been completed.

Document Number	Date

☐ Assessment has been scheduled. Scheduled date:

☒ Other. Explain: No assessment is required because the facility is being managed under TPA Section 8.0.

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

Milestone Number	Due Date
N/A	**LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET**

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.

N/A

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

☐ Yes ☒ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for disposal.

N/A

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

The waste was generated during replacement of a vessel and renovation of the E-Cell floor. Concrete debris was placed in a metal box that is now stored in F-Cell. The chemical processing performed in E Cell was primarily treatment of disolved fuel cladding waste. Based on the Pu content and the radiological characteristics of the waste (emits approximately 500 rad/hr), it is categorized as remote-handled TRU. The confidence level is high. No additional waste will be stored at this location. PUREX is under long term surveillance and maintenance under Section 8 of the TPA.

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 - no longer generated.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(146]: See RCR Comment #87

1.1 Treatability Group Name: PUREX Storage Tunnels

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

Varies from very large equipment vessels with lead counterweights to very fine mixed waste powder in canisters. Waste receipt into the TSD unit began in 1960. The TSD unit waste inventory list is contained in the Hanford Facility RCRA Permit, PUREX Closure Group 25, Chapter 3.0, Waste Analysis Plan. Waste is expected to contain a combination of transuranic (TRU) and transuranic mixed (TRUM) waste.

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): 2,800.000

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	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):

Varies from medium (~1 rad/hr) to very high(>1000 rad/hr).

3.2 Physical Form

3.2.1 Physical form of the waste:

☐ Solid ☐ Liquid ☐ Semi-solid ☐ Debris

☒ Other (Describe in comments.)

3.2.2 Comments on physical form:

LDR REPORT TREATABILITY GROUP DATA SHEET

There are a number of items in the tunnels with different types of waste, but the large failed stainless steel and iron vessels and equipment constitute the bulk of the waste. All the waste is solid except for some mercury in the disolver thermowells and possibly some liquid heels in the vessels.

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
D001	Oxidizer	Low TOC	**	Process knowledge	Deact 40 CFR 268.48 ***
D005	Barium	Barium	100-1000 ppm **	Analytical/ Process knowledge	21 mg/l TCLP & Deact 40 CFR 268.48 ***
D006	Cadmium	Cadmium	**	Analytical/ Process knowledge	0.11 mg/l TCLP & Deact 40 CFR 268.48 ***
D007	Chromium	Chromium	5-1000 ppm **	Analytical/ proccess knowledge	0.60 mg/l TCLP & Deact 40 CFR 268.48 ***
D008	lead	Rad lead solids	**	Process knowledge	MACRO
D009	Mercury	High Hg Inorganic	**	Process knowledge	RMERC
D010	Selenium	Selenium	**	Process knowledge	5.7 mg/l TCLP & Deact 40 CFR 268.48 ***
D011	Silver	Silver	5-1000 ppm **	Process knowledge	0.14 mg/l TCLP & Deact 40 CFR 268.48 ***
WT02	Toxic (mineral oil)		**	Process knowledge	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.

*** UHCs must be determined for the waste in Tunnels 1 and 2 unless managed as hazardous debris. DOE expects most of the waste to be managed as hazardous 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:

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:

Confidence varies depending on waste item. Contaminants vary with different containers/equipment. (Not all of the waste would have all waste codes). D001 nitrate residue is generally from nitric acid. The Cd, Pb and Hg are largely present as pure materials and maybe separated and recycled when the waste is dispositioned.

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 from the PUREX Storage Tunnels will be dispositioned in the same manner and location as the PUREX Plant. A decision on the CDI will affect the final disposition of the PUREX Plant and its contents, including the contents of the PUREX Storage Tunnels.

4.4 Treatment schedule information:

Waste will be dispositioned on a schedule consistent with the PUREX Plant treatability group.

LDR REPORT TREATABILITY GROUP DATA SHEET

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

Milestone Number	Due Date
M-085-00	01/01/2077

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.

4.9 Key Assumptions:

Closure of the PUREX Storage Tunnels will be coordinated with disposition of the PUREX Plant.

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 from the PUREX Storage Tunnels will be dispositioned in the same manner and location as the PUREX Plant. A decision on the Canyon Disposition Initiative will affect the final disposition of the PUREX Plant and its contents, including the contents of the PUREX Storage Tunnels.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(147]: See Comment #88

1.1 Unit/Plant name: PUREX Storage Tunnels **Waste Stream:** Tunnels 1 and 2

Treatabilitiy Group Name: PUREX Storage Tunnels

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):

Railcars with failed pieces of processing equipment are in the tunnels. Material varies from very large equipment vessels with lead counterweights to very fine mixed waste powder in canisters from B-Cell in the 324 Building.

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

The bulk of the waste is failed equipment from the PUREX Plant. The equipment was removed from its operating position in the canyon using the bridge crane and set onto a railcar prepared for the "burial". The railcar was then pushed into the tunnel. However, waste from other Hanford Facility locations, including 324 research and development laboratory, has been placed in the tunnels because it is so highly radioactive.

1.3.3 Source of the regulated constituents:

The bulk of the waste is failed equipment from the PUREX Plant. However, waste from other Hanford Facility locations, including 324 research and development laboratory, has been placed in the tunnels.

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:

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): On rail cars in underground tunnel; permit issued as a final status miscellaneous TSD unit.

2.1.1 How was the waste managed prior to storage?

The equipment pieces in the PUREX Plant canyon failed and were moved to the tunnel. The waste from the 324 Building was removed from B-Cell and sent to waste storage.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed to storage?

June 1960 to June 1996.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
Purex tunnel #1	8 rail cars
Purex tunnel #2	28 rail cars

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 2,800.000

Date of inventory values: 12/31/2019

Comments on waste inventory:

Volume is estimated.

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
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Document Number	Date
A&E-SEC-01-016	10/19/2001

☐ 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	

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:

Waste in the tunnels mainly came from the PUREX Plant canyon. The waste from the tunnels will be handled at the same time and in the same manner as the mixed waste in the PUREX Plant treatability group and will be handled during final disposition of the PUREX canyon. SMCA available online at https://pdw.hanford.gov/document/0069372H.

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 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

No waste is expected to be generated. However, the PUREX StorageTunnels do remain active as a final status TSD unit and might receive additional waste in the future.

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LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(148]: See RCR Comment #73

1.1 Treatability Group Name: SST Waste

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

Basic aqueous slurry with layers of saltcake and/or sludge. Sludge is defined as solids (i.e., hydrous metal oxides) precipitated from the neutralization of acid wastes. Saltcake is defined as the various salts formed from the evaporation of water.

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): 108,000.000

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological Characteristics

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

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

☐ Contact-handled ☒ Remote-handled

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

The SST system waste contains radionuclides including the following: 3H, 14C, 59Ni, 60Co, 63Ni, 79Se, 90Sr, 90Y, 93Zr, 93mNb, 99Tc, 106Ru, 113mCd, 125Sb, 126Sn, 129I, 134Cs, 137Cs, 137mBa, 151Sm, 152Eu, 154Eu, 155Eu, 226Ra, 227Ac, 228Ra, 229Th, 231Pa, 232Th, 232U, 233U, 234U, 235U, 236U, 237Np, 238Pu, 238U, 239Pu, 240Pu, 241Am, 241Pu, 242Cm, 242Pu, 243Am, 243Cm, 244Cm.
As a whole, the SST wastes are managed as remote-handled, high level waste. However, some tanks may contain potential TRU mixed waste, pending a waste determination.

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 are water and sodium salts of aluminate, nitrate, nitrite, phosphate, hydroxide, carbonate, and sulfate. Some calcium and potassium salts are also present. Chemically complexed waste in the SSTs 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.

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	(4)	(4)	DEACT (2); RORGS; COMBST
D002	Corosivity	(1)	(4)	(4)	HLVIT
D003	Reactivity	Reactive Cyanides	(4)	(4)	590/30 mg/kg
D004	Arsenic	(1)	(4)	(4)	HLVIT
D005	Barium	(1)	(4)	(4)	HLVIT
D006	Cadmium	(1)	(4)	(4)	HLVIT
D007	Chromium	(1)	(4)	(4)	HLVIT
D008	Lead	(1)	(4)	(4)	HLVIT
D009	Mercury	(1)	(4)	(4)	HLVIT
D010	Selenium	(1)	(4)	(4)	HLVIT
D011	Silver	(1)	(4)	(4)	HLVIT
D018	Benzene	N/A	(4)	(4)	10 mg/kg (2)
D019	Carbon Tetrachloride	N/A	(4)	(4)	6.0 mg/kg (2)
D022	Chloroform	N/A	(4)	(4)	6.0 mg/kg (2)
D028	1,2-Dichloroethane	N/A	(4)	(4)	6.0 mg/kg (2)

D029	1,1-Dichloroethylene	N/A	(4)	(4)	6.0 mg/kg (2)

LDR REPORT TREATABILITY GROUP DATA SHEET

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
D030	2,4-Dinitrotoluene	N/A	(4)	(4)	140 mg/kg (2)
D033	Hexachlorobutadiene	N/A	(4)	(4)	5.6 mg/kg (2)
D034	Hexachloroethane	N/A	(4)	(4)	30 mg/kg (2)
D035	Methyl Ethyl Ketone	N/A	(4)	(4)	36 mg/kg (2)
D036	Nitrobenzene	N/A	(4)	(4)	14 mg/kg (2)
D038	Pyridine	N/A	(4)	(4)	16 mg/kg (2)
D039	Tetrachloroethylene	N/A	(4)	(4)	6.0 mg/kg (2)
D040	Trichloroethylene	N/A	(4)	(4)	6.0 mg/kg (2)
D041	2,4,5-Trichlorophenol	N/A	(4)	(4)	7.4 mg/kg (2)
D043	Vinyl Chloride	N/A	(4)	(4)	6.0 mg/kg (2)
F001	1,1,1-Trichloroethane	Spent Solvent	(4)	(4)	6.0 mg/kg
F002	Methylene Chloride	Spent Solvent	(4)	(4)	30 mg/kg
F003	Acetone	Spent Solvent	(4)	(4)	160 mg/kg
F003	Methyl Isobutyl Ketone	Spent Solvent	(4)	(4)	33 mg/kg
F004	Cresols	Spent Solvent	(4)	(4)	5.6 mg/kg (o, m, &p); 11.2 mg/kg (mixed)
F005	Methyl Ethyl Ketone	Spent Solvent	(4)	(4)	36 mg/kg
WP01	Persistent wastes, Extremely hazardous wastes	N/A	(4)	(4)	NONE (3)
WP02	Persistent Dangerous wastes	N/A	(4)	(4)	N/A
WT01	Toxic Dangerous Wastes, Extremely Hazardous Wastes	N/A	(4)	(4)	NONE (3)
WT02	Toxic Dangerous Wastes, Dangerous Wastes	N/A	(4)	(4)	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) See 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:

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:

The wastes in the SSTs continues to be sampled, analyzed, and characterized. Waste was sent to the SST System prior to the enactment of LDR requirements, so pertinent LDR requirements were not documented. When SST System waste is transferred to the DST System, known LDR requirements are documented on profile sheets based on the Part A, Permit Application for the SST System. Small amounts of PCBs have been detected in some SSTs. Per the Framework Agreement for Management of Polychlorinated Biphenyls (PCBs) in Hanford Tank Waste (August 2000) between DOE, Ecology , and the EPA, the SSTs are not considered to be subject to TSCA at this time.

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:

LDR REPORT TREATABILITY GROUP DATA SHEET

Wastes in the SST System will undergo retrieval, treatment, and will be sent to disposal through the DST System unless determined to be TRU. LDR treatment required for waste disposal will be performed external to the SST and DST systems. The LDR treatment required may include pretreatment, and vitrification, which will destroy or extract organic and cyanide constituents to below treatment standards, neutralize or deactivate dangerous waste, and immobilize toxic metals.

4.4 Treatment schedule information:

The SST Waste will be transferred to the DST System and eventually be treated and disposed of as DST waste per TPA milestones.

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

Milestone Number	Due Date
M-062-00	12/31/2047

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 generation will be minimized to the extent practical during the retrieval process via the use of available supernate from other tanks as the motivating medium as opposed to the addition of excess water.
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.
In addition, tank waste will be blended when possible to maximize glass loading, and minimize the amount of waste (glass logs) generated at the vitrification facility.

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:

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):

In accordance with current plans, after transfer to the DST System and subsequent treatment as DST waste, the low-activity waste fraction will be disposed onsite in a retrievable form. The vitrified HLW fraction will be stored onsite until a permanent repository is available to receive wastes for disposal.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(149]: See RCR Comment #74

1.1 Unit/Plant name: SST System **Waste Stream:** SST System

Treatabilitiy Group Name: SST 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 SST System waste consists of process effluents from nuclear mateials processing. This waste is mostly sludge and saltcake waste. The 244-AR Vault contains neutralized current acid waste, sludge, and contaminated water. The 244-CR Vault contains neutralized uranium recovery waste, PUREX acidified sludge, and contaminated water. The IMUSTs and SST ancillary equipment contain mixed wastes from operational processes.

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

This waste was generated as a byproduct of processing spent nuclear fuel, and from a variety of analytical, decladding, and separation processes.

1.3.3 Source of the regulated constituents:

Hazardous constituents in the SST are from maintenance, retrieval and operation of the SST as well as historical waste transfers into the SST system. These currently may include chemical products, or DST supernatant used for retrieval. Historically the SST may have received laboratory waste, R&D work and treated and recovered waste.

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

Process knowledge, and Tank Waste Information System (TWINS), Best Basis Inventory

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?

Wastes were managed at the specific contributing operating facilities.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed to storage?

From 1945 to 1980.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
241-A	6 Tanks
241-AX	4 Tanks
241-B	16 Tanks
241-BX	12 Tanks
241-BY	12 Tanks
241-C	16 Tanks
241-S	12 Tanks
241-SX	15 Tanks
241-T	16 Tanks
241-TX	18 Tanks
241-TY	6 Tanks
241-U	16 Tanks
244-AR	4 Tanks
244-CR	4 Tanks
SST system	Diversion Boxes & Catch Tanks
SST system	Valve Pits
DCRTs	4 Tanks

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 108,000.000

Date of inventory values: 12/31/2019

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 volume measurements at any given time may differ from the reported values due to factors such as instrumentation errors, uneven surfaces, and calculation rounding errors. Minimal water additions occur and can increase waste volumes. Retrievals reduce SST waste volumes. All other volume changes due to Best Basis Inventory updates.

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A-01-EMD-TF-08	06/29/2001

☐ 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	

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:

Releases from the SST system are discussed ~~in the full report every 5 years.~~ in Section 3.3 of this LDR Report. Several reports have been published that document releases from the SST system and can be made available upon request.

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

☐ Yes ☒ No

If yes, explain: N/A

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.

Waste will be characterized per the waste acceptance criteria of the receiving treatment 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.

It is anticipated that further information will be needed for disposal. Awaiting waste acceptance criteria for the disposal location or a waste determination for potential TRU waste. In addition, characterization is performed at each SST after the conclusion of retrieval efforts per TPA, Appendix I. This information will be used to determine risk to human health and the environment from SST residuals that might be left in a closed tank.

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

Waste will be sampled and characterized per applicable Data Quality Objectives. As a whole, the SST wastes are managed as remote-handled, high level waste. However, some tanks may contain potential TRU mixed waste, pending a waste determination.

DOE Storage Method Compliance Assessment link:
A-01-EMD-TF-08: https://pdw.hanford.gov/document/AR-03514
A-01-OPD-TANKFARM-011: https://pdw.hanford.gov/document/AR-03515 A-02-EMD-TF-02: https://pdw.hanford.gov/document/AR-03517
RPP-ENV-LDR-2003-01: https://pdw.hanford.gov/document/AR-03521

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.0 WASTE MINIMIZATION

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

☐ Yes ☒ No

If yes, provide date assessment conducted: N/A

If yes, provide document number or other identification:

N/A

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

N/A

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

N/A

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	140.00		0.00
2021	400.00		0.00
2022	1,300.00		0.00
2023	1,100.00		0.00
2024	1,700.00		0.00
Total	4,640.00		0.00

3.3.3 Bases and assumptions used in above estimates:

The SST waste volume reduction were provided by the WRPS engineering group.

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(150]: See RCR Comment #138

1.1 Treatability Group Name: TRUM - CH Large Container

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

TRUM waste is from various generating activities around the Hanford Site. The waste contains metals including steel shielding, plastic/polyurethane, wood, paper/cardboard, glass, filters, soil, miscellaneous/unknown/other, rags, lead and lead shielding, Plexiglas, Styrofoam, asbestos, rubber, glass, sorbents/kitty litter, cement and concrete. Package size includes any CH TRUM waste that is not in a small container (as described in "TRUM-CH Small Container").

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): 4,846.510

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

Year	m^3	and/or	kg
2020	116.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	37.000		0.000
2024	37.000		0.000
Total	190.000		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):

Each container of waste has more than 100 nCi/g of transuranic radionuclide activity. The waste as packaged is considered contact handled (i.e., less than or equal to 200 mrem/hr on the outside of the package surface), however, the dose rate of some waste inside the package may exceed 200 mrem/hr.

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 in boxes typically contains metal debris as the primary physical form. The metal will need to be cut into smaller pieces to fit in a container acceptable to the WIPP. Most of the waste is TRUM contaminated metals which are also contaminated with di-n-octyl phthalate.

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
D001	Ignitable Charac.	N/A	***	***	Remove characteristic (1)
D002	Corrosive Charac.	N/A	***	***	Remove characteristic (1)
D004	Arsenic	N/A	***	***	Exempt (61 FR 60704)
D005	Barium	N/A	***	***	Exempt (61 FR 60704)
D006	Cadmium	N/A	***	***	Exempt (61 FR 60704)
D007	Chromium	N/A	***	***	Exempt (61 FR 60704)
D008	Lead	N/A	***	***	Exempt (61 FR 60704)
D009	Mercury	N/A	***	***	Exempt (61 FR 60704)
D010	Selenium	N/A	***	***	Exempt (61 FR 60704)
D011	Silver	N/A	***	***	Exempt (61 FR 60704)
D018	Benzene	N/A	***	***	Exempt (61 FR 60704)
D019	Carbon Tetrachloride	N/A	***	***	Exempt (61 FR 60704)
D021	Chlorobenzene	N/A	***	***	Exempt (61 FR 60704)

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
D022	Chloroform	N/A	***	***	Exempt (61 FR 60704)
D026	Cresol	N/A	***	***	Exempt (61 FR 60704)
D027	1,4-Dichlorobenzene	N/A	***	***	Exempt (61 FR 60704)
D028	1,2-Dichloroethane	N/A	***	***	Exempt (61 FR 60704)
D029	1,1-Dichlorethylene	N/A	***	***	Exempt (61 FR 60704)
D030	2,4-Dinitrotoluene	N/A	***	***	Exempt (61 FR 60704)
D032	Hexachlorobenzene	N/A	***	***	Exempt (61 FR 60704)
D033	Hexachlorobutadiene	N/A	***	***	Remove characteristic (1)
D034	Hexachloroethane	N/A	***	***	Exempt (61 FR 60704)
D035	Methyl Ethyl Ketone	N/A	***	***	Exempt (61 FR 60704)
D036	Nitrobenzene	N/A	***	***	Exempt (61 FR 60704)
D037	Pentachlorophenol	N/A	***	***	Exempt (61 FR 60704)
D038	Pyridine	N/A	***	***	Exempt (61 FR 60704)
D039	Tetrachloroethylene	N/A	***	***	Exempt (61 FR 60704)
D040	Trichloroethylene	N/A	***	***	Exempt (61 FR 60704)
D043	Vinyl chloride	N/A	***	***	Exempt (61 FR 60704)
F001	1,1,1-Trichloroethane	Spent Solvent	***	***	Exempt (61 FR 60704)
F001	Trichloroethylene	Spent Solvent	***	***	Exempt (61 FR 60704)
F002	Trichloroethylene	Spent Solvent	***	***	Exempt (61 FR 60704)
F003	Acetone	Spent Solvent	***	***	Exempt (61 FR 60704)
F003	Xylene	Spent Solvent	***	***	Exempt (61 FR 60704)
F004	Cresol	Spent Solvent	***	***	Exempt (61 FR 60704)
F005	Methyl Ethyl Ketone	Spent Solvent	***	***	Exempt (61 FR 60704)

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
F006	Wastewater treatment sludge	Plating waste	***	***	Exempt (61 FR 60704)
F007	Spent plating bath solution	Plating waste	***	***	Exempt (61 FR 60704)
F009	Spent cleaning bath solutions	Plating waste	***	***	Exempt (61 FR 60704)
P015	Berylliium powder	N/A	***	***	Exempt (61 FR 60704)
P030	Cyanides (soluble salts)	N/A	***	***	Exempt (61 FR 60704)
P098	Potassium cyanide	N/A	***	***	Exempt (61 FR 60704)
P099	Potassium silver cyanide	N/A	***	***	Exempt (61 FR 60704)
P106	Sodium cyanide	N/A	***	***	Exempt (61 FR 60704)
P120	Vanadium oxide	N/A	***	***	Exempt (61 FR 60704)
U002	Acetone	N/A	***	***	Remove characteristic (1)
U003	Acetonitrile	N/A	***	***	Remove characteristic (1)
U019	Benzene	N/A	***	***	Remove characteristic (1)
U037	Chlorobenzene	N/A	***	***	Exempt (61 FR 60704)
U043	Vinyl chloride	N/A	***	***	Exempt (61 FR 60704)
U044	Chloroform	N/A	***	***	Exempt (61 FR 60704)
U052	Cresol (cresylic acid)	N/A	***	***	Exempt (61 FR 60704)
U070	1,2-Dichlorobenzene	N/A	***	***	Exempt (61 FR 60704)
U072	1,4-Dichlorobenzene	N/A	***	***	Exempt (61 FR 60704)
U078	1,1-Dichloroethylene	N/A	***	***	Exempt (61 FR 60704)
U079	1,2-Dichloroethylene	N/A	***	***	Exempt (61 FR 60704)
U103	Dimethyl sulfate	N/A	***	***	Exempt (61 FR 60704)
U105	2,4-Dinitrotoluene	N/A	***	***	Exempt (61 FR 60704)
U108	1,4-Dioxane	N/A	***	***	Exempt (61 FR 60704)

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
U122	Formaldehyde	N/A	***	***	Exempt (61 FR 60704)
U133	Hydrazine	N/A	***	***	Remove characteristic (1)
U134	Hydrofluoric acid	N/A	***	***	Remove characteristic (1)
U151	Mercury	N/A	***	***	Exempt (61 FR 60704)
U154	Methanol	N/A	***	***	Remove characteristic (1)
U159	Methyl ethyl ketone	N/A	***	***	Remove characteristic (1)
U196	Pyridine	N/A	***	***	Exempt (61 FR 60704)
U209	1,1,2,2-Tetrachloroethane	N/A	***	***	Exempt (61 FR 60704)
U210	Tetrachloroethylene	N/A	***	***	Exempt (61 FR 60704)
U220	Toluene	N/A	***	***	Exempt (61 FR 60704)
U226	1,1,1-Trichloroethane	N/A	***	***	Exempt (61 FR 60704)
U228	Tricholorethylene	N/A	***	***	Exempt (61 FR 60704)
U239	Xylene	N/A	***	***	Remove characteristic (1)
WP01	Persistent, EHW	N/A	***	***	N/A
WP02	Persistent, DW	N/A	***	***	N/A
WSC2	Solid Corrosive	N/A	***	***	N/A
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) Characteristic waste code not currently acceptable at WIPP.

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

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:

The number and concentration of contaminants varies greatly among the boxes. One box contains F003 and F005 listed contaminants because it contains the remains of HLW tank core samples. One box contains trace quantities of carbon tetrachloride and several metals. A few boxes contain substantial quantities of lead.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

☒ Yes ☐ No

If yes, provide details: The waste is currently being size reduced/repackaged at Perma-Fix Northwest. Additional treatment to be provided by the future M-091 capability.

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 is planned to be treated at a variety of facilities with M-91 capabilities that may or may not be onsite. The primary objective of treatment is to cut metal debris into smaller pieces so that it can be placed in a smaller box. WIPP can currently accept a box (SLB2) up to an internal volume of approximately 6.95 cubic meters.

LDR REPORT TREATABILITY GROUP DATA SHEET

4.4 Treatment schedule information:

Treatment is anticipated to be performed as necessary to support the outcome of the M-091 TPA settlement agreement.

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

Milestone Number	Due Date
M-091-00	01/01/2077

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: For those containers that require onsite M-91 capabilities, waste minimization techniques will be considered.

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

TRUM disposed of at WIPP is exempt from the LDR treatment standards.

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):

TRUM is disposed of at WIPP.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(151]: See RCR Comment #139

1.1 Unit/Plant name: CWC **Waste Stream:** TRUM Boxes

Treatabilitiy Group Name: TRUM - CH Large Container

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

A WSRd identified in the treatability group data sheet section 1.2.

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 waste consists of metals, plastic, lead shielding, steel shielding, glass, paper/cardboard, cement, and sorbents. The material was contaminated with transuranic radionuclides from facility operations and R&D processes. The primary component in the boxes is metal that will probably need to be cut in order to fit in containers destined for WIPP.

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

The waste was generated from the PFP, PUREX Plant, Radiochemistry Building, Critical Mass Storage, and Materials Engineering Laboratory.

1.3.3 Source of the regulated constituents:

Radiochemical operations around the site and D&D activities.

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:

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): Due to their size and material of construction, Large TRUM waste packages that were received in from the retrieval of suspect TRUM waste from the LLBGs need to be stored in outside storage areas at the CWC.

2.1.1 How was the waste managed prior to storage?

Accumulated and packaged by waste generators prior to storage. Most of the large TRUM waste packages came from the retrieval of buried suspect TRUM waste in LLBGs 4C, 4B, 3A and 12B.

2.1.2 Timeframe when waste was placed to storage?

Waste storage at CWC began in 1988 and continues presently.

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LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
CWC	355

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 4,363.377

Date of inventory values: 12/31/2019

Comments on waste inventory:

Inventory based on Solid Waste Information Tracking System (SWITS). The inventory will fluctuate depending on ongoing processing activities at the CWC.

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:

Current CWC storage capacity which includes the outside storage areas is sufficient for the forecasted waste projections.

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
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	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-GLDR	04/2020

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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	

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.

~~TRUM waste is exempt from treatment since it is being disposed at WIPP.~~ The waste will undergo repackaging and WIPP certification prior to being shipped to WIPP for disposal. During the repackaging and certification activities, additional waste characterization and treatment is performed as needed to meet the WIPP acceptance requirements.

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.

The waste will undergo WIPP certification prior to shipment and disposal at the WIPP Site.

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

SMCA available at https://pdw.hanford.gov/document/0069360H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(152]: See RCR Comment #140

1.1 Unit/Plant name: LLBG **Waste Stream:** TRUM Retrieval Boxes

Treatabilitiy Group Name: TRUM - CH Large Container

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

A WSRd identified in the treatability group data sheet section 1.2.

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 generated~~ from retrieval activities in the Low-Level Burial Grounds~~. Waste~~ is expected to be similar to waste already in inventory in the CWC, i.e., facility or equipment operation and maintenance waste, R&D laboratory waste, remediation D&D waste , analytical laboratory waste. The primary waste type is heterogeneous debris from onsite and offsite operations and could include debris material such as plastic, rubber, metal, paper, cardboard, rags, cement, stainless steel, wood, Styrofoam, glass, ceramics, asbestos and batteries. Other components of the waste could include: soil, absorbent/kitty litter, filters, animal waste, paints, sludges, sand, diatomaceous earth, resins and floor sweepings.

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

The waste was generated from the PFP, PUREX Plant, Critical Mass Laboratory, Materials Engineering Laboratory, Kerr-McGee, the Chemical Engineering Building, Post-Irradiation Test Facility, REDOX Facility Radiochemicstry Building, the Semi-works D&D, Radiological Calibrations Laboratory, research laboratoriesand the Fuels Development Laboratory.

1.3.3 Source of the regulated constituents:

See 1.3.1 and 1.3.2.

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:

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): Stored pursuant to TPA M-091 milestones.

2.1.1 How was the waste managed prior to storage?

In LLBG trenches 4C, 4B, 218-W-3A, and 218-E-12B.

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LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed to storage?

Varies from 1970 through 1987.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
LLBG	127

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 141.913

Date of inventory values: 12/31/2019

Comments on waste inventory:

Waste is stored pursuant to TPA M-091 milestones. Inventory based on end of FY2011 waste package reconciliation.

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:

~~Some of the waste will require outside storage at the CWC.~~

2.5 Planned storage areas for this waste:

☐ Current Location ☒ CWC ☐ DST

☒ Other Area(s) (list): Offsite TSDFs (e.g., PFNW)
☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

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Document Number	Date
A&E-SEC-02-003	03/27/2002

☐ 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	

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:

Waste is stored underground and is under a Consent Agreement for storage and eventual removal.

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

☐ Yes ☒ No

If yes, explain: Note: The M-91 Consent Agreement is already in place for the storage of this waste in the LLBG.

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.

When the waste is retrieved, the appropriate acceptable knowledge waste designation is applied to the waste packages based on where the waste was originally generated. The waste will then go through the required acceptance reviews prior to being transferred/shipped to an onsite or offsite TSDF for storage or treatment.

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.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

~~TRUM waste is exempt from treatment since it is being disposed at WIPP.~~ The waste will undergo repackaging and WIPP certification prior to being shipped to WIPP for disposal. During the repackaging and certification activities, additional waste characterization and treatment is performed as needed to meet the WIPP acceptance requirements.

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.

The waste will undergo WIPP certification prior to shipment and disposal at the WIPP Site.

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

Waste generation projections are based on current baseline retrieval rates and assumptions of what percentage of retrieved waste will designate as TRUM. SMCA available at https://pdw.hanford.gov/document/0069352H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (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
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(153]: See RCR Comment #141

1.1 Unit/Plant name: T Plant Complex **Waste Stream:** TRUM Box

Treatabilitiy Group Name: TRUM - CH Large Container

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

250

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):

PFP - 232-Z glovebox and PUREX "D" Cell Jumper Box.

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

Glovebox came from D&D of the 232-Z Bldg at PFP. The PUREX jumper was declared waste at T-Plant after it was determined it could not be decontaminated.

1.3.3 Source of the regulated constituents:

The 232-Z has TSCA level PCBs from the glovebox.paint. Samples ~220 ppm PCBs. Lead comes from glovebox components; leaded glass and lead shielding.

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

Lead - glovebox information
PCBs - analytical sampling.

1.3.5 Additional notes:

n/a

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 PUREX jumper is stored in Canyon Cell #16R.

2.1.1 How was the waste managed prior to storage?

The 232-Z glovebox was packaged in the IP-2 Container at PFP and shipped to T-Pant for storage, and the PUREX jumper is stored in Canyon Cell #16R.

2.1.2 Timeframe when waste was placed to storage?

The 232-Z glovebox arrived at the T Plant on 8/5/05. The jumper was placed in the canyon prior to 1990.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
2706 TSP	1

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 35.400

Date of inventory values: 12/31/2019

Comments on waste inventory:

The inventory will fluctuate depending on ongoing processing activities at T-Plant

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:

Current T-Plant storage capacity which includes the outside storage areas is sufficient for the forecasted waste projections.

2.5 Planned storage areas for this waste:

☒ Current Location ☒ CWC ☐ DST

☒ Other Area(s) (list): Offsite TSDFs (e.g., PFNW)

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-00-ASLDR	04/2020

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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	

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.

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.

~~TRUM waste is exempt from treatment since it is being disposed at WIPP.~~ The waste will undergo repackaging and WIPP certification prior to being shipped to WIPP for disposal. During the repackaging and certification activities, additional waste characterization and treatmenr is performed as needed to meet the WIPP acceptance requirements.

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.

The waste will undergo WIPP certification prior to shipment and disposal at the WIPP Site.

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

SMCA available online at https://pdw.hanford.gov/document/0069350H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(154]: See RCR Comment #142

1.1 Unit/Plant name: WRAP **Waste Stream:** TRUM Large Container

Treatabilitiy Group Name: TRUM - CH Large Container

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

A WSRd identified in the treatability group data sheet section 1.2.

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 waste consists of metals, plastic, lead shielding, steel shielding, glass, paper/cardboard, cement, and sorbents. The material was contaminated with transuranic radionuclides from facility operations and R&D processes.

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

The waste was generated at various locations (e.g., PFP, PUREX Plant, Critical Mass Laboratory, Materials Engineering Laboratory, Kerr-McGee, and PNL).

1.3.3 Source of the regulated constituents:

Radiochemical operations around the site and D&D activities.

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

Analytical data and/or process knowledge.

1.3.5 Additional notes:

Waste at WRAP comes from various generators and generating processes around the Hanford Site due to WRAP's verification and repackaging mission. ~~TRUM destined for WIPP is exempt from LDRs.~~

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 generated and packaged at various locations around the Hanford Site.

2.1.2 Timeframe when waste was placed to storage?

Waste was placed into storage between 1994 and present. Drums at WRAP undergo verification and repackaging to meet WIPP WAC.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
WRAP	6

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 305.820

Date of inventory values: 12/31/2019

Comments on waste inventory:

Inventory based on Solid Waste Information Tracking System (SWITS). The inventory will fluctuate depending on ongoing processing activities at WRAP.

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:

Current WRAP storage capacity is sufficient for the forecasted waste projections.

2.5 Planned storage areas for this waste:

☒ Current Location ☒ CWC ☐ DST

☒ Other Area(s) (list): Offsite TSDFs (e.g., PFNW)

☐ None

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

Year	m^3	and/or	kg
2020	116.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	37.000		0.000
2024	37.000		0.000
Total	190.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-DWR-LDR	04/2020

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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	

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.

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.

~~TRUM waste is exempt from treatment since it is being disposed at WIPP.~~ The waste will undergo repackaging and WIPP certification prior to being shipped to WIPP for disposal. During the repackaging and certification activities, additional waste characterization and treatment is performed as needed to meet the WIPP acceptance requirements.

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.

The waste will undergo WIPP certification prior to shipment and disposal at the WIPP Site.

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

None. SMCA available online.

3.0 WASTE MINIMIZATION

Has a waste minimization assessment been completed for this stream?

3.1 ☐ 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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

Waste minimization schedule

3.3

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

N/A

LDR REPORT TREATABILITY GROUP DATA SHEET

1.0 WASTE STREAM IDENTIFICATION

Commented [MJW(155]: See RCR Comment #143

1.1 Treatability Group Name: TRUM - CH Small Container

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

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, sorbent/kitty litter, filters, lead shielding, carbon steel, fiberglass, brick/firebrick, plastic liner, shielding, concrete, animal waste, paints, ceramics, sludges, asbestos, aluminum, diatomaceous earth, resins, copper metal, water, floor sweepings, batteries, leather, liquid, Teflon, cork, cotton, light bulbs, urethane and wax. Waste packages in this treatability group include containers that are 55-gallon drums or smaller containers even if overpacked in 85-gallon drums, and newly generated Waste Isolation Pilot Plant (WIPP) standard waste boxes. Drums in 10-drum overpacks are also counted as small containers based on the drum as the container, not the 10-drum overpack. Note that some TRUM-CH small containers will be found to be TRUM-RH and need to be re-allocated to the TRUM-RH treatability group.

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): 5,241.437

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

Year	m^3	and/or	kg
2020	412.124		0.000
2021	10.500		0.000
2022	10.500		0.000
2023	456.500		0.000
2024	456.500		0.000
Total	1,346.124		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):

Each container of waste has more than 100 nCi/g of transuranic radionuclide activity.

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:

While the physical characteristics of any drum vary substantially, TRUM waste in drums typically contains organic debris or heterogeneous debris. TRUM waste in drums has a higher percentage of combustible waste than TRUM waste in boxes. A number of drums are mixed because they contain lead-lined gloves.
A small percentage of drums have been identified as containing homogeneous solids.

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
D001	Ignitable Charac.	N/A	***	***	Remove characteristic (1)
D002	Corrosive Charac.	N/A	***	***	Remove characteristic (1)
D003	Reactive	Other Reactives	***	***	Remove characteristic (1)
D004	Arsenic	N/A	***	***	Exempt (61 FR 60704)
D005	Barium	N/A	***	***	Exempt (61 FR 60704)
D006	Cadmium	N/A	***	***	Exempt (61 FR 60704)
D007	Chromium	N/A	***	***	Exempt (61 FR 60704)
D008	Lead	N/A	***	***	Exempt (61 FR 60704)
D009	Mercury	N/A	***	***	Exempt (61 FR 60704)
D010	Selenium	N/A	***	***	Exempt (61 FR 60704)
D011	Silver	N/A	***	***	Exempt (61 FR 60704)
D018	Benzene	N/A	***	***	Exempt (61 FR 60704)

D019	Carbon Tetrachloride	N/A	***	***	Exempt (61 FR 60704)

LDR REPORT TREATABILITY GROUP DATA SHEET

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
D021	Chlorobenzene	N/A	***	***	Exempt (61 FR 60704)
D022	Chloroform	N/A	***	***	Exempt (61 FR 60704)
D026	Cresol	N/A	***	***	Exempt (61 FR 60704)
D027	1,4-Dichlorobenzene	N/A	***	***	Exempt (61 FR 60704)
D028	1,2-Dichloroethane	N/A	***	***	Exempt (61 FR 60704)
D029	1,1-Dichlorethylene	N/A	***	***	Exempt (61 FR 60704)
D030	2,4-Dinitrotoluene	N/A	***	***	Exempt (61 FR 60704)
D031	Heptachlor	N/A	***	***	Remove characteristic (1)
D032	Hexachlorobenzene	N/A	***	***	Exempt (61 FR 60704)
D033	Hexachlorobutadiene	N/A	***	***	Remove characteristic (1)
D034	Hexachloroethane	N/A	***	***	Exempt (61 FR 60704)
D035	Methyl Ethyl Ketone	N/A	***	***	Exempt (61 FR 60704)
D036	Nitrobenzene	N/A	***	***	Exempt (61 FR 60704)
D037	Pentachlorophenol	N/A	***	***	Exempt (61 FR 60704)
D038	Pyridine	N/A	***	***	Exempt (61 FR 60704)
D039	Tetrachloroethylene	N/A	***	***	Exempt (61 FR 60704)
D040	Trichloroethylene	N/A	***	***	Exempt (61 FR 60704)
D043	Vinyl chloride	N/A	***	***	Exempt (61 FR 60704)
F001	1,1,1-Trichloroethane	Spent Solvent	***	***	Exempt (61 FR 60704)
F001	Trichloroethylene	Spent Solvent	***	***	Exempt (61 FR 60704)
F002	Trichloroethylene	Spent Solvent	***	***	Exempt (61 FR 60704)
F003	Acetone	Spent Solvent	***	***	Exempt (61 FR 60704)
F003	Xylene	Spent Solvent	***	***	Exempt (61 FR 60704)

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
F004	Cresol	Spent Solvent	***	***	Exempt (61 FR 60704)
F005	Methyl Ethyl Ketone	Spent Solvent	***	***	Exempt (61 FR 60704)
F006	Wastewater treatment sludge	Plating waste	***	***	Exempt (61 FR 60704)
F007	Spent plating bath solutions	Plating waste	***	***	Exempt (61 FR 60704)
F009	Spent cleaning bath solutions	Plating waste	***	***	Exempt (61 FR 60704)
P015	Beryllium powder	N/A	***	***	Exempt (61 FR 60704)
P030	Cyanides (soluble salts)	N/A	***	***	Exempt (61 FR 60704)
P098	Potassiium cyanide	N/A	***	***	Exempt (61 FR 60704)
P099	Potassium silver cyanide	N/A	***	***	Exempt (61 FR 60704)
P106	Sodium cyanide	N/A	***	***	Exempt (61 FR 60704)
P120	Vanadium oxide	N/A	***	***	Exempt (61 FR 60704)
U002	Acetone	N/A	***	***	Remove characteristic (1)
U003	Acetonitrile	N/A	***	***	Remove characteristic (1)
U019	Benzene	N/A	***	***	Remove characteristic (1)
U037	Chlorobenzene	N/A	***	***	Exempt (61 FR 60704)
U043	Vinyl chloride	N/A	***	***	Exempt (61 FR 60704)
U044	Chloroform	N/A	***	***	Exempt (61 FR 60704)
U052	Cresol (cresylic acid)	N/A	***	***	Exempt (61 FR 60704)
U070	1,2-Dichlorobenzene	N/A	***	***	Exempt (61 FR 60704)
U072	1,4-Dichlorobenzene	N/A	***	***	Exempt (61 FR 60704)
U078	1,1-Dichloroethylene	N/A	***	***	Exempt (61 FR 60704)
U079	1,2-Dichloroethylene	N/A	***	***	Exempt (61 FR 60704)
U103	Dimethyl sulfate	N/A	***	***	Exempt (61 FR 60704)

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
U105	2,4-Dinitrotoluene	N/A	***	***	Exempt (61 FR 60704)
U108	1,4-Dioxane	N/A	***	***	Exempt (61 FR 60704)
U122	Formaldehyde	N/A	***	***	Exempt (61 FR 60704)
U133	Hydrazine	N/A	***	***	Remove characteristic (1)
U134	Hydrofluoric acid	N/A	***	***	Remove characteristic (1)
U151	Mercury	N/A	***	***	Exempt (61 FR 60704)
U154	Methanol	N/A	***	***	Remove characteristic (1)
U159	Methyl ethyl ketone	N/A	***	***	Remove characteristic (1)
U196	Pyridine	N/A	***	***	Exempt (61 FR 60704)
U209	1,1,2,2-tetrachloroethane	N/A	***	***	Exempt (61 FR 60704)
U210	Tetrachloroethylene	N/A	***	***	Exempt (61 FR 60704)
U220	Toluene	N/A	***	***	Exempt (61 FR 60704)
U226	1,1,1-Trichloroethane	N/A	***	***	Exempt (61 FR 60704)
U228	Trichloroethylene	N/A	***	***	Exempt (61 FR 60704)
U239	Xylene	N/A	***	***	Remove characteristic (1)
WP01	Persistent, EHW	N/A	***	***	N/A
WP02	Persistent, DW	N/A	***	***	N/A
WSC2	Solid Corrosive	N/A	***	***	N/A
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) Characteristic waste codes not currently acceptable at WIPP.

LDR REPORT TREATABILITY GROUP DATA SHEET

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:

The number and concentration of contaminants in TRUM drums varies substantially. Over all drums, the predominant contaminants, listed in descending order of weight quantity, are lead, silver chloride, carbon tetrachloride, lithium, cadmium, and potassium/sodium hydroxide.

4.0 WASTE STREAM TREATMENT

4.1 Is this waste stream currently being treated?

☒ Yes ☐ No

If yes, provide details: The waste is currently being size reduced/repackaged at Perma-Fix Northwest. Additional treatment to be provided by the future M-091 capability.

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

Waste is planned to be treated at a variety of facilities with M-91 capabilities that may or may not be onsite. The primary objective of treatment is to cut metal debris into smaller pieces so that it can be placed in a smaller box. WIPP can currently accept a box (SLB2) up to an internal volume of approximately 6.95 cubic meters.

4.4 Treatment schedule information:

Treatment is anticipated to be performed as necessary to support the outcome of the M-091 TPA settlement agreement.

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

Milestone Number	Due Date
M-091-00	01/01/2077

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: Best management practices.

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

TRUM disposed of at WIPP is exempt from the LDR treatment standards.

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):

TRUM is disposed of at WIPP.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(156]: See RCR Comment #117

1.1 Unit/Plant name: 325 HWTU **Waste Stream:** TRUM-CH

Treatabilitiy Group Name: TRUM - CH Small Container

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

230-02

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 consists of solid, liquid and debris laboratory waste from research involving transuranic materials. Additionally, mixed transuranic debris and other waste is occasionally generated from maintenance of glove boxes and other facility equipment contamnated with transuranic materials.

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

Waste is generated on a routine basis in the course of PNNL research and facility operations. Transuranic mixed waste is generated almost exclusively in the 325RPL building.

1.3.3 Source of the regulated constituents:

Regulated constituents come from reagents and samples used in research projects, chemical products used for maintenance, and contaminated facility equipment.

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

Waste is characterized as specified in the 325HWTUs Waste Analysis Plan.

1.3.5 Additional notes:

N/A

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 satellite and central accumulation areas prior to being transferred to storage.

2.1.2 Timeframe when waste was placed to storage?

Existing waste was placed in storage between 5/10/2011 and 12/10/2019.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
325/HWTU	167
3714 Pad	02

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 3.900

Date of inventory values: 12/31/2019

Comments on waste inventory:

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

☐ Yes ☒ No

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

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

Bases and assumptions used:

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
2020	1.500		0.000
2021	1.500		0.000
2022	1.500		0.000
2023	1.500		0.000
2024	1.500		0.000
Total	7.500		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-DWR-02-004	05/31/2002

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	

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 obtains s full chemical and radiological characterization from waste generating projects/activities 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.

PNNL obtains s full chemical and radiological characterization from waste generating projects/activities prior to receiving the waste into the HWTU.

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.

PNNL generates corrosive TRUM-CH waste. This waste is treated in 325HWTUs and tested by pH measurement to document that the waste is no longer corrosive.

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

Link to A&E-DWR-02-004: https://pdw.hanford.gov/document/0069366H

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 minimization is integrated into PNNL's project planning and waste planning processes. PNN

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 reagents or less hazardous reagents can be used in the process. PNNL waste management staff routinely evaluate methods to reduce waste volume and toxicity through source reduction, segregation, treatment and other methods.

Most TRU corrosive liquid waste is treated in the 325HWTUs to meet all LDRs. The resulting waste is no longer mixed waste and is managed as nonhazardous TRU waste. This process resulted in significant reduction in volume of waste needing to be managed as TRUM-CH at CWC.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3.3 Bases and assumptions used in above estimates:

PNNL tightly integrates waste minimization principles into its research and waste planning processes. PNNL is confident that the integrated waste minimization program results in significant reductions in the volume and toxicity of waste relative to a baseline of having no waste minimization program. However, it is not possible to estimate the actual volume of waste reduction in any defensible way, since there is no recent baseline with which to compare it. Because of this, PNNL is not claiming specific waste volumes reduced in Sections 3.3.1 and 3.3.2.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(157]: See RCR Comment #144

1.1 Unit/Plant name: CWC **Waste Stream:** CH TRUM

Treatabilitiy Group Name: TRUM - CH Small Container

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

A WSRd identified in the treatability group data sheet section 1.2.

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 waste is generated from facility or equipment operation and maintenance waste, R&D laboratory waste, remediation D&D waste, and analytical laboratory waste. The waste matrix is primarily debris material such as plastic, rubber, metal, paper, cardboard, rags, cement, stainless steel, wood, Styrofoam, glass, ceramics, asbestos, and batteries. Other components of the waste include: soil, absorbent/kitty litter, filters, animal waste, paints, sludges, sand, diatomaceous earth, resins, and floor sweepings.

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

The waste was generated from the PFP, PUREX Plant, Critical Mass Laboratory, Materials Engineering Laboratory, Kerr-McGee, the Chemical Engineering Building, Post-Irradiation Test Facility, REDOX facility, Radiochemistry Building, the Semi-works D&D, Radiological Calibrations Laboratory, and the Fuels Development Laboratory.

1.3.3 Source of the regulated constituents:

Hazardous constituents used during onsite and offsite radiochemical operations and D&D.

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

Analytical data and/or 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):

2.1.1 How was the waste managed prior to storage?

Accumulated and packaged by waste generators prior to storage.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed to storage?

Waste storage in CWC began in 1988 and continues.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
CWC	6032

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 2,716.994

Date of inventory values: 12/31/2019

Comments on waste inventory:

Inventory based on Solid Waste Information Tracking System (SWITS). The inventory will fluctuate depending on ongoing processing activities at the CWC.

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:

Current CWC storage capacity which includes the outside storage areas is sufficient for the forecasted waste projections.

2.5 Planned storage areas for this waste:

☒ Current Location ☒ CWC ☐ DST

☒ Other Area(s) (list): Offsite TSDFs (e.g., PFNW)

☐ None

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

Year	m^3	and/or	kg
2020	410.000		0.000
2021	9.000		0.000
2022	9.000		0.000
2023	455.000		0.000
2024	455.000		0.000
Total	1,338.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Document Number	Date
A&E-SEC-02-001	01/10/2002

☐ 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	

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.

~~TRUM waste is exempt from treatment since it is being disposed at WIPP.~~ The waste will undergo repackaging and WIPP certification prior to being shipped to WIPP for disposal. During the repackaging and certification activities, additional waste characterization and treatmenr is performed as needed to meet the WIPP acceptance requirements.

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.

The waste will undergo WIPP certification prior to shipment and disposal at the WIPP Site.

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

SMCA available online at https://pdw.hanford.gov/document/0069360H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Commented [MJW(158]: See RCR Comment #145

1.1 Unit/Plant name: LLBG **Waste Stream:** TRUM-CH Retrieval

Treatabilitiy Group Name: TRUM - CH Small Container

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

A WSRd identified in the treatability group data sheet section 1.2.

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 comes from retrieval activities in the Low-Level Burial Grounds. Waste is expected to be similar to waste already in inventory in the CWC, i.e., facility or equipment operation and maintenance waste, R&D laboratory waste, remediation D&D waste, analytical laboratory waste. The waste matrix is primarily debris material such as plastic, rubber, metal, paper, cardboard, rags, cement, stainless steel, wood, Styrofoam, glass, ceramics, asbestos, and batteries. Other components of the waste include: soil, absorbent/kitty litter, filters, animal waste, paints, sludges, sand, diatomaceous earth, resins, floor sweepings.

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

The waste was generated from the PFP, PUREX Plant, Critical Mass Laboratory, Materials Engineering Laboratory, Kerr-McGee, the Chemical Engineering Building, Post-Irradiation Test Facility, REDOX facility, Radiochemistry Building, the Semi-works D&D, Radiological Calibrations Laboratory, research laboratories, and the Fuels Development Laboratory. The waste was generated and retrievably buried between 1970 and 1987.

1.3.3 Source of the regulated constituents:

See 1.3.1 and 1.3.2.

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

Analytical data and/or 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): Stored pursuant to M-091 TPA Milestones.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.1 How was the waste managed prior to storage?

In LLBG trenches 4C, 4B, 218-W-3A and 218-E-12B.

2.1.2 Timeframe when waste was placed to storage?

Varies from 1970 through 1987.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
LLBG	11803

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 2,469.595

Date of inventory values: 12/31/2019

Comments on waste inventory:

Waste is stored pursuant to TPA M-091 milestones. Inventory based on end of FY2011 waste package reconciliation.

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:

~~No issues with CWC storage based on life cycle waste generation forecast.~~No new mixed-waste can be stored in the RSW LLBGs.

2.5 Planned storage areas for this waste:

☒ Current Location ☒ CWC ☐ DST

☒ Other Area(s) (list): Offsite TSDFs (e.g., PFNW)

☐ None

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-SEC-02-003	03/27/2002

☐ 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	

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:

Waste is stored underground and is under a Consent Agreement for storage and eventual removal.

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

☐ Yes ☒ No

If yes, explain: Note: The M-91 Consent Agreement is already in place for the storage of this waste in the LLBG.

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.

When the waste is retrieved, the appropriate acceptable knowledge waste designation is applied to the waste packages based on where the waste was originally generated. The waste will then go through the required acceptance reviews prior to being transferred/shipped to an onsite or offsite TSDF for storage or treatment.

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.

~~TRUM waste is exempt from treatment since it is being disposed at WIPP.~~ The waste will undergo repackaging and WIPP certification prior to being shipped to WIPP for disposal. During the repackaging and certification activities, additional waste characterization and treatment is performed as needed to meet the WIPP acceptance requirements.

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.

The waste will undergo WIPP certification prior to shipment and disposal at the WIPP Site.

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

Waste generation projections are based on current baseline retrieval rates and assumptions of what percentage of retrieved waste will designate as TRUM. SMCA available online at https://pdw.hanford.gov/document/0069352H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (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
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(159]: See RCR Comment #67

1.1 Unit/Plant name: PFP **Waste Stream:** TRUM Debris

Treatabilitiy Group Name: TRUM - CH Small Container

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

PFPX-230-0016

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):

Primarily debris materials such as plastic, wood, rubber, metal, glass, concrete, equipment such as PCB capacitors, etc.

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

Debris is generated from PFP Complex clean out and demolition activities. TRUM batteries retrieved from 242Z prior to demolition and potential TRUM from characterization of soil under 236Z and 242Z slabs.

1.3.3 Source of the regulated constituents:

Battery fluids and lead components. Chemical residues on and under 236Z and 242Z slabs.

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:

The PFP Complex is undergoing a CERCLA removal action that will be completed in 2020.

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 will be packaged as generated and staged in the CERCLA waste management area for shipment to CWC.

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: 12/31/2019

Comments on waste inventory:

When generated, TRUM is placed into a CERCLA waste management area.

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:

None.

2.5 Planned storage areas for this waste:

☒ Current Location ☒ CWC ☐ DST

☐ Other Area(s) (list): When generated, staged in CERCLA waste management area until shipped to CWC
☐ None

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

Year	m^3	and/or	kg
2020	0.624		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.624		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-SEC-01-015	09/12/2001

☐ Assessment has been scheduled. Scheduled date:

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

☒ Other. Explain: Assessment was conducted when buildings were still operational and before the CERCLA removal action started. All the main buildings are now gone and only small ancillary structures remain, but will also be removed in 2020.

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

Milestone Number	Due Date
N/A	

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

☐ Yes ☒ No

If yes, summarize releases and quantities and provide date:

N/A

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

☐ Yes ☒ No

If yes, explain: N/A

2.11 Characterization

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

☒ Yes ☐ No ☐ Unknown at this time

Milestone Number	Due Date
N/A	N/A

If yes or unknown, comment on characterization for storage.

Will be completed during activities to facilitate transfer of the container to CWC. No commitment is necessary for the characterization needs on this TRUM.

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.

Will be completed during activities to facilitate transfer of the container to CWC. No commitment is necessary for the characterization needs on this TRUM.

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

SMCA available online at https://pdw.hanford.gov/document/0069362H.

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:

See section 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):

The waste stream is limited to items or rubble from the buildings and structures. It cannot be minimized until the removal action is complete, at which point there will be no more waste generation from the PFP Closure Project. Scheduled to complete in 2020.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

3.3.3 Bases and assumptions used in above estimates:

The waste stream is limited to items or rubble from the buildings and structures. It cannot be minimized until the removal action is complete, at which point there will be no more waste generation from the PFP Closure Project. Scheduled to complete in 2020.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(160]: See RCR Comment #146

1.1 Unit/Plant name: T Plant Complex **Waste Stream:** TRUM-CH

Treatabilitiy Group Name: TRUM - CH Small Container

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

200, 230

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):

TRU mixed waste generated from past operations. Waste constitiuents are highly variable.

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

TRU mixed waste was generated from many onsite and offsite locations.

1.3.3 Source of the regulated constituents:

See 1.3.1 and 1.3.2

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

Process knowledge and/or 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

☒ 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 generated from numerous onsite and/or offsite locations. Waste was either stored at the CWC and/or WRAP and from retrieval operations at the LLBG.

2.1.2 Timeframe when waste was placed to storage?

2004 to present.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
T Plant Complex	8

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 2.128

Date of inventory values: 12/31/2019

Comments on waste inventory:

The inventory will fluctuate depending on ongoing processing activities at T-Plant

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:

Current T-Plant storage capacity which includes the outside storage areas is sufficient for the forecasted waste projections.

2.5 Planned storage areas for this waste:

☒ Current Location ☒ CWC ☐ DST

☒ Other Area(s) (list): Offsite TSDFs (e.g., PFNW)

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-00-ASS-072	11/14/2000

☒ 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	

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.

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.

~~TRUM waste is exempt from treatment since it is being disposed at WIPP.~~ The waste will undergo repackaging and WIPP certification prior to being shipped to WIPP for disposal. During the repackaging and certification activities, additional waste characterization and treatment is performed as needed to meet the WIPP acceptance requirements.

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.

The waste will undergo WIPP certification prior to shipment and disposal at the WIPP Site.

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

SMCA available online at https://pdw.hanford.gov/document/0069350H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(161]: See RCR Comment #147

1.1 Unit/Plant name: WRAP **Waste Stream:** TRUM-CH

Treatabilitiy Group Name: TRUM - CH Small Container

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

A WSRd identified in the treatability group data sheet section 1.2.

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 drummed CH TRUM that consists of plastics, paper/cardboard, filters, rubber, wood, cloth/rags, metal, soil/rocks, chemicals, and glass.

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

The waste was generated from the PFP, PUREX Plant, Critical Mass Laboratory, Materials Engineering Laboratory, Kerr-McGee, PNL, Post-Irradiation Test Facility, REDOX facility, Radiochemistry Building, the Semi-works D&D, Radiological Calibrations Laboratory, research laboratories, and the Fuels Development Laboratory. The waste was generated and placed into storage from 1987-1999. In addition, some waste in this stream will be from future 200 Area D&D activities (has yet to be generated). This waste is sent to WRAP for certification to be sent to WIPP.

1.3.3 Source of the regulated constituents:

Radiochemical operations around the site using hazardous chemicals, and D&D of such operations as noted in Section 1.3.2 of this data sheet.

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

Analytical data and/or process knowledge.

1.3.5 Additional notes:

Waste at WRAP comes from various generators and generating processes around the Hanford Site due to WRAP's verification and repackaging mission. ~~TRUM destined for WIPP is exempt from LDRs.~~

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 generated and packaged at various locations around the Hanford Site.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.2 Timeframe when waste was placed to storage?

Waste was placed into storage between 1994 and present. Drums at WRAP are undergoing verification and repackaging to meet WIPP WAC.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
WRAP	216

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 48.820

Date of inventory values: 12/31/2019

Comments on waste inventory:

Inventory based on Solid Waste Information Tracking System (SWITS). The inventory will fluctuate depending on ongoing processing activities at WRAP.

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:

Due to proximity to and interchange with CWC, there is no storage capacity issue at WRAP.

2.5 Planned storage areas for this waste:

☒ Current Location ☒ CWC ☐ DST

☒ Other Area(s) (list): Offsite TSDFs (e.g., PFNW)

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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Document Number	Date
A&E-DWR-01-011	09/18/2001

☐ 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	

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.

The waste at WRAP is processed through WRAP and transferred on to another TSD unit or Atomic Energy Act disposal location. A commitment is not necessary to complete this characterization because it is part of WRAP's ongoing activities.

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.

~~TRUM waste is exempt from treatment since it is being disposed at WIPP.~~ The waste will undergo repackaging and WIPP certification prior to being shipped to WIPP for disposal. During the repackaging and certification activities, additional waste characterization and treatment is performed as needed to meet the WIPP acceptance requirements.

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.

The waste will undergo WIPP certification prior to shipment and disposal at the WIPP Site.

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

n/a

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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

Commented [MJW(162]: See RCR Comment #148

1.1 Treatability Group Name: TRUM - RH

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

The waste consists of inner container, iron-based metals, lead, soil, lead shielding, and steel shielding. Waste is from the clean-out of hot cells from research/development laboratories and demolition activities. The relative waste quantity is small, because the waste matrix contains a large percentage of lead and steel shielding materials. TRUM is considered remote handled if the waste container has a contact dose rate >200 mR/hr. In addition, in order to provide an estimate of what might be remote handled, TRUM will be reported as remote handled if the package is known to contain lead, concrete or steel shielding.

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): 497.206

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

Year	m^3	and/or	kg
2020	17.600		0.000
2021	5.600		0.000
2022	5.600		0.000
2023	7.600		0.000
2024	7.600		0.000
Total	44.000		0.000

3.0 WASTE STREAM CHARACTERIZATION

3.1 Radiological Characteristics

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

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

☐ Contact-handled ☒ Remote-handled

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

The waste contains transuranic radionuclides greater than 100 nCi/g. The waste also contains non-tranuranic radioactivity. Typical concentrations exceed 1,000 Ci/m3 for Sr90, 1,000 Ci/m3 for Y90, 1,000 Ci/m3 for Cs137, and 950 Ci/m3 for Ba137m.

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 is from the clean-out of hot cells from research/development laboratories. The relative waste quantity is small, because the waste matrix contains a large percentage of shielding materials.

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
D004	Arsenic	N/A	***	***	Exempt (61 FR 60704)
D005	Barium	N/A	***	***	Exempt (61 FR 60704)
D006	Cadmium	N/A	***	***	Exempt (61 FR 60704)
D007	Chromium	N/A	***	***	Exempt (61 FR 60704)
D008	Lead	N/A	***	***	Exempt (61 FR 60704)
D009	Mercury	N/A	***	***	Exempt (61 FR 60704)
D010	Selenium	N/A	***	***	Exempt (61 FR 60704)
D011	Silver	N/A	***	***	Exempt (61 FR 60704)
D018	Bezene	N/A	***	***	Exempt (61 FR 60704)
D019	Carbon Tetrachloride	N/A	***	***	Exempt (61 FR 60704)
D021	Chlorobenzene	N/A	***	***	Exempt (61 FR 60704)
D022	Chloroform	N/A	***	***	Exempt (61 FR 60704)
D026	Cresol	N/A	***	***	Exempt (61 FR 60704)

D027	1,4-Dichlorobenzene	N/A	***	***	Exempt (61 FR 60704)

LDR REPORT TREATABILITY GROUP DATA SHEET

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
D028	1,2-Dichloroethane	N/A	***	***	Exempt (61 FR 60704)
D029	1,1-Dichloroethylene	N/A	***	***	Exempt (61 FR 60704)
D030	2,4-Dinitrotoluene	N/A	***	***	Exempt (61 FR 60704)
D032	Hexachlorobenzene	N/A	***	***	Exempt (61 FR 60704)
D033	Hexachlorobutadiene	N/A	***	***	Exempt (61 FR 60704)
D034	Hexachloroethane	N/A	***	***	Exempt (61 FR 60704)
D035	Methyl ethyl ketone	N/A	***	***	Exempt (61 FR 60704)
D036	Nitrobenzene	N/A	***	***	Exempt (61 FR 60704)
D037	Pentachorophenol	N/A	***	***	Exempt (61 FR 60704)
D038	Pyridine	N/A	***	***	Exempt (61 FR 60704)
D039	Tetrachloroethylene	N/A	***	***	Exempt (61 FR 60704)
D040	Trichloroethylene	N/A	***	***	Exempt (61 FR 60704)
D043	Vinyl chloride	N/A	***	***	Exempt (61 FR 60704)
F001	1,1,1-Trichloroethane	Spent Solvent	***	***	Exempt (61 FR 60704)
F001	Trichloroethylene	Spent Solvent	***	***	Exempt (61 FR 60704)
F002	Trichloroethylene	Spent Solvent	***	***	Exempt (61 FR 60704)
F003	Acetone	Spent Solvent	***	***	Exempt (61 FR 60704)
F004	Cresol	Spent Solvent	***	***	Exempt (61 FR 60704)
F005	Methyl Ethyl Ketone	Spent Solvent	***	***	Exempt (61 FR 60704)
F006	Wastewater treatment sludge	Plating waste	***	***	Exempt (61 FR 60704)
F007	Spent plating bath solutions	Plating waste	***	***	Exempt (61 FR 60704)
F009	Spent cleaning bath solution	Plating bath	***	***	Exempt (61 FR 60704)
P015	Beryllium powder	N/A	***	***	Exempt (61 FR 60704)

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
P030	Cyanides (soluble salts)	N/A	***	***	Exempt (61 FR 60704)
P098	Potassium cyanide	N/A	***	***	Exempt (61 FR 60704)
P099	Potassium silver cyanide	N/A	***	***	Exempt (61 FR 60704)
P106	Sodium cyanide	N/A	***	***	Exempt (61 FR 60704)
P120	Vanadium oxide	N/A	***	***	Exempt (61 FR 60704)
U002	Acetone	N/A	***	***	Remove characteristic (1)
U003	Acetonitrile	N/A	***	***	Remove characteristic (1)
U019	Benzene	N/A	***	***	Remove characteristic (1)
U037	Chlorobenzene	N/A	***	***	Exempt (61 FR 60704)
U043	Vinyl chloride	N/A	***	***	Exempt (61 FR 60704)
U044	Chloroform	N/A	***	***	Exempt (61 FR 60704)
U052	Cresol (cresylic acid)	N/A	***	***	Exempt (61 FR 60704)
U070	1,2-Dichlorobenzene	N/A	***	***	Exempt (61 FR 60704)
U072	1,4-Dichlorobenzene	N/A	***	***	Exempt (61 FR 60704)
U078	1,1-Dichloroethylene	N/A	***	***	Exempt (61 FR 60704)
U079	1,2-Dichloroethylene	N/A	***	***	Exempt (61 FR 60704)
U103	Dimethyl sulfate	N/A	***	***	Exempt (61 FR 60704)
U105	2,4-Dinitrotoluene	N/A	***	***	Exempt (61 FR 60704)
U108	1,4-Dioxane	N/A	***	***	Exempt (61 FR 60704)
U122	Formaldehyde	N/A	***	***	Exempt (61 FR 60704)
U133	Hydrazine	N/A	***	***	Remove characteristic (1)
U134	Hydrofluoric acid	N/A	***	***	Remove characteristic (1)
U151	Mercury	N/A	***	***	Exempt (61 FR 60704)

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
U154	Methanol	N/A	***	***	Remove characteristic (1)
U159	Methyl ethyl ketone	N/A	***	***	Remove characteristic (1)
U196	Pyridine	N/A	***	***	Exempt (61 FR 60704)
U209	1,1,2,2-Tetrachloroethane	N/A	***	***	Exempt (61 FR 60704)
U210	Tetrachloroethylene	N/A	***	***	Exempt (61 FR 60704)
U220	Toluene	N/A	***	***	Exempt (61 FR 60704)
U226	1,1,1-Trichloroethane	N/A	***	***	Exempt (61 FR 60704)
U228	Trichloroethylene	N/A	***	***	Exempt (61 FR 60704)
U239	Xylene	N/A	***	***	Remove characteristic (1)
WP01	Persistent, EHW	N/A	***	***	N/A
WP02	Persistent, DW	N/A	***	***	N/A
WSC2	Solid Corrosive	N/A	***	***	N/A
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) Characteristic waste codes not currently acceptable at WIPP.

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:

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:

Wastes are planned to be treated under the proposed M-091 capability, as needed to meet the applicable waste acceptance criteria at WIPP. The extent of the treatment and technologies has yet to be determined, but the techniques will likely include segregation, decontamination, solidification, and repackaging. The treatment technologies and capacity have yet to be determined.

4.4 Treatment schedule information:

Treatment will be performed in accordance with M-91 milestones and target dates after they have been finalized.

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

Milestone Number	Due Date
M-091-00	01/01/2077

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.

TRUM disposed of at WIPP is exempt from the LDR treatment standards.

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):

TRUM is disposed of at WIPP.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(163]: See RCR Comment #118

1.1 Unit/Plant name: 325 HWTU **Waste Stream:** TRUM-RH

Treatabilitiy Group Name: TRUM - RH

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

270-00

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 consists of remote-handled mixed transuranic waste generated from PNNL research and facility operations.

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

This waste stream is generated from research operations and hot cell maintenance activities. Most of this wastey generated in the SAL hot cells in the 325RPL building. Infrequently, remote-handled mixed waste is generated in the HLRF hot cells or as a result of discarding highly radioactive samples or sources from the 325RPL building.

1.3.3 Source of the regulated constituents:

Regulated constituents come from reagents and samples used in research projects, chemical products used for facility maintenance, and contaminated facility equipment.

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

Waste is characterized as specified in the 325HWTUs Waste Analysis Plan.

1.3.5 Additional notes:

N/A

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 satellite or central accumulation areas prior to being transferred to storage.

2.1.2 Timeframe when waste was placed to storage?

Existing waste was placed in storage between 9/7/2017 and 10/9/2019.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
325/SAL	13
N/A	N/A
N/A	N/A

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 0.015

Date of inventory values: 12/31/2019

Comments on waste inventory:

Existing RH-TRU waste is packaged in small containers in the SAL hot cells. When loaded into shielded drums the packaged volume will be significantly larger (estimated 0.4 to 0.5 m3).

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
2020	0.600		0.000
2021	0.600		0.000
2022	0.600		0.000
2023	0.600		0.000
2024	0.600		0.000
Total	3.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-DWR-LDR	04/2020

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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	

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 obtains s full chemical and radiological characterization from waste generating projects/activities 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.

PNNL obtains s full chemical and radiological characterization from waste generating projects/activities prior to receiving the waste into the HWTU.

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.

Some TRUM-RH waste is corrosive when generated. This waste is treated and analyzed by pH measurement to determine that it is no longer corrosive.

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

TRUM-RH waste volumes vary significantly from year to year. Estimated future volumes are based on an average generation rate of 3 drums of TRUM-RH packaged in shielded drums each year.
Link to A&E-DWR-02-004: https://pdw.hanford.gov/document/0069366H

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 minimization is integrated into PNNL's project planning and waste planning processes. PN

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 reagents or less hazardous reagents can be used in the process. PNNL waste management staff routinely assess the possibility of consolidating items for shipment to CWC.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3.3 Bases and assumptions used in above estimates:

PNNl tightly integrates waste minimization principles into its research and waste planning processes. PNNL is confident that the integrated waste minimizaiton program results in significant reductions in the volume and toxicity of waste generated relative to a baseline of having no waste minimization program. However, it is not possible to estimate the actual volume of waste reduction in any defensible way, since there is no recent baseline with which to compare it. Because of this, PNNL is not claiming specific waste volumes reduced in Sections 3.3.1 and 3.3.2.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

1.0 WASTE STREAM IDENTIFICATION AND SOURCE

Commented [MJW(164]: See RCR Comment #149

1.1 Unit/Plant name: CWC **Waste Stream:** RH TRUM

Treatabilitiy Group Name: TRUM - RH

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

A WSRd identified in the treatability group data sheet section 1.2 (mostly WSRD 270)

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 waste consists of plastics, metals, lead shielding, steel shielding, glass, paper/cardboard, cement, and absorbents that are contaminated with hazardous constituents. The current RH waste is packaged in shielded containers, so that it can be stored as CH waste.

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

The waste was generated from the PFP, PUREX Plant, Critical Mass Laboratory, Materials Engineering Laboratory, Kerr-McGee, the Chemical Engineering Building, Post-Irradiation Test Facility, REDOX facility, Radiochemistry Building, the Semi-works D&D, Radiological Calibrations Laboratory, and the Fuels Development Laboratory.

1.3.3 Source of the regulated constituents:

See 1.3.1 and 1.3.2.

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): Due to their size and material of construction, some of the RH-TRUM waste packages are stored in outside storage areas at the CWC (e.g., D10 Tank waste package from U-Plant, K-Basin filters, etc.)

2.1.1 How was the waste managed prior to storage?

Accumulated and packaged at various locations prior to storage.

2.1.2 Timeframe when waste was placed to storage?

Waste storage in CWC began in 1988 and continues.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
CWC	321

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 412.261

Date of inventory values: 12/31/2019

Comments on waste inventory:

Inventory based on Solid Waste Information Tracking System (SWITS). The inventory will fluctuate depending on ongoing processing activities at the CWC.

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:

Current CWC storage capacity which includes the outside storage areas is sufficient for the forecasted waste projections.

2.5 Planned storage areas for this waste:

☒ Current Location ☒ CWC ☐ DST

☒ Other Area(s) (list): Offsite TSDFs (e.g., PFNW)

☐ None

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

Year	m^3	and/or	kg
2020	17.000		0.000
2021	5.000		0.000
2022	5.000		0.000
2023	7.000		0.000
2024	7.000		0.000
Total	41.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Document Number	Date
A&E-SEC-02-001	01/10/2002

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	

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.

~~TRUM waste is exempt from treatment since it is being disposed at WIPP.~~ The waste will undergo repackaging and WIPP certification prior to being shipped to WIPP for disposal. During the repackaging and certification activities, additional waste characterization and treatment is performed as needed to meet the WIPP acceptance requirements.

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.

The waste will undergo WIPP certification prior to shipment and disposal at the WIPP Site.

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

SMCA available online at https://pdw.hanford.gov/document/0069360H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(165]: See RCR Comment #150

1.1 Unit/Plant name: LLBG **Waste Stream:** RH TRUM

Treatabilitiy Group Name: TRUM - RH

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

A WSRd identified in the treatability group data sheet section 1.2.

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 generated~~ from retrieval activities in the Low-Level Burial Grounds~~. Waste~~ is expected to be similar to waste already in inventory in the CWC, i.e., facility or equipment operation and maintenance waste, R&D laboratory waste, remediation D&D waste, analytical laboratory waste. The waste matrix is primarily debris material such as plastic, rubber, metal, paper, cardboard, rags, cement, stainless steel, wood, Styrofoam, glass, ceramics, asbestos, and batteries. Other components of the waste include: soil, absorbent/kitty litter, filters, animal waste, paints, sludges, sand, diatomaceous earth, resins, floor sweepings.

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

The waste was generated from the PFP, PUREX Plant, Critical Mass Laboratory, Materials Engineering Laboratory, Kerr-McGee, the Chemical Engineering Building, Post-Irradiation Test Facility, REDOX facility, Radiochemistry Building, the Semi-works D&D, Radiological Calibrations Laboratory, research laboratories, and the Fuels Development Laboratory. The waste was generated and retrievably buried between 1970 and 1987.

1.3.3 Source of the regulated constituents:

See 1.3.1 and 1.3.2.

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): Stored pursuant to M-091 TPA Milestones.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.1.1 How was the waste managed prior to storage?

In LLBG trenches 4C, 4B, 218-W-3A, and 218-E-12B.

2.1.2 Timeframe when waste was placed to storage?

Varies from 1970 through 1987.

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
LLBG	5610

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 69.895

Date of inventory values: 12/31/2019

Comments on waste inventory:

Waste is stored pursuant to TPA M-091 milestones. Inventory based on end of FY2011 waste package reconciliation.

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:

~~No issues with CWC storage based on 20 year waste generation forecast.~~No new mixed-waste can be stored in the RSW LLBGs.

2.5 Planned storage areas for this waste:

☒ Current Location ☒ CWC ☐ DST

☒ Other Area(s) (list): Offsite TSDFs (e.g., PFNW)

☐ None

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

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-SEC-02-003	03/27/2002

☐ 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	

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:

Waste is stored underground and is under a Consent Agreement for storage and eventual removal.

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

☐ Yes ☒ No

If yes, explain: Note: The M-91 Consent Agreement is already in place for the storage of this waste in the LLBG.

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.

When the waste is retrieved, the appropriate acceptable knowledge waste designation is applied to the waste packages based on where the waste was originally generated. The waste will then go through the required acceptance reviews prior to being transferred/shipped to an onsite or offsite TSDF for storage or treatment.

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.

~~TRUM waste is exempt from treatment since it is being disposed at WIPP.~~ The waste will undergo repackaging and WIPP certification prior to being shipped to WIPP for disposal. During the repackaging and certification activities, additional waste characterization and treatment is performed as needed to meet the WIPP acceptance requirements.

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.

The waste will undergo WIPP certification prior to shipment and disposal at the WIPP Site.

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

Waste generation projections are based on current baseline retrieval rates and assumptions of what percentage of retrieved waste will designate as TRUM. SMCA available online at https://pdw.hanford.gov/document/0069352H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (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
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(166]: See RCR Comment #151

1.1 Unit/Plant name: T Plant Complex **Waste Stream:** TRUM-RH

Treatabilitiy Group Name: TRUM - RH

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

WSRD 260.

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):

All RH-TRUM waste has been removed from T-Plant at this time.

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

RH-MLLW can be received in to T-Plant from other Hanford facilities (e.g., CWC, WRP, PFP, etc.).

1.3.3 Source of the regulated constituents:

See 1.3.1 and 1.3.2

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

Process knowledge.

1.3.5 Additional notes:

N/A

2.0 WASTE STREAM STORAGE, INVENTORY, AND GENERATION INFORMATION

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

2.1 Current storage method

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

2.1.1 How was the waste managed prior to storage?

N/A

2.1.2 Timeframe when waste was placed to storage?

N/A

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
T-Plant (221-T)	1

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 8.665

Date of inventory values: 12/31/2019

Comments on waste inventory:

The inventory will fluctuate depending on ongoing processing activities at T-Plant

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:

Current T-Plant storage capacity which includes the outside storage areas is sufficient for the forecasted waste projections.

2.5 Planned storage areas for this waste:

☒ Current Location ☒ CWC ☐ DST

☒ Other Area(s) (list): Offsite TSDFs (e.g., PFNW)

☐ None

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

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	0.000		0.000
Total	0.000		0.000

2.7 DOE Storage Compliance Assessment information:

☒ Assessment has been completed.

Document Number	Date
A&E-00-ASS-072	11/14/2000

☐ 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	

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.

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.

~~TRUM waste is exempt from treatment since it is being disposed at WIPP.~~ The waste will undergo repackaging and WIPP certification prior to being shipped to WIPP for disposal. During the repackaging and certification activities, additional waste characterization and treatment is performed as needed to meet the WIPP acceptance requirements.

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.

The waste will undergo WIPP certification prior to shipment and disposal at the WIPP Site.

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

SMCA available online at https://pdw.hanford.gov/document/0069350H.

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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

3.3 Waste minimization schedule

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

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

Commented [MJW(167]: See RCR Comment #152

1.1 Unit/Plant name: WRAP **Waste Stream:** TRUM-RH

Treatabilitiy Group Name: TRUM - RH

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

A WSRd identified in the treatability group data sheet section 1.2.

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 waste consists of plastics, metals, lead shielding, steel shielding, glass, paper/cardboard, cement, and absorbents that are contaminated with hazardous constituents. The current RH waste is packaged in shielded containers, so that it can be stored as CH waste.

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

The waste was generated from the PFP, PUREX Plant, Critical Mass Laboratory, Materials Engineering Laboratory, Kerr-McGee, the Chemical Engineering Building, Post-Irradiation Test Facility, REDOX facility, Radiochemistry Building, the Semi-works D&D, Radiological Calibrations Laboratory, PNL and the Fuels Development Laboratory.

1.3.3 Source of the regulated constituents:

See 1.3.1 and 1.3.2

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):

2.1.1 How was the waste managed prior to storage?

Waste was generated and packaged at various locations around the Hanford Site.

2.1.2 Timeframe when waste was placed to storage?

Waste was placed into storage between 1994 and present. Drums at WRAP are undergoing verification and

repackaging to meet WIPP WAC.

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

2.2 Storage inventory locations:

Building/Room Number	Number of Containers/Tanks
WRAP	1

2.3 Current stored inventory for this stream.

Total volume (cubic meters): 6.370

Date of inventory values: 12/31/2019

Comments on waste inventory:

Inventory based on Solid Waste Information Tracking System (SWITS). The inventory will fluctuate depending on ongoing processing activities at WRAP.

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:

Due to proximity to and interchange with CWC, there is no storage capacity issue at WRAP.

2.5 Planned storage areas for this waste:

☒ Current Location ☒ CWC ☐ DST

☒ Other Area(s) (list): Offsite TSDFs (e.g., PFNW)

☐ None

2.6 Estimated generation projection by calendar year (includes waste in satellite and 90-day accumulation areas):

Year	m^3	and/or	kg
2020	0.000		0.000
2021	0.000		0.000
2022	0.000		0.000
2023	0.000		0.000
2024	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-DWR-LDR	04/2020

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

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	

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.

The waste at WRAP is processed through WRAP and transferred on to another TSD unit or Atomic Energy Act disposal location. A commitment is not necessary to complete this characterization because it is part of WRAP's ongoing activities.

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.

~~TRUM waste is exempt from treatment since it is being disposed at WIPP.~~ The waste will undergo repackaging and WIPP certification prior to being shipped to WIPP for disposal. During the repackaging and certification activities, additional waste characterization and treatment is performed as needed to meet the WIPP acceptance requirements.

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.

The waste will undergo WIPP certification prior to shipment and disposal at the WIPP Site.

2.12 Other key assumptions related to storage, inventory, and generation information:

None. SMCA available online.

3.0 WASTE MINIMIZATION

Has a waste minimization assessment been completed for this stream?

3.1 ☐ 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 attributes are reviewed/assessed as part of the work package planning.

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):

To the extent practical, all mixed waste is segregated and packaged separately from LLW or TRUM. To minimize the generation of mixed waste, T Plant Complex personnel actively seek nondangerous alternatives.

Waste minimization schedule

3.3

3.3.1 Reduction achieved during calendar year 2019 (volume or mass)

0.000 m3

3.3.2 Projected future waste volume reductions

Year	m^3	and/or	kg
2020	0.00		0.00
2021	0.00		0.00
2022	0.00		0.00
2023	0.00		0.00
2024	0.00		0.00
Total	0.00		0.00

LDR REPORT WASTE LOCATION-SPECIFIC DATA SHEET

3.3.3 Bases and assumptions used in above estimates:

N/A

APPENDIX C

POTENTIAL MIXED WASTE

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APPENDIX C

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POTENTIAL MIXED WASTE

This appendix contains information about 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 Potential Mixed Waste Table (PMWT) (e.g., equipment, piping) are those that currently are not being used and do not have a clear path for reuse or recycling.

The waste that has not been actively managed as mixed waste is, in many cases, at *Resource Conservation and Recovery Act – Comprehensive Environmental Response, Compensation, and Liability Act* ~~(CERCLA)~~ past-practice units (R-CPP) or CERCLA past-practice units (CPP) under the Tri-Party Agreement. Past-practice waste is a waste that was disposed of (intentionally or unintentionally) before the first effective date of applicable designation regulations in Washington State, typically August 19, 1987, for mixed waste. Classification of waste management units as past-practice units is described in section 3.0 of the TPA 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.

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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.

The Tri-Party Agreement agencies have agreed that the following categories of materials are excluded from the PMWT:

- Generated mixed waste. This mixed waste is included in treatability group and LSDSs in Appendix B of this report.
- Contaminated soil sites, cribs, ponds, ditches, trenches, etc., considered engineered disposal units. These materials would, however, be included in 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 that would be considered part of the structure (e.g., ventilation system components, building utilities) also is not included.
- Equipment and chemicals being used.

In addition to identifying information, the PMWT includes information on storage method compliance assessments that have been performed, proposed, or scheduled to meet the requirement of the land disposal restrictions storage report. Section 3.2 of this report provides more information about storage method compliance assessments.

The PMWT also includes, as applicable, known or proposed schedule information for completing data gap plans, start dates for Tri-Party Agreement negotiations, existing milestones or schedules, or schedules associated with the operable units that encompass the facility or unit.

Table C-1 explains the contents of each column in table C-2. Table C-2 is the PMWT. Table C-3 lists materials that have been deleted from prior years' potential mixed waste tables.

Table C-1. Potential Mixed Waste Table Explanation. (2 pages)

Column	Column Title	Content Definition
A	Company, project	Self-explanatory.
B	Common name or description	Self-explanatory.
C	Facility number	Self-explanatory.
D	Solid waste with potential for mixed waste not integral to the building or structure (no use)	"Stuff" (e.g., equipment, materials) that is not currently in use and for which no future use is currently known, but for which the final disposition has not yet been determined. The "stuff" is not currently considered mixed waste and may or may not currently be contaminated, but includes items with the potential for becoming mixed waste, depending on future decisions regarding the ultimate use and disposition. "Stuff" integral to the building (e.g., walls, piping, ducting) is not to be included. "None" in this column indicates the project/facility contains no "stuff" known to be in this category.
E	Materials with potential to become solid waste and subsequently mixed waste (in standby, possible use)	"Stuff" (e.g., equipment, materials) that is currently in "standby" and may at some point, if it becomes waste, designate as mixed waste. Provide details for standby equipment/material that has a clear use or path for reuse/recycling, but may at some point, if/when it becomes waste, designate as mixed waste. A future use must be documented for material to be included in column E of the PMW table (table C-2). Documentation of the future use of items in column E shall be available upon request. Columns D and E encompass contents of buildings and structures only. Floor sweepings, dust, etc., are not included. The structures themselves, including contaminated walls, floors, piping, ducting, etc., are not included. Equipment and chemicals that are in use are not included.
F	DOE assessment of storage methods	Indicate when the DOE storage method compliance assessment for the purpose of meeting LDR report requirements is scheduled. Provide an alternative explanation if required (e.g., the assessment completion date, key facility in S&M phase, further DOE LDR storage method compliance assessment not needed).

Table C-1. Potential Mixed Waste Table Explanation. (2 pages)

Column	Column Title	Content Definition
G	Schedule information	Include schedule information relative to materials detailed in these columns. Include references to pertinent documents (e.g., closure plans, RODs) and identify any applicable OUs or other Tri-Party Agreement drivers for remediation. Provide a date for completing the data gap plan, if applicable. Also, for major negotiations related to the path forward for the PMW (e.g., start of facility transition or deactivation), provide a date for starting the negotiations with the regulators.
H	Integrating factors	Include factors that should be considered when determining when negotiations should occur. These include factors such as relative threat to human health and the environment if no action, ties to other activities such as OU remediation, ties of action to facility missions, etc.

DOE = U.S. Department of Energy.
LDR = land disposal restriction.
OU = operable unit.
PMW = potential mixed waste.
ROD = record of decision.
S&M = surveillance and maintenance.

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Table C-2. Potential Mixed Waste. (10 pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
Battelle Memorial Institute, Pacific Northwest National Laboratory	Radiochemical Processing Laboratory	325	Tank system formerly used for product materials subsequently used as feedstock for research projects. Tanks have been drained and flushed, but remain in place.	Hot cells, hoods, and gloveboxes used for radioactive materials and waste analysis and research (reused as needed for new or expanded research activities). Contaminated equipment and materials stored for potential reuse.	A&E-DWR-02-004	Data gap plan: Reference January 16, 2003, Waste Management Project/PNNL Facilities Project meeting minutes. Starting TPA negotiations: N/A (no data gaps identified)	325 is an active facility maintained such that potential mixed waste does not pose a risk to human health or the environment. The closure schedule will be coordinated with remediation under the ROD for 300-FF-2.
CHPRC	Evaporators	242-T	Liquids/solids in process tanks and contaminated equipment, piping, and debris.	None.	FY 2006-POPD-S-0313	Data gap plan: Deferred until facility enters D&D due to industrial and radiological safety concerns with entering the portions of the facility necessary to gather meaningful data. Starting TPA negotiations: N/A	None.
CHPRC, D&D Project 100-K	100-KE and KW Reactor Facilities	105-KE and 105-KW	Miscellaneous contaminated material in the facility is being managed as part of S&M activities.	None.	SNFP-ENV-04-MA-0101a SNFP-ENV-04-MA-0101c	Waste will be generated as part of the ISS activities. Data gap plan: SNFP-ENV-04-MA-0101a SNFP-ENV-04-MA-0101c The RAWP (DOE/RL-2005-26, Rev. 2) was published in May 2019.	The reactor is a key facility under section 8.0 of the TPA.
CHPRC, D&D Project, S&M	224-B Building	224-B	Chemicals associated with operations at the 224-B Building may exist as residual deposition in tanks. PMW remains in the 224 B process cells and vessels.	None.	Not required (Singleton 2011)	Data gap plan: Not required (Singleton 2011). Starting TPA negotiations: Negotiations are not needed. The RAWP (DOE/RL-2017-33, Rev. 0) was published in February 2020.	None.
CHPRC, D&D Project, S&M	231-Z	231-Z	Potential for liquid in vessels.	None.	Attached to April 23, 2009, LDR project manager meeting minutes.	Data gap plan: Attached to April 23, 2009, LDR project manager meeting minutes. Starting TPA negotiations: N/A The approach for dispositioning 231-Z is under development.	Media that might designate as mixed waste, if present, are expected to be contained in stainless steel vessels.

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Table C-2. Potential Mixed Waste. (10 pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
CHPRC, D&D Project, S&M	IMUSTs not associated with a building	242-T-135, 242-TA-R1	Tank system heels in each IMUST, piping, equipment, and components.	None.	Scheduled August 2021	Data gap plan: Fourth quarter CY 2013. Starting TPA negotiations: Negotiations are not needed.	Tank farm closure will include ancillary equipment such as IMUSTs (Eberlein 2015).
CHPRC, D&D Project, S&M	REDOX	202-S, 291-S, 292-S, 293-S, 2718-S, 211-S, 2711-S, 2715-S, 2904-SA, 2710-S, 2706-S	DOE/RL-98-19, Appendix A identifies the hazardous material remaining in the facility.	DOE/RL-98-19, Appendix A identifies the hazardous material remaining in the facility.	N/A	Data gap plan: N/A Starting TPA negotiations: Complete. An AM was published in February 2019 (DOE/RL-2016-52, Rev. 0) that covers the following buildings: 202S, 211S, 291S, 292S, 293S, 2706S, 2710S, 2711S, 2715S, 2718S, and 2904SA. The RAWP (DOE/RL-2017-06, Rev 0) was published in March 2019. It covers the same buildings as the AM.	REDOX is in the S&M phase of the facility decommissioning process described in section 8.0 of the TPA.
CHPRC, D&D Project, S&M	U Plant	221-U, 276-U, 291-U, 292-U, 241-WR-001, 241-WR-002, 241-WR-003, 241-WR-004, 241-WR-005, 241-WR-006, 241-WR-007, 241-WR-008, 241-WR-009	DOE/RL-98-20 identifies the hazardous material remaining in the facility.	DOE/RL-98-20 identifies the hazardous material remaining in the facility.	N/A	Data gap plan: N/A Starting TPA negotiations: Complete. Any additional negotiations will be completed in accordance with the TPA Action Plan section 8.0. The RD/RAWP (DOE/RL-2006-21, Rev. 0) was published in December 2008.	U Plant is in the S&M phase of the facility decommissioning process described in section 8.0 of the TPA.
CHPRC, D&D, and Infrastructure Project, S&M	224-T	224-T	D1: Potential for liquid in vessels. The presence or absence of mixed waste in the 224-T cells is not documented and the potential for waste was identified in the Silver List. D2: There is a glovebox/hood with vessels in the glovebox/hood, but mixed waste is not expected to be found in these items.	None.	A&E-SEC-02-009	A&E-SEC-02-009 Starting TPA negotiations: Negotiations are not needed. An AM was published in June 2005 (DOE/RL-2004-68, Rev. 0). The RAWP is undergoing internal review.	None.

Table C-2. Potential Mixed Waste. (10 pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
~~CHPRC, D&D, and Infrastructure Project, S&M~~	~~FFTF~~	~~FFTF~~	~~Sodium residuals in facility (e.g., tanks, piping, vessels) and residues in containers; lead in paint, shielding, light bulb contacts, sanitary water line joints, steam/air/water safety relief valve seals, and in components of control panels; mercury in thermostats/electronic switches and in vapor lights used for exterior lighting; unknown organic in liquid films, greases; solid residues in bearings and gearboxes throughout facility; undetermined quantities of PCBs in transformers, ballasts, and lubricant/gear oil throughout the facility; ethylene glycol in various cooling systems.~~	~~None.~~	~~N/A~~	~~Facility will be dispositioned under CERCLA in accordance with TPA Action Plan, section 8.0.~~	~~FFTF is in the S&M phase of the facility decommissioning process, as described in section 8.0 of the TPA.~~
CHPRC, D&D, Project, S&M	B Plant	207-BA, 211-B, 212-B, 217-B, 221-B, 221-BB, 221-BF, 221-BG, 271-B, 276-B, 291-BA, 291-B, 291-BB, 291-BD, 291-BF, 291-BG, 292-B, 2711-B, 2715-B, 270-E-1 (IMUST)	DOE/RL-99-24, Rev. 3, Appendix A identifies the hazardous material remaining in the facility. Tank heels relate to TSD tank system and 270-E-1.	DOE/RL-99-24, Rev. 3, Appendix A identifies the hazardous material remaining in the facility.	A&E-00-ASS-075	See Columns D&E: As described in DOE/RL-99-24, Rev. 3, Appendix A. Data gap plan: N/A Starting TPA negotiations: Complete. Any additional negotiations will be completed in accordance with the TPA Action Plan section 8.0. M-085-00, TBD. An AM was published in July 2013 (DOE/RL-2010-22, Rev. 1) that covers the following buildings (among others): 207BA, 211B, 217B, 221BG, 276B, 292B, 2711B and 2715B. The RAWP (DOE/RL-2010-33, Rev. 0) was published in April 2010 that covers the following buildings (among others): 207BA, 211B, 217B, 221BG, 276B, 292B, 2711B and 2715B.	B Plant is in the S&M phase of the facility decommissioning process, as described in section 8.0 of the TPA.

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Table C-2. Potential Mixed Waste. (10 pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
						An AM was published in February 2011 (DOE/RL-2010-102) that covers the following buildings (among others): 212B, 221BB, 221BF, 271B, 291B, 291BA, 291BB, 291BD, 291BF and 291BG. The RAWP (DOE/RL-2016-46, Rev. 0) was published in December 2018 that covers the following buildings (among others): 212B, 221BB, 221BF and 271B. An EE/CA (DOE/RL-2016-14) was drafted in December 2017 that covers the following buildings (among others): 221B. The IMUST (270-E-1) will be addressed as part of CERCLA remedial actions at 200-IS-1 OU (C-17-04).	
CHPRC, D&D, Project, S&M	PUREX	202-A, 203-A, 204-A, 206-A, 211-A, 212-A, 213-A, 214-A/B/C/D, 215-A, 216-A, 225-EC, 271-AB, 276-A, 281-A, 291-A, 291-AB/AC/AD/AE/AG/ AH/AJ/AK, 291-A-1, 292-AA/AB, 293-A, A93-AA, 294-A, 295-A, 295-AA/AB/AC/AD/AE, 296-A-1, 296-A-2, 296-A-3, 296-A-5A/5B, 296-A-6/7/8/9/10/14/ 24, 2711-A-1, 2712-A, 2714-A/U, 217-A, 252-AC/AB, 216-A-5 (IMUST)	DOE/RL-98-35, Appendix A, identifies the hazardous material remaining in the facility. Tank heels relate to TSD tank system and 216-A-5.	DOE/RL-98-35, Appendix A, identifies the hazardous material remaining in the facility.	N/A	Data gap plan: N/A Starting TPA negotiations: Complete. Any additional negotiations will be completed in accordance with the TPA Action Plan section 8.0. An EE/CA (DOE/RL-2016-15) was submitted to the regulars for review in June 2019 that covers the following buildings (among others): 202A and 296A8. An AM was published in February 2011 (DOE/RL-2010-102) that covers the following buildings (among others): 203A, 206A, 212A, 213A, 216A, 276A, 291AB, 291AC, 291AD, 291AE, 291AH, 291AK, 292AA, 292AB, 293A, 294A, 295A, 295AA, 295AB, 295AC and 295AD.	PUREX is in the S&M phase of the facility decommissioning process described in section 8.0 of the TPA.

Table C-2. Potential Mixed Waste. (10 pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
						An AM was published in July 2013 (DOE/RL-2010-22, Rev. 1) that covers the following buildings (among others): 211A, 214A, 225EC, 271AB, 281A, 291AG, 291AJ, 295AE, 2712A and 2714A. The RAWP (DOE/RL-2010-33, Rev. 0) was published in April 2010 that covers the following buildings (among others): 214A, 225EC, 271AB, 281A, 291AG, 291AJ, 295AE, 2712A and 2714A. The RAWP (DOE/RL-2016-47, Draft A) was published in October 2019 that covers the following buildings: 203A, 211A, 212A, 213A, 216A291AD, 293A and 294A. The IMUST (216-A-5) will be addressed as part of CERCLA remedial actions at 200-CP-1 OU.	
CHPRC, PFP Closure Project	216-Z-9 Crib Soil Removal Glovebox (inactive)	216Z-9A, B, and C	Soil removal glovebox and mining equipment. Air compressor (potential for regulated oil). Residual contamination within glovebox (potential for mixed wastes during cleanout). Note: Glovebox probably will function as containment when conducting facility cleanout/transition activities.	None.	Not required. A time-critical removal action will be mitigating the risk.	241-Z-9 will be grouted under a time-critical removal action (DOE/RL-2020-11, Draft A) planned for start in the second quarter of FY 2020 and anticipated to be completed by the second quarter of FY 2021. Final disposition to be performed under CERCLA in accordance with the schedule provided in DOE/RL-2015-23.	To be dispositioned under the 200-PW-1/3/6, 200-CW-5 ROD.
CHPRC, PFP Closure Project	PFP Settling Tank	241-Z-361	Tank containing waste from past practices and piping.	None.	Reference April 23, 2009, project manager meeting minutes.	Starting TPA negotiations: N/A Characterization completed December 20, 2001 (HNF-8735). Data gap plan: Completed (reference April 23, 2009, project manager meeting minutes)	To be dispositioned under the 200-PW-1/3/6, 200-CW-5 ROD.

Table C-2. Potential Mixed Waste. (10 pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
						241-Z-361 will be grouted under a time-critical removal action planned for start in the second quarter of FY 2020 and anticipated to be completed by the second quarter of FY 2021 (DOE/RL-2020-11, Draft A). Final disposition to be performed under CERCLA in accordance with the schedule provided in DOE/RL-2015-23, Rev. 0.	
CHPRC, SGRP Project	270-W	270-W	PMW in the underground tank.	Although no specific matrix can be identified at this time, a possibility exists that matrices could be found which would qualify as PMW.	Not required (Singleton 2011).	Data gap plan: Not required (Singleton 2011). Starting TPA negotiations: N/A The RI/FS Work Plan (DOE/RL-2010-49, Rev. 0) was published in December 2016.	TSD closure will be coordinated with the OU remediation in accordance with M-015 milestones for 200-WA-1 OU.
CHPRC, Waste and Fuels Management Project	GAC Vapor Extraction System	None.	None.	Unsalvaged components of vapor extraction system.	N/A	Data gap plan: N/A Data for starting TPA negotiation: Negotiations are not anticipated.	None.
~~CHPRC, Waste and Fuels Management Project~~	~~T Plant Canyon, RR Tunnel, Head end~~	~~221-T~~	~~Process cells containing an inventory of PMW include inaccessible cells, process cells proposed to be cleaned, and process cells with potentially no proposed future uses. Inaccessible cells include: 20R, 20L, and 16L. Proposed cells to be cleaned include (subject to change): 19R, 18R, 10R, and 7R. Cells with potentially no proposed future uses include (subject to change): 19L, 18L, 17L, 14L, 12R, 12L, 9R, 8L, 6R, 4R, 4L, and 3R. Examples of inventory are jumpers, tanks, pumps, pump racks, centrifuges, fuel racks, fuel canisters, and agitators.~~	~~Items having the potential for reuse include cover blocks, lead shielding (including portable lead walls), hand tools and tool boxes, metal ramp, chokers and slings, hoists, railroad ties, portable fences, cutters (e.g., jaws), portable pumps and hoses, impact wrenches, spill pallets, HEPA vacuums, HEPA filter and duct work, torch cart and welding cart, work bench, portable exhauster, aqueous make-up tanks, drum crusher, plasma arc cutter.~~	~~WSD-TP-EP-06-MA-37~~	~~Cells with no proposed future use will be addressed when final decommissioning of the canyon takes place under the CDI.~~ ~~Data gap plan: WSD-TP-EP-06-MA-37. RL responded to Ecology comments in October 2007.~~ ~~Starting TPA negotiations: Completed. These activities have been discussed with Ecology during the T Plant Complex Dangerous Waste Permit Application Part A and Part B negotiations.~~	~~Milestone M-091-01 and RCRA permitting schedule.~~ ~~Schedules for processing and operational activities on the canyon floor will impact the schedule for disposition of this PMW.~~

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Table C-2. Potential Mixed Waste. (10 pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
CHPRC, Waste and Fuels Management Project	T Plant Complex IMUSTs	292-TK-1 and 292-TK-2	292-TK-1 and 292-TK-2 consist of two stainless steel 55-gal drums encased in concrete. These units contained a mixture of irradiated fuel and nitric acid. The solutions in the tanks were then neutralized with molar equivalents of sodium hydroxide.	None.	WSD-TP-EP-06-MA-37	Data gap plan: WSD-TP-EP-06-MA-37. ~~Schedule will be established after final decision is made under CERCLA in accordance with the Tri-Parties' agreement on application of the CDI for T Plant.~~	The tanks will be addressed as part of 200-IS-1 CERCLA remedial process~~actions at T Plant (C-13-01).~~
MSA, Public Works	100-B Reactor Facilities	105-B	Miscellaneous contained/controlled hazardous/contaminated material remains in the facility.	None.	ARQP-04-11	Data gap plan: Completed June 15, 2004. Starting TPA negotiations: Approval of TPA Change Request M-93-01-02 completed TPA milestone M-093-14, Initiate Negotiations for the Remaining Surplus Reactor Disposition Schedules. The B Reactor became a National Historic Landmark in September 2008 and became part of the Manhattan Project National Historic Park in December 2014.	The reactor is a key facility under section 8.0 of the TPA.
WRPS, Tank Farms	702-A Ventilation Building	241-A-702	Seal pot that received liquids from the HEPA pre-heater.	None.	FY2005-SPMA-S-0317	Data gap plan: None. When the building is deactivated, characterization of the seal pot heel will be completed as necessary. Starting TPA negotiations: N/A	None.
~~WRPS, Tank Farms~~	~~Double-Shell Tank Farms~~	~~241-AN, AW, AP, AY, AZ, SY~~	~~Contaminated unusable equipment, e.g., ductwork, exhausters, piping, etc.~~	~~None.~~	~~S-08-ESQ-TANKFARM-003~~	~~Data gap plan: The equipment will be handled in accordance with waste management procedure as it is removed.~~ ~~Starting TPA negotiations: N/A. Equipment will be taken care of on a continuous basis.~~	~~Tank retrieval and closure, permit conditions.~~
WRPS, Tank Farms	Evaporators	242-S	Liquids/solids in process tanks and contaminated equipment, piping, and debris.	None.	FY 2006-POPD-S-0313	Data gap plan: Deferred until facility enters D&D due to industrial and radiological safety concerns with entering the portions of the facility	None.

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Table C-2. Potential Mixed Waste. (10 pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**
						necessary to gather meaningful data. Starting TPA negotiations: N/A	
~~WRPS, Tank Farms~~	~~IMUSTs not associated with a building~~	~~241-S-302B~~	~~Tank system heels and contaminated equipment associated with each IMUST.~~	~~None.~~	~~Scheduled August 2021~~	~~Data gap plan: N/A~~ ~~Starting TPA negotiations: N/A~~	~~None.~~
~~WRPS Tank Farms~~	~~IMUSTs not associated with a building~~	~~241-A-302-B, 241-SX-302~~	~~Tank system heels and contaminated equipment associated with each IMUST.~~	~~None.~~	~~Scheduled August 2021~~	~~Data gap plan: Deferred until closure of specific WMA.~~	~~Tank farm closure will include ancillary equipment such as IMUSTs (Eberlein 2015). Assessment scheduled at the request of Ecology.~~
~~WRPS Tank Farms~~	~~IMUSTs not associated with a building~~	~~241-B-301B, 241-BX-302A, 241-C-301C, 241-S-302A, 241-T-301, 241-TX-302A, 241-TX-302X, 241-TY-302A, 241-TY-302B, 244-BXR (Vault), 244-TXR (Vault), 244-UR (Vault)~~	~~Tank system heels and contaminated equipment associated with each IMUST.~~	~~None.~~	~~N/A~~	~~Data gap plan: Deferred until closure of specific WMA.~~	~~Tank farm closure will include ancillary equipment such as IMUSTs (Eberlein 2015).~~
~~WRPS, Tank Farms~~	~~Miscellaneous Building~~	~~241-A-431, 241-C-801, 241-SX-401, 241-SX-402~~	~~Liquids/solids in piping and debris.~~	~~None.~~	~~A-01-OPD-TANKFARM-011~~ ~~A-02-EMD-TF-01~~	~~Data gap plan: Deferred until closure of specific WMA.~~	~~SST retrieval, WTP construction, permit conditions.~~
WRPS, Tank Farms	Reusable Contaminated Equipment	Various.	None.	Reusable contaminated equipment associated with tank farms activities.	N/A	Data gap Plan: N/A Starting TPA negotiations: N/A	None.
WRPS, Tank Farms	Single-Shell Tank Farms	241-A, AX, B, BX, BY, C, T, TX, TY, S, SX, U, 244-AR, 244-CR	Contaminated unusable equipment, e.g., ductwork, exhausters, piping, ion exchange columns, etc.	None.	S-08-ESQ-TANKFARM-009	Data gap plan: The equipment will be handled in accordance with waste management procedures as it is removed. Starting TPA negotiations: N/A Equipment will be taken care of on a continuous basis.	Tank retrieval and closure, permit conditions.

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Table C-2. Potential Mixed Waste. (10 pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**

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Table C-2. Potential Mixed Waste. (10 pages)

A	B	C	D	E	F	G	H
Company, Project	**Common Name or Description**	**Facility Number**	**Solid Waste, with Potential for Mixed Waste, Not Integral to the Building or Structure (No Use)**	**Materials, with Potential to Become Solid Waste and Subsequently Mixed Waste (in Standby, Possible Use), or Recycled**	**DOE Assessment of Storage Methods[1]**	**Schedule Information**	**Integrating Factors**

AM = action memorandum.
CDI = Canyon Disposition Initiative.
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act.
CHPRC = CH2M HILL Plateau Remediation Company.
CY = calendar year.
D&D = deactivation and decommissioning.
DOE = U.S. Department of Energy.
Ecology = Washington State Department of Ecology.
EE/CA = engineering evaluation/cost analysis.
ERDF = Environmental Restoration Disposal Facility.
FFTF = Fast Flux Test Facility.
FY = fiscal year.
GAC = granulated activated carbon.
HEPA = high-efficiency particulate air.
IMUST = inactive miscellaneous underground storage tank.
ISS = interim safe storage.
LDR = land disposal restrictions.
MSA = Mission Support Alliance, LLC.
N/A = not applicable.
OU = operable unit.
PCB = polychlorinated biphenyl.
PFP = Plutonium Finishing Plant.
PMW = potential mixed waste.
PUREX = Plutonium Uranium Extraction (Plant).
RAWP = Removal Action Work Plan.
RCRA = Resource Conservation and Recovery Act.
RD/RAWP = remedial design/remedial action work plan.
REDOX = Reduction-Oxidation (Plant).
RI/FS = remedial investigation/feasibility study.
RL = U.S. Department of Energy, Richland Operations Office.
ROD = record of decision.
S&M = surveillance and maintenance.
SGRP = Soil & Groundwater Remediation Project.
SST = single-shell tank.
TBD = to be determined.
TPA = Tri-Party Agreement.
TSD = treatment, storage, and disposal (unit).
WMA = waste management area.
WRPS = Washington River Protection Solutions.
WTP = Waste Treatment and Immobilization Plant.

Table C-3. Historical List of Materials Deleted from Potential Mixed Waste Table. (5 pages)

Common Name or Description	Facility Number	Last Calendar Year Reported in Table C-2	"Stuff"/Material Deleted	Reason for Deletion
CHPRC, D&D Project, S&M IMUSTs not associated with a building	216-BC-201, 216-BY-201, 216-TY-201, 241-B-361, 241-ER-311A, 241-U-361, 241-T-361, 200-W-7 (243-S-TK-1), 231-W-151, 241-Z-8	2015	Tank system heels in each IMUST, piping, equipment, and components.	The following IMUSTs will be dispositioned with their respective cribs as shown. Further information regarding the remediation strategy can be found in the following OU documentation. ~~216-BC-201: 200-BC-1~~ 216-BY-201: 200-IS-1~~200-TW-1~~ 216-TY-201: 200-IS-1 241-B-361: 200-IS-1~~200-TW-2~~ 241-ER-311A: 200-IS-1 241-U-361: 200-WA-1~~200-UW-1~~ 241-T-361: 200-WA-1~~200-TW-2~~
T Plant Canyon Cell 11-L	221-T	2015	Tank 11-L contents.	DOE agreed to close Tank 11-L under RCRA.
WRPS, Tank Farms IMUSTs not associated with a building	241-B-302B, 241-BX-302B, 241-BX-302C, 241-TX-302B, 241-TX-302BR, 240-S-302	2015	Tank system heels and contaminated equipment associated with each IMUST.	The following IMUSTs will be dispositioned with their respective cribs as shown. Further information regarding the remediation strategy can be found in the following OU documentation. 241-B-302B: 200-IS-1 241-BX-302B: 200-CB-1 241-BX-302C: 200-IS-1 241-TX-302B: 200-IS-1 241-TX-302BR: 200-IS-1 ~~240-S-302: 200-CR-1~~ 241-TX-302BR: 200-IS-1 240-S-302: 200-CR-1
100-K Area	105-KE and 105-KW	2015	105-KE: Old electrical equipment 105-KW: None	The materials were removed. If additional waste is projected to be generated in the future it will be accounted for in the ERDF-Treatment waste treatability group.
242-B/BL	242-B/BL	2015	Although no specific matrix can be identified at this time, a possibility exists that matrices could be found which would qualify as PMW.	Facility demolished.
Plutonium Finishing Plant	236-Z	2015	Pu nitrate reclamation tanks, piping, and control equipment. Miscellaneous treatment tanks, piping, and control equipment. Containment gloveboxes (reclamation and miscellaneous treatment). Chem. prep tanks, piping, and control equipment. Residual contamination within inactive process equipment and gloveboxes (potential for mixed waste during cleanout). Potential for liquids within inactive tanks, vessels, and piping. Miscellaneous tools and maintenance equipment located within canyon cell. Note: Gloveboxes to be maintained and used for containment when conducting facility cleanout/transition activities.	Facility demolished.
Plutonium Finishing Plant	242-Z	2015	Miscellaneous process tanks, first floor and mezzanine level. Process piping. Containment gloveboxes. Potential for liquids within tans, vessels, and piping. Residual contamination within gloveboxes, tanks, and piping (potential for mixed waste during cleanout).	Facility demolished.
Plutonium Finishing Plant	234-5Z	2015	Tanks, piping, lead, control, and processing equipment, including the RMA/RMC lines. Residues and low-grade SNM.	Facility demolished.

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Table C-3. Historical List of Materials Deleted from Potential Mixed Waste Table. (5 pages)

Common Name or Description	Facility Number	Last Calendar Year Reported in Table C-2	"Stuff"/Material Deleted	Reason for Deletion
Uranium Trioxide Facility	224-U/UA	2015	Potential mixed waste in the underground tank. The UO_3 Facility was included in the PMWT because the possibility existed that matrices could be found that would qualify as PMW.	Facility demolished.
WTP Analytical Laboratory	N/A	2015	Hot cell prefilters	Filters are considered mixed waste subject to volume reduction and stabilization. Furthermore, hot cell waste generation is not expected until after the forecasting period.
WTP Analytical Laboratory	N/A	2015	Spent chemical/reagents (liquid lab pack). Eichrom resin columns (hotcell resins, mixed non-debris waste (organic waste stream that will require organic stabilization or thermal treatment). Rad lab miscellaneous compactable debris (lab glassware and other lab consumables, personal protective equipment, rags, and other compactable debris.) Miscellaneous hotcell compactable debris including sample bottles, ASX carriers, Isolok needles and parts, etc. Miscellaneous non-compactable hotcell debris.	Hot cell waste generation is not expected until after the forecasting period. Other lab related waste has been determined to not require a unique treatment process but instead has been allocated to existing treatability groups (MLLW-3).
Radiochemical Processing Laboratory	325	2013	Equipment containing approximately 5 tons of lead in numerous contaminated shipping containers, sample carriers, lead bricks, and other lead items.	This equipment was identified as waste and was disposed of in compliance with WAC 173-303 requirements.
Waste Neutralization Facility (340-Vault Tanks)	340	2013	340 Vault tank heels and clean out residues and associated equipment (valves, piping, pumps, light fixtures).	The 340 Building was shipped on February 16, 2014, for disposal at ERDF.
100 Area Waste/Material Transport Container	100 Area Reactor Facilities (primarily N and K Area)	2011	Containers which were being stored for future shipment of waste to be treated, disposed, or recycled.	Waste/material containers have been dispositioned to ERDF due to facilities D&D.
PFP Facilities	2736-Z	2010	Residues and low-grade SNM solids.	Residues and SNM solids removed.
PFP Facilities	234-5Z[2]	2010	Radioactive Acid Digestion Test Unit Gloveboxes (potential for residual contamination during cleanout).	RADTU glovebox cleanout completed.
Rail Car Staging Area	212-R Rail Spur and PUREX Rail Cut	2010	Rail car and rail car components.	Rail cars were declared waste and disposed in ERDF, with the exception of four railcars which were sent to the B Reactor museum as "reusable equipment," not waste, as they are being used as displays.
U Plant	221-U	2010	Tank D-10 (TK-10) in Cell 30.	Tank was removed as part of the CERCLA remediation in 2011 and placed in storage at CWC. The tank is now tracked in the CWC TRUM-RH location.
100-K Area	105 KE and 105 KW	2009	Leak blankets. Neutron detectors with boron tri-fluoride tubes.[1]	A partial deletion from the PMWT. The lead was sent to ERDF for disposal. The neutron detectors were shipped to CWC as TRUM.
200 North Area	212-N, 212-P, 212-R	2009	212-R contained a burial box with some radiologically contaminated equipment. 212-P used to store PCBs.	The buildings and the burial box have been demolished and the waste was sent to ERDF.
U Plant	211-UA	2009	The 211-UA structure was demolished.	A partial deletion from the PMWT. The 211-UA structure was demolished under RAWP DOE/RL-2004-83.
UO_3 Facility	224-U, 203-UX, 211-U, 224-UA	2009	The above ground structures at the UO_3 Facility were demolished.	A partial deletion from the PMWT. The aboveground structures were demolished under RAWP DOE/RL-2004-83; only the underground tank, 270-W, and slab foundations remain.
100-K Area	105-KE	2008	Chemicals in storage cabinets, and lead used as shielding for Ion Exchange Columns and piping.[1]	A partial deletion from the PMWT. Chemicals were redispositioned for use at 105-KW or disposed of as appropriate. Lead was reused or dispositioned as waste.
231-Z	231-Z	2008	Chemicals in gloveboxes.[1]	Activities to remove chemicals from gloveboxes were completed in 2008.

Table C-3. Historical List of Materials Deleted from Potential Mixed Waste Table. (5 pages)

Common Name or Description	Facility Number	Last Calendar Year Reported in Table C-2	"Stuff"/Material Deleted	Reason for Deletion
200 Area North	212-N	2007	14 wooden boxes in the transfer bay of suspected TRUM nuclear fuel fabrication equipment from the 308 Building.[1]	A partial deletion from the PMWT. The boxes were transferred to the CWC.
Mixed Waste Storage and Treatment Tanks	241Z	2007	Heels, associated piping, line flushing, and sludge cleanout of Tank D-6. Tank D-6 deactivated in 1972 because of failure. Waste transferred from tank and tank/piping isolated.[1]	The 241-Z tank system has been clean closed, tank D-6 heels were removed, the piping was removed, and the floor was cleaned. The end point criteria requirements were addressed.
U-Plant	2716-U, 2714-U	2007	Section 7.0 of the S&M plan, DOE/RL-98-20, indicated that 2714-U contained eleven 55-gal drums, but is not specific on the type of hazardous materials.	A partial deletion from the PMWT. 2716-U and 2714-U, among others, were dispositioned under a CERCLA AM calling for demolition of the structures.
100-K Area	105-KW	2005	Lead in the back of a utility truck.[1]	The lead in the truck was removed from the vehicle and sent to the ERDF facility for disposal
327 Building	327	2005	Lead bricks.	The building deactivation and demolition was completed in 2010. The lead bricks are included in the forecasted waste volume to be treated at ERDF.
333 Building	333	2005	Miscellaneous equipment, piping, and ductwork.	The building was deactivated and demolished in CY 2006. Equipment, piping, and ductwork disposed at ERDF.
2711-E	2711-E	2004	Radiator from crane-suspect lead solder.	Matrices were disposed of in 2005.
3711 Building	3711[2]	2004	Lead cask, pipe, pipe joints, and metal railing contaminated with lead.	Matrices were disposed of in 2005.
Heavy Equipment Staging Area	4734D	2004	Heavy equipment components.	Equipment is no longer cleaned at this location.
U Plant	2716-U, 275-UR	2004	Any matrices described in the U Plant S&M Plan, DOE/RL-98-20.	2714-U and 275-UR have been demolished as part of the CERCLA Removal Action.
UO_3	203-U, 2715-UA, 272-U	2004	Any matrices described in the UO_3 S&M Plan, DOE/RL-98-22, *Surveillance and Maintenance Plan for the Uranium Trioxide (UO_3) Facility*.	203-U, 2715-UA, and 272-U have been demolished as part of the CERCLA Removal Action.
100 Areas Facilities	Many	2003	Miscellaneous contaminated material.	Facilities did not contain mixed waste or PMW
340 Facility Complex	340-A, 340-B, and 300 RLWS	2003	Tanks, process piping, ancillary equipment, and related equipment.	Facilities did not contain mixed waste or PMW.
PFP Facilities	232-Z, 236-Z[2], and portions of 234-5Z[2]	2003	Incinerator and leaching gloveboxes. Inactive process tanks, piping, and control equipment. Reclamation tanks, piping, and control equipment. Miscellaneous tools.[1]	Materials have been dispositioned, did not meet the definition of PMW, or are forecasted to be generated as mixed waste.
100-N Lead Storage Area	1714-N[2]	2002	Lead sheeting and bricks, lead lined containers, and a lead lined survey booth.	Matrix is now included in the LSDS for CERCLA lead under the ERDF – Treatment treatability group.
242-A Evaporator	242-A	2002	Ion exchange column(s)	The ion exchange column(s) were disposed on-site.
314	314[2]	2002	Large equipment previously used in the facility.	LDR storage method compliance assessment concluded facility contained no mixed waste or PMW.
3708	3708[2]	2002	Solid obsolete laboratory equipment.	LDR storage method compliance assessment concluded facility contained no mixed waste or PMW.
100 C Reactor Facility	105-C, 118-C-4	2001	Reactor core and equipment remaining in the facility.	Reactor core was part of the structure of the building. Mixed waste is removed during the reactor ISS.
100 D/DR Reactor Facility	105-D, 105-DR, 117-DR[2], 190-DR[2]	2001	Reactor core and equipment remaining in the facility.	Reactor core was part of the structure of the building. Mixed waste is removed during the reactor ISS.
100 F Reactor Facility	105-F	2001	Reactor core and equipment remaining in the facility.	Reactor core was part of the structure of the building. Mixed waste is removed during the reactor ISS.

Table C-3. Historical List of Materials Deleted from Potential Mixed Waste Table. (5 pages)

Common Name or Description	Facility Number	Last Calendar Year Reported in Table C-2	"Stuff"/Material Deleted	Reason for Deletion
100 H Reactor Facility	105-H, 1720-HA[2], 1713-H	2001	Reactor core and equipment remaining in the facility.	Reactor core is part of the structure of the building. Mixed waste was removed during the reactor ISS.
100 K Basins	105-KW	2001	Lead bricks, sheets.	The lead has been declared CERCLA waste. An LSDS was created.
100-N Reactor Facilities	See Table 1, S&M Plan for the 100-N Deactivated Facilities, DOE/RL-98-64, *Surveillance and Maintenance Plan for the 100-N Area Deactivated Facilities*	2001	Some remaining hazardous materials consisting of activated materials and fission products contained within the reactor block. (Further details are provided in DOE/RL-98-64).	Reactor core is part of the structure of the building. Mixed waste was removed during the reactor decommissioning.
200 ETF	2025E	2001	Thin film dryer rotor.	Rotor was rebuilt for reuse at the 200 ETF.
224-T (includes TRUSAF)	224-T	2001	Liquid in the sumps and the deep cell. Two cardboard boxes in the cells.[1]	Determined to not have a hazardous component, and therefore not a mixed waste. Note: Only the contents noted were removed from Table C-2. Table C-2 of this document still contains other potential waste in this location.
2706-T Conex Box	Conex box CC2W0136 and CC2W137	2001	Various decontamination equipment, spill pallets, shipping coolers, carts, hoses, storage cabinets, and sampling equipment.	These conex boxes were opened and the contents visually verified and photographs taken. The photographs clearly demonstrate that the equipment is readily accessible. The equipment will be used in the future as part of the 2706-T Complex operations (e.g., decontamination, sampling, etc.). The photographs are maintained in the T Plant Complex operating record.
300-RRLWS	RRLWS	2001	Retired radioactive liquid waste sewer piping and ancillary structures might designate as mixed waste.	Below-ground structure: Does not meet reporting criteria for PMWT.
324	324	2001	Shielded glovebox. PMW residue. Former Silver List Item 11.8.	Glovebox was included in the 4th quarter CY 2002 LDR storage method compliance assessment and determined to contain only floor sweeps.
C855 (CAT) Substation	252U	2001	Transformer.	The transformer has been designated and found not to have a dangerous component. Therefore, it is not mixed waste.
Environmental Sciences Laboratory	3720[2]	2001	Laboratory equipment, hoods, and gloveboxes used for radioactive materials and waste analysis and research (reused as needed for new or expanded research activities).	On-site inspection revealed that contaminated equipment is in use. Hoods and gloveboxes listed are part of the structure of the building.
Heavy Equipment Staging Area	2711E	2001	Miscellaneous equipment.	No material left at this location, as it was shipped off-site for reuse.
Mixed Waste Treatment and Storage Tanks	241-Z	2001	Tank D-9, Treatment chemicals.	Tank D9 is in use to mix treatment chemicals. Treatment chemicals are in use in transferring waste from the PFP to DSTs. Note: Only the contents noted were removed from Table C-2 of this document. Table C-2 still contains other potential waste in this location.
Plutonium Finishing Plant	234-5Z[2]	2001	E1: Laboratory Reagents E2: Archive Laboratory Samples E3: PR cans that have lead liners. E4: Low-grade SNM solutions not run through the precipitation process, but with potential to become solid waste (e.g., the direct discard process).[1]	E1: These chemicals are in use within the laboratory. E2: Samples are archived in accordance with sample exclusion. E3 and E4: Material is now included on LSDSs. Note: Only the contents noted were removed from Table C-2. Table C-2 still contains other potential waste in this location.
Rad. Storage Area	3711[2]	2001	Lead bricks.	Shipped September 26, 2001 to Duratek Inc. in Memphis, TN for decontamination/lead casting
REDOX	276-S-141/142	2001	Tanks and heel content.	A treatability group was developed to account for the 276-S-141/142 tanks (see Appendix B).
Semi Works	241-CX-70, 241-CX-71, 241-CX-72, 276-C	2001	Tanks and heel content.	A treatability group was developed to account for the 241-CX tanks (see Appendix B).
Waste Handling Facility	219-S	2001	Tank 103 and heel content.	Combined with existing LSDS for the 219-S Waste Handling Facility.
Waste Storage Building	2724WB	2001	Radiators (from motor vehicles).	Shipped September 26, 2001 to Duratek Inc. in Memphis, TN for decontamination/metal melt

Table C-3. Historical List of Materials Deleted from Potential Mixed Waste Table. (5 pages)

Common Name or Description	Facility Number	Last Calendar Year Reported in Table C-2	"Stuff"/Material Deleted	Reason for Deletion

1 Additional potential mixed waste is identified in table C-2 for this location.
2 Facility has been demolished subsequent to this entry.
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WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, as amended. (https://apps.leg.wa.gov/WAC/default.aspx?cite=173-303)

AM = action memorandum.
ASX = Autosampling System.
CERCLA = *Comprehensive Environmental Response, Compensation, and Liability Act*.
CWC = Central Waste Complex.
CY = calendar year.
D&D = deactivation and decommissioning.
DST = double-shell tank.
ERDF = Environmental Restoration Disposal Facility.
ETF = Effluent Treatment Facility.
ISS = interim safe storage.
LDR = land disposal restriction.
LSDS = location-specific data sheet.
MLLW = mixed low-level waste.
PCB = polychlorinated biphenyl.
PFP = Plutonium Finishing Plant.
PMW = potential mixed waste.
PMWT = Potential Mixed Waste Table (table C-2).
PR = product receiver.
PUREX = Plutonium-Uranium Extraction Plant.
RADTU = Radioactive Acid Digestion Test Unit.
RAWP = removal action work plan.
REDOX = Reduction-Oxidation (Plant).
RH = remote handled.
RLWS = Radioactive Liquid Waste System.
RMA/RMC = Remote Mechanical A/Remote Mechanical C.
S&M = surveillance and maintenance.
SNM = spent nuclear material.
TRUM = transuranic mixed (waste).
TRUSAF = Transuranic Waste Storage and Assay Facility.
WAC = *Washington Administrative Code.*
WTP = Waste Treatment and Immobilization Plant.

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APPENDIX D

LIST OF APPROVED CERCLA DOCUMENTATION

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APPENDIX D

LIST OF APPROVED CERCLA DOCUMENTATION

DOE and EPA, 1995, *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units, Hanford Site, Benton County, Washington*, U.S. Department of Energy, and U.S. Environmental Protection Agency, Richland, Washington. Available at https://pdw.hanford.gov/document/D199153689.

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