

3.1.3 Preferred Treatment to Be Determined

Currently, there are no waste streams in this category. One waste stream is currently waiting for the preferred treatment to be determined:

SR-W045, PUREX Organic Waste

General Information

SR-W045, PUREX Organic Waste

This waste stream was previously planned to be treated by thermal treatment at CIF. On June 26, 2006, DHEC agreed to transfer closure and decommissioning of CIF to the Federal Facility Agreement (FFA). The current treatment for waste stream SR-W045, PUREX Organic Waste is stabilization followed by macroencapsulation via a site specific one time treatability variance granted by EPA 4 on February 26, 2008. This variance was granted as a contingency in the event that the final stabilized form did not meet LDR. This treatment method allowed treatment of this waste stream to be completed on a greatly accelerated time scale and at a considerable cost savings compared to CIF. Shipments of the treated NNSS were completed on September 10, 2009.

The PUREX waste was stored in the RCRA permitted Solvent Storage Tanks (SST) S33-S36 Facility. A small heel remains in the SSTs, which accounts for the 0.7 m³ volume reported in Chapter 11. During the closure process for the SST Facility, options for disposal of the remaining PUREX will be evaluated.

An organic solvent generated in the Plutonium/Uranium Extraction Process (PUREX) used in the Separations areas, SR-W044, Tri Butyl Phosphate and n-Paraffin TRU, has been combined with this waste stream.

Volume

- Volume data for this waste stream can be found in Chapter 11.

Waste Stream Composition

- Organic liquid

Waste Code

- D004 (TCLP As)
- D005 (TCLP Ba)
- D006A (TCLP Cd)
- D007 (TCLP Cr)
- D008A (TCLP Pb)
- D009A (TCLP Hg)
- D010 (TCLP Se)
- D011 (TCLP Ag)
- D018 (Benzene)
- D040 (TCE)
- Non-wastewater

Land Disposal Restriction Treatment Standard

- D004 = concentration based standard = 5.0 mg/L TCLP
- D005 = concentration based standard = 21 mg/L TCLP
- D006 = concentration based standard = 0.11 mg/L TCLP
- D007 = concentration based standard = 0.60 mg/L TCLP
- D008 = concentration based standard = 0.75 mg/L TCLP
- D009 = concentration based standard = 0.025 mg/L TCLP
- D010 = concentration based standard = 5.7 mg/L TCLP
- D011 = concentration based standard = 0.14 mg/L TCLP
- D018 = concentration based standard = 10 mg/kg

- ~~D040 = concentration based standard = 6 mg/kg~~

~~Non-wastewaters with waste codes D001 through D043 to be land disposed must be treated to meet UTS for any UHC that may be present, as applicable.~~

Waste Characterization

- ~~Sampling and analysis are used to characterize the waste stream.~~
- ~~Confidence level is high because sampling and analysis is available.~~

Radiological Characterization

- ~~Total activity is 120 nCi/g.~~
- ~~Cm-244, Am-241, Pu-239, Eu-154, Ba-137, H3, Pu-241, Sb-125, Cm-243, Pu-240, Tc-99, Pu-238, and Cs-137; lesser amounts of Zr-95, Th-234, Zn-65, Pr-144, Co-60, Ag-110m, C-14, Co-57, Eu-155, I-129, Na-22, Pa-234m, Pu-242, Se-79, Sr-90, U-233, U-234, U-235, U-238, and Y-90~~

3.2 Mixed Low-Level Waste Streams Requiring Technology Development

Due to the complexity of some waste streams, technologies have not been developed that can adequately treat the waste. Therefore treatment strategies for some waste streams have not been selected. This section addresses those mixed LLW streams that require technology development for the treatment of the waste stream.

3.2.1 Development of Mobile Unit Technology

Currently, there are no waste streams in this category.

3.2.2 Development of Characterization Technology

Currently, there are no waste streams in this category.

3.2.3 Development of Treatment Technology

Currently, there are no waste streams in this category.

3.3 Mixed Low-Level Waste Streams for Which Further Characterization is Required

This section discusses the schedules for those specific waste streams that require further chemical or radiological characterization prior to the selection of a PO. The categories in this section are divided into waste streams to be further characterized and hazardous wastes awaiting radiological screening.

3.3.1 Waste Streams to be Further Characterized

Currently, there are no waste streams in this category.

3.3.2 Hazardous Waste Awaiting Radiological Screening

Currently, there are no waste streams in this category.

3.4 Mixed Low-Level Waste Streams Requiring Radionuclide Decay Prior to LDR Treatment

The PO for the waste streams in this waste group is treatment by aging in a regulated storage facility followed by combustion and/or appropriate mercury treatment. The following waste streams are included in this category:

SR-W036, Tritiated Oil with Mercury

SR-W090, Elemental Mercury – High Rad

Appendix for LDR Compliant Wastes

This appendix contains descriptive information on waste streams that do not appear in the Compliance Plan Volume PO discussion because they meet the LDR treatment standard, meet the LDR standard when they are generated, have been treated and closed as a stream, or are recycled (includes scrap metal).

SR-W011, Cadmium-Coated HEPA Filters

These filters were recycled under the Scrap Metal Exclusion, and the waste stream has been eliminated.

SR-W015, Tritium-Contaminated Equipment

Retired process equipment (mostly pumps) contaminated with tritium and sometimes mercury, lead, and/or silver.

Retired equipment has both adsorbed and matrix-diffused tritium contamination and wetted-surface mercury residues from direct contact with process gases. Lead is present in some of the equipment (fuel cells, solder and lead collars).

Volume

- Data for this waste stream can be found in Chapter 11.

Waste Stream Composition

- Predominantly metal debris

Waste Code

- D008A (TCLP Pb)
- D009A (TCLP Hg)
- D011 (TCLP Ag)

Land Disposal Restriction Treatment Standard

- D008A, D009A, D011 = specified technology = MACRO

Waste Characterization

- Process Knowledge

Radiological Characterization

- U-238 and tritium are present.

SR-W020, Salt Processing Filters

These filters may be a future debris waste stream. The filters are used in the treatment and separation of salt solution in preparation for processing in the DWPF and Saltstone Facility. The salt solution is treated to remove radioactive cesium and to adsorb strontium and plutonium. This process is expected to eventually foul the filters, requiring their removal, treatment, and disposal.

Volume

- Volume data for this waste stream can be found in Chapter 11.

Waste Stream Composition

- Inorganic debris

Waste Code

- D009A (TCLP Hg)
- D018 (Benzene)

- D036 (Nitrobenzene)
- Non-wastewater

Land Disposal Restriction Treatment Standard

- D009 = concentration-based standard = 0.025 mg/L TCLP
- D018 = concentration-based standard = 10 mg/kg
- D036 = concentration-based standard = 14 mg/kg
- Alternate debris technology may be applied.

Non-wastewaters with waste codes D001 through D043 to be land disposed must be treated to meet UTS for any UHC that may be present, as applicable.

Waste Characterization

- Process knowledge is used to characterize the waste stream.
- Confidence level is medium since this waste stream has not yet been generated.
- Typical expected concentration is 236 g Hg per filter. This is estimated by calculation.

Radiological Characterization

- Total activity is estimated to be 64-3400 Ci/filter.
- Beta/gamma emitters are Cs-137, Cs-134, Sr-90, Tc-99, Ru-106, Sb-125, and I-129.
- Waste is remote handled (RH).
- Low-level radioactive waste

SR-W023, Cadmium Safety/Control Rods

The safety/control rods are steel encapsulated, cadmium-containing rods used to control neutron flux in the reactors. The rods are approximately 22 feet long, one inch in diameter. The Cadmium rods are macroencapsulated by being placed in a stainless or mild steel container that is welded closed. One rod was cut and placed in a drum; other rods were not cut prior to placement in a box.

Volume

- Volume Data for this waste stream can be found in Chapter 11.

Waste Stream Composition

- Cadmium-containing metal debris

Waste Code

- D006A (TCLP Cd)

Land Disposal Restriction Treatment Standard

- D006A = specified technology = MACRO

Waste Characterization

- Sample Results

Radiological Characterization

- Beta/gamma emitters are present.

SR-W024, Mercury/Tritium Gold Traps

Elemental mercury has been amalgamated on gold foil. A typical trap consists of a stainless steel cylindrical housing that is 38 inches high and 2 inches in diameter that contains gold foil on 16 evenly spaced trays. Each trap contains approximately 125 g of elemental gold. Contamination is variable, depending on use and change out frequency. Retired traps typically show surface amalgamation on approximately one fourth of the gold, and contain 0.6 g of bound mercury. The estimated tritium contamination is 200 Ci per trap and is deemed conservative. The traps are macroencapsulated in a stainless steel container that is welded closed.

Volume

- ~~Volume Data for this waste stream can be found in Chapter 11.~~

Waste Stream Composition

- ~~Metal debris~~

Waste Code

- ~~D009A (TCLP Hg)~~

Land Disposal Restriction Treatment Standard

- ~~D009A = specified technology = MACRO~~

Waste Characterization

- ~~Process knowledge~~

Radiological Characterization

- ~~Tritium is present.~~

SR-W028, Mark 15 Filter Paper

This waste stream has been treated and eliminated.

SR-W032B, Mercury-Contaminated Heavy Water Residues

SR-W032B is the residue from treatment of SR-W032A. Both waste streams have been treated and eliminated.

SR-W040, Listed Stabilized Sludge/Listed LDR-Compliant Debris

This waste was stabilized sludge generated from the treatment of nickel-plating line waste water and was stored in the M-Area pad. It also included equipment, associated with the vitrification treatment process, which met LDR. This included an approximately 90,000 lb (gross weight) melter (14.3 m³) full of treated F006 waste and small amounts of debris/spill material, which met the LDR standards. The stream also included debris items, meeting LDR, that were generated by CIF operations or RCRA-listed contaminated soil.

Volume

- Volume Data for this waste stream can be found in Chapter 11.

Waste Stream Composition

- Stabilized sludge and miscellaneous debris

Waste Code

- F001–F003, F005 (halogenated and non-halogenated spent solvents)
- F006 (wastewater treatment sludges from electroplating operations)
- F028 (residues from thermal treatment of F020, F021, F026, and F027 wastes)
- U002 (Acetone)
- U003 (Acetonitrile)
- U019 (Benzene)
- U037 (Chlorobenzene)
- U080 (Methylene chloride)
- U123 (Formic acid)
- U127 (Hexachlorobenzene)
- U131 (Hexachloroethane)
- U159 (Methyl ethyl ketone)
- U165 (Naphthalene)
- U188 (Phenol)

- U210 (Tetrachloroethylene)
- U211 (Carbon tetrachloride)
- U220 (Toluene)
- U226 (1,1,1-Trichloroethane)
- U228 (Trichloroethylene)
- U239 (Xylenes)

Land Disposal Restriction Treatment Standard

- F001 and F002 = concentration-based standard = 6.0 – 30 mg/kg
- F003 = concentration-based standard = 0.75 mg/L, TCLP – 160 mg/kg
- F005 = concentration-based standard = 4.8 mg/L, TCLP – 170 mg/kg except 2-Ethoxyethanol and 2-Nitropropane = CMBST
- F006 = concentration-based standard = 0.11 – 11 mg/L TCLP
- F028 = = concentration-based standard = = 0.001 to 7.4 mg/kg
- U002 = concentration-based standard = 160 mg/kg
- U003 = concentration-based standard = 38 mg/kg or CMBST
- U019 = concentration-based standard = 10 mg/kg
- U037 = concentration-based standard = 6.0 mg/kg
- U080 = concentration-based standard = 30 mg/kg
- U123 = specified technology = CMBST
- U127 = concentration-based standard = 10 mg/kg
- U131 = concentration-based standard = 30 mg/kg
- U165 = concentration-based standard = 5.6 mg/kg
- U188 = concentration-based standard = 6.2 mg/kg
- U210 = concentration-based standard = 6.0 mg/kg
- U211 = concentration-based standard = 6.0 mg/kg
- U220 = concentration-based standard = 10.0 mg/kg
- U226 = concentration-based standard = 6.0 mg/kg
- U228 = concentration-based standard = 6.0 mg/kg
- U239 = concentration-based standard = 30 mg/kg

Waste Characterization

- Sample results

Radiological Characterization

- Alpha and beta/gamma emitters present.

SR-W041, Aqueous Mercury and Lead

This waste stream has been treated and eliminated.

SR-W046, Consolidated Incineration Facility (CIF) Ash

The volume of waste remaining after the closure of CIF was treated and the waste stream eliminated.

SR-W047, Consolidated Incineration Facility (CIF) Blowdown

The volume of waste remaining after the closure of CIF was treated and the waste stream eliminated.

SR-W050, Waste to support High-Level Waste (HLW) Processing Demonstrations

The waste will be generated by laboratory research, development, and analytical programs at SRNL to support the operations of the DWPF. This waste stream will be generated by shielded cell operations during projects for the glass technology group and will come from demonstrations of the DWPF and Interim Waste Technology (IWT) processes on actual HLW samples. The liquid waste will most likely contain mercury and chromium. The chromium will most likely be at low levels, below TCLP.

CHAPTER 11. VOLUME SUMMARY INFORMATION

This chapter includes volume and treatment residue summaries of legacy wastes for the waste streams listed in the STP. Table 11.1 lists the volume summary of each waste stream by its unique waste stream number. Table 11.2 lists the volume summary for each waste stream by treatment facility. Volume summaries include inventories as of ~~July 1, 2016~~ October 1, 2019. Table 11.3 shows the volume and status of mixed treatment residues for those waste streams that have been treated and the residues must continue to be managed as a mixed waste.

Table 11.1 Volume Summary by Waste Stream Number			
Waste Stream No.	Waste Stream Name	Preferred Option (PO)	Current Cumulative Inventory through 07/01/16 <u>10/01/19</u> (m³)
SR-W001	Rad-Contaminated Solvents	Combustion at Commercial Facility	0.0
SR-W002	Rad-Contaminated Chlorofluorocarbons	Consolidated with SR-W001	N/A
SR-W003	Solvent Contaminated Debris (LLW)	Consolidated with SR-W062	N/A
SR-W004	M-Area Plating Line Sludge from Supernate Treatment	Consolidated with SR-W037	N/A
SR-W005	Mark 15 Filtercake	Waste Stream Treated and Eliminated	N/A
SR-W006	CH Mixed TRU/Liquids	Waste Stream Re-characterized and Eliminated	N/A
SR-W007	SRNL Sample Material	Waste Stream Eliminated	N/A
SR-W008	Separations Area Sample Receipts from SRNL	Consolidated with SR-W017	N/A
SR-W009	Silver-Coated Packing Material	Characterization at SRS – WIPP Disposal	6.9
SR-W010	Scintillation Solution	Consolidated with SR-W001	N/A
SR-W011	Cadmium-Coated High Efficiency Particulate Air (HEPA) Filters	Recycled under Scrap Metal Exclusion and Waste Stream Eliminated	N/A
SR-W012	Toxic Characteristic Solids	Consolidated with SR-W062 & W088	N/A
SR-W013	LLW Lead – To Be Decontaminated Onsite	Reclassified as Material in Use – Waste Stream Eliminated	N/A
SR-W014	Elemental (Liquid) Mercury – Site-wide	Amalgamation – Offsite Commercial Vendor	0.1 <u>0.0</u>
SR-W015	Tritium-Contaminated Equipment	Macroencapsulation in Stabilization / Solidification Container as 90-Day Generator	40.9
SR-W016	221-F Canyon High-Level Radioactive Liquid Waste / Low-Level Radioactive Liquid Waste	Vitrification at DWPF / Solidification in Saltstone Facilities	54,803 <u>52,697</u>
SR-W017	H-Canyon High-Level Radioactive Liquid Waste / Low-Level Radioactive Liquid Waste	Vitrification at DWPF / Solidification in Saltstone Facilities	79,796 <u>78,828</u>

Table 11.1 Volume Summary by Waste Stream Number

Waste Stream No.	Waste Stream Name	Preferred Option (PO)	Current Cumulative Inventory through 07/01/16 <u>10/01/19</u> (m ³)
SR-W018	Listed Incinerable Solids	Combustion at Commercial Facility or Macroencapsulation or Stabilization at Commercial Facility	0.0
SR-W019	244-H RBOF High Activity Liquid Waste	Consolidated with SR-W017	N/A
SR-W020	Salt Processing Filters	Future Generation – Treatment To Be Determined	0.0
SR-W021	Poisoned Catalyst Material	Waste Stream Eliminated	N/A
SR-W022	DWPF Benzene	Waste Stream Eliminated	N/A
SR-W023	Cadmium Safety/Control Rods	Macroencapsulation in a Cask as a 90-day Generator	3.4
SR-W024	Mercury/Tritium Gold Traps	Macroencapsulation in a Cask Waste Stream Treated and Eliminated	3.0 N/A
SR-W025	Solvent/TRU Job Control Waste <100 nCi/g	Consolidated with SR-W091	N/A
SR-W026	CH Mixed TRU/Thirds	Consolidated with SR-W027	N/A
SR-W027	CH Mixed TRU	Characterization at SRS – WIPP Disposal	437 <u>473</u>
SR-W028	Mark 15 Filter Paper	Waste Stream Treated and Eliminated	N/A
SR-W029	M-Area Sludge Treatability Samples	Waste Stream Treated and Eliminated	N/A
SR-W030	Spent Methanol Solution	Consolidated with SR-W001	N/A
SR-W031	Uranium/Chromium Solution	Waste Stream Treated and Eliminated	N/A
SR-W032A	Mercury-Contaminated Heavy Water	Waste Stream Treated and Eliminated	N/A
SR-W032B	Mercury-Contaminated Heavy Water Residues	Solidification in Container as a 90-day Generator – Waste Stream Eliminated	N/A
SR-W033	Thirds/TRU Job Control Waste <100 nCi/g	Consolidated with SR-W091	N/A
SR-W034	Calcium Metal	Consolidated with SR-W081	N/A
SR-W035	Mixed Waste Oil – Sitewide	Consolidated with SR-W001	N/A
SR-W036	Tritiated Oil with Mercury	Treatment by Aging Followed by Combustion	12.7
SR-W037	M-Area Plating Line Sludges	Waste Stream Treated and Eliminated	N/A
SR-W038	Plating Line Sump Material	Waste Stream Treated and Eliminated	N/A
SR-W039	Nickel Plating Line Solution	Waste Stream Treated and Eliminated	N/A
SR-W040	Listed Stabilized Sludge/Listed LDR-Compliant Debris	Waste Stream Treated in Compliance with LDR	0.0

Table 11.1 Volume Summary by Waste Stream Number

Waste Stream No.	Waste Stream Name	Preferred Option (PO)	Current Cumulative Inventory through 07/01/16 <u>10/01/19</u> (m ³)
SR-W041	Aqueous Mercury and Lead	Waste Stream Treated and Eliminated	N/A
SR-W042	Paints and Thinners	Consolidated with SR-W001	N/A
SR-W043	Lab Waste w/Tetraphenyl Borate	Consolidated with SR-W012	N/A
SR-W044	Tri-Butyl-Phosphate & n-Paraffin – TRU	Consolidated with SR-W045	N/A
SR-W045A	PUREX Aqueous Waste	Waste Stream Eliminated	N/A
SR-W045B	PUREX Organic Waste	Waste Stream Renamed SR-W045	N/A
SR-W045	PUREX Organic Waste	Preferred Treatment to Be Determined Waste Stream Treated and Eliminated	0.7 <u>N/A</u>
SR-W046	Consolidated Incineration Facility Ash	Waste Stream Eliminated	N/A
SR-W047	Consolidated Incineration Facility Blowdown	Waste Stream Eliminated	N/A
SR-W048	Soils from Spill Remediation	Stabilization by Commercial Vendor	0.0
SR-W049	Tank E-3-1 Clean Out Material	Waste Stream Eliminated	N/A
SR-W050	HLW Processing Demonstrations	Treatment by SRNL as a 90-Day Generator	0.0
SR-W051	Spent Filter Cartridges and Carbon Filter Media	Consolidated with SR-W062	N/A
SR-W052	Cadmium-Contaminated Glovebox Section	Waste Stream Eliminated	N/A
SR-W053	Rocky Flats Ash	Waste Stream Treated and Eliminated	N/A
SR-W054	Enriched Uranium Contaminated with Lead	Consolidated with SR-W037	N/A
SR-W055	Job Control Waste Containing Solvent Contaminated Wipes	Waste Stream Treated and Eliminated	N/A
SR-W056	Job Control Waste with Enriched Uranium and Solvent-Contaminated Wipes	Waste Stream Re-characterized and Eliminated	N/A
SR-W057	D-Tested Neutron Generators	Waste Stream Eliminated	N/A
SR-W058	Mixed Sludge Waste with Mercury from DWPF Treatability Studies	Consolidated with SR-W050	N/A
SR-W059	Tetrabutyl Titanate (TBT)	Consolidated with SR-W001	N/A
SR-W060	Tritiated Water with Mercury	Waste Stream Treated (Offsite) and Eliminated	N/A
SR-W061	DWPF Mercury	Consolidated with SR-W068	N/A

Table 11.1 Volume Summary by Waste Stream Number

Waste Stream No.	Waste Stream Name	Preferred Option (PO)	Current Cumulative Inventory through 07/01/16 <u>10/01/19</u> (m ³)
SR-W062	Normal Low-Level Contaminated Debris	Macroencapsulation or Stabilization by a Commercial Vendor and/or Alternative Debris Treatment at an Offsite Facility	0.0
SR-W063	Macroencapsulated Low-Level Waste (TC)	Consolidated with SR-W040	N/A
SR-W064	IDW and Remediation Soils/Sludges/Slurries	Consolidated with SR-W088	N/A
SR-W065	IDW Monitoring Well Purge/Development Water	Consolidated with SR-W071 and W077	N/A
SR-W066	IDW and Remediation Debris (Parts)	Consolidated with SR-W062	N/A
SR-W067	IDW and Remediation PPE Waste	Consolidated with SR-W062	N/A
SR-W068	Elemental (Liquid) Mercury – Sitewide	Consolidated with SR-W014	N/A
SR-W069	LLW Lead – To Be Macroencapsulated Offsite	Macroencapsulation by a Vendor at an Offsite Facility	0.0
SR-W070	Mixed Waste from Laboratory Samples	Consolidated aqueous with SR-W071 or SR-W077 and organic with SR-W001	N/A
SR-W071	Wastewater Suitable for Thermal Treatment or Stabilization	Thermal Treatment or Stabilization at Commercial Vendor Facility	0.0
SR-W072	Supernate or Sludge Contaminated Debris from High-Level Waste (HLW) Operations	Extraction or Immobilization Alternative Debris Technologies as a 90-Day Generator	0.0
SR-W073	Cadmium-Containing Raschig Rings	Waste Stream Treated and Eliminated	N/A
SR-W077	Aqueous Characteristic Wastewater	Ion Exchange, Filtration, and/or Stabilization at F/H ETP, Saltstone, or Commercial Vendor	0.0
SR-W078	LDR Hazardous Waste Awaiting Radiological Screening	Waste Stream Eliminated	N/A
SR-W079	PCB Mixed Waste	Combustion at TSCA Incinerator or Vendor Alternate Debris Technology Treatment	0.0
SR-W080 (CN-W001, CN-W004)	Charleston Naval Shipyard Waste	Waste Stream Treated and Eliminated	N/A
SR-W081	Reactive/Ignitable Mixed Waste	Deactivation Followed by Thermal Treatment or Stabilization or Combustion at Commercial Vendor	0.0

Table 11.1 Volume Summary by Waste Stream Number			
Waste Stream No.	Waste Stream Name	Preferred Option (PO)	Current Cumulative Inventory through 07/01/16 <u>10/01/19</u> (m³)
SR-W082	Radioactive CMP Soil	Waste Stream Treated and Eliminated	N/A
SR-W083	Mercury- and Chromium-Contaminated Residues	Waste Stream Re-characterized and Eliminated	N/A
SR-W084	Remediation Waste Soils that Meet LDR	Consolidated with SR-W040	N/A
SR-W085	Rocky Flats Plutonium Fluoride Residues	Waste Stream Eliminated	N/A
SR-W086	Characteristically Hazardous Non-Incinerable Solids	Amalgamation at Commercial Vendor	0.0
SR-W087 (BT-W035, part of BT-W003)	Bettis Atomic Power Laboratory Contaminated Oil	Waste Stream Treated and Eliminated	N/A
SR-W088*	Sludges and Non-Debris Solids	Stabilization by Commercial Vendor	0.0
SR-W089	TRU Mixed Waste from Mound Site	Characterization at SRS – WIPP Disposal	5.6
SR-W090	Elemental Mercury – High Rad	Treatment by Aging Followed by Mercury Treatment	0.0
SR-W091	Contaminated Debris (High Rad)	Macroencapsulation and Disposal at NNSS	0.0
SR-W092*	TRU Mixed Waste from Battelle Columbus Site	Characterization at SRS – WIPP Disposal	4.0
TOTALS			135,113.3 <u>132,071.5</u>

TABLE 11.1 NOTES: The volumes may not represent actual volumes of mixed waste stored at SRS as of the date of the update. The volume of wastes stored in tanks or certain special containers marked with an asterisk (*) is reported as net. Volume of wastes stored in other containers such as boxes or drums is reported as gross. Volumes have been updated from those volumes reported in the ~~2010-2016~~ STP update due to waste treatment progress, waste generation, changes in volume of waste streams based on further characterization, reassignment of some stream volumes to different stream numbers, and inventory adjustments.

Waste streams with ‘0.0’ volumes have been treated or otherwise managed in accordance with RCRA regulations or are future waste streams.

Waste streams with ‘N/A’ in the volume columns have had their waste volume incorporated into other waste streams or, if they have been re-characterized, are no longer a part of the STP. Additionally, these waste streams may have been treated and the waste stream eliminated because no future waste is expected to be generated in that waste stream.

Table 11.2 Volume Summary by Treatment Facility		
Waste Stream No.	Waste Stream Name	Current Cumulative Inventory through 7/01/16 10/01/19 (m³)
Commercial Vendor Treatment – Thermal Treatment		
SR-W001	Rad-Contaminated Solvents	0.0
SR-W018	Listed Incinerable Solids	0.0
SR-W071	Wastewater Suitable for Thermal Treatment or Stabilization	0.0
SR-W081	Reactive/Ignitable Waste	0.0
	Subtotal	0.0
Effluent Treatment Project – Wastewater Treatment		
SR-W077	Aqueous Characteristic Wastewater	0.0
Liquid Waste Operations		
SR-W020	Salt Processing Filters	0.0
Defense Waste Processing Facility / Saltstone Facilities		
SR-W016	221-F Canyon High-Level Radioactive Liquid Waste / Low-Level Radioactive Liquid Waste	54,803 <u>52,697</u>
SR-W017	H-Canyon High-Level Radioactive Liquid Waste / Low-Level Radioactive Liquid Waste	79,796 <u>78,828</u>
	Subtotal	134,599 <u>131,525</u>
Meet Treatment Standards		
SR-W024	Tritium Gold Traps	3.0
SR-W040	Stabilized Sludge/LDR-Compliant Debris	0.0
SR-W050	HLW Processing Demonstrations	0.0
	Subtotal	3.0 <u>0.0</u>
Macroencapsulation as a 90-Day Generator		
SR-W015	Tritium-Contaminated Equipment	40.9
SR-W023	Cadmium Safety/Control Rods	3.4
SR-W072	Supernate or Sludge Contaminated Debris from HLW Operations	0.0
	Subtotal	44.3
SRS – Macroencapsulation		
SR-W091	Contaminated Debris – High Rad	0.0
Treatment by Aging Followed by Thermal Treatment and/or Hg Treatment		
SR-W036	Tritiated Oil with Mercury	12.7
SR-W090	Elemental Mercury – High Rad	0.0
	Subtotal	12.7

Table 11.2 Volume Summary by Treatment Facility		
Waste Stream No.	Waste Stream Name	Current Cumulative Inventory through 7/01/16 10/01/19 (m³)
Offsite Vendor Facility – Macroencapsulation		
SR-W062	Low-Level Contaminated Debris	0.0
SR-W069	LLW Lead – To Be Macroencapsulated Offsite	0.0
	Subtotal	0.0
Offsite Vendor Stabilization		
SR-W048	Soils from Spill Remediation	0.0
SR-W088	Sludges and Non-Debris Solids	0.0
	Subtotal	0.0
Offsite Vendor Facility – Amalgamation		
SR-W014	Elemental (Liquid) Mercury – Sitewide	0.1 <u>0.0</u>
SR-W086	Characteristically Hazardous Non-Incinerable Solids	0.0
	Subtotal	0.1 <u>0.0</u>
Offsite DOE – Combust in a TSCA Incinerator		
SR-W079	PCB Mixed Waste	0.0
Preferred Treatment to Be Determined		
SR-W045	PUREX Organic Waste	0.7
	<u>None</u>	
TRU Waste Streams for Shipment to WIPP		
SR-W009	Silver-Coated Packing Material	6.9
SR-W027	CH Mixed TRU	437 <u>473.0</u>
SR-W089	TRU Waste from Mound	5.6
SR-W092	TRU Mixed Waste from Battelle Columbus	4.0
	Subtotal	453.5 <u>489.5</u>
Waste Streams Consolidated		
SR-W002	Rad-Contaminated Chlorofluorocarbons	N/A
SR-W003	Solvent Contaminated Debris (LLW)	N/A
SR-W004	M-Area Plating Line Sludge from Supernate Treatment	N/A
SR-W008	Separations Area Sample Receipts from SRNL	N/A

Waste Stream No.	Waste Stream Name	Current Cumulative Inventory through 7/01/16 10/01/19 (m³)
SR-W010	Scintillation Solutions	N/A
SR-W012	Toxic Characteristic Solids	N/A
SR-W019	244-H RBOF High Activity Liquid Waste	N/A
SR-W025	Solvent/TRU Job Control Waste <100 nCi/g	N/A
SR-W026	CH Mixed TRU/Thirds	N/A
SR-W030	Spent Methanol Solution	N/A
SR-W033	Thirds/TRU Job Control Waste <100 nCi/g	N/A
SR-W034	Calcium Metal	N/A
SR-W035	Mixed Waste Oil–Sitewide	N/A
SR-W042	Paints and Thinners	N/A
SR-W043	Lab Waste with Tetraphenyl Borate	N/A
SR-W044	Tri-Butyl-Phosphate & n-Paraffin–TRU	N/A
SR-W051	Spent Filter Cartridges and Carbon Filter Media	N/A
SR-W054	Enriched Uranium Contaminated with Lead	N/A
SR-W058	Mixed Sludge Waste with Mercury from DWPF Treatability Studies	N/A
SR-W059	Tetrabutyl Titanate (TBT)	N/A
SR-W061	DWPF Mercury	N/A
SR-W063	Macroencapsulated Low-Level Waste	N/A
SR-W064	IDW and Remediation Soils/Sludges/Slurries	N/A
SR-W065	IDW Monitoring Well Purge/Development Water	N/A
SR-W066	IDW and Remediation Debris (Parts)	N/A
SR-W067	IDW and Remediation PPE Waste	N/A
SR-W068	Elemental (Liquid) Mercury – Sitewide	N/A
SR-W070	Mixed Waste from Laboratory Samples	N/A
SR-W084	Remediation Waste Soils that Meet LDR	N/A
Waste Streams Re-characterized or Eliminated		
SR-W005	Mark 15 Filtercake	N/A
SR-W006	CH Mixed TRU/Liquids	N/A

Waste Stream No.	Waste Stream Name	Current Cumulative Inventory through 7/01/16 10/01/19 (m³)
SR-W007	SRNL Sample Material	N/A
SR-W011	Cadmium-Coated HEPA Filters	N/A
SR-W013	LLW Lead – To Be Decontaminated Onsite	N/A
SR-W021	Poisoned Catalyst Material	N/A
SR-W022	DWPF Benzene	N/A
<u>SR-W024</u>	<u>Tritium Gold Traps</u>	<u>N/A</u>
SR-W028	Mark 15 Filter Paper	N/A
SR-W029	M-Area Sludge Treatability Samples	N/A
SR-W031	Uranium/Chromium Solution	N/A
SR-W032A	Mercury-Contaminated Heavy Water	N/A
SR-W032B	Mercury-Contaminated Heavy Water Residues	N/A
SR-W037	M-Area Plating Line Sludge	N/A
SR-W038	Plating Line Sump Material	N/A
SR-W039	Nickel Plating Line Solution	N/A
SR-W041	Aqueous Mercury and Lead	N/A
<u>SR-W045</u>	<u>PUREX Organic Waste</u>	<u>N/A</u>
SR-W045A	PUREX Aqueous Waste	N/A
SR-W045B	PUREX Organic Waste	N/A
SR-W046	Consolidated Incineration Facility Ash	N/A
SR-W047	Consolidated Incineration Facility Blowdown	N/A
SR-W049	Tank E-3-1 Clean Out Material	N/A
SR-W052	Cadmium Contaminated Glovebox Section	N/A
SR-W053	Rocky Flats Ash	N/A
SR-W055	Job Control Waste Containing Solvent Contaminated Wipes	N/A
SR-W056	Job Control Waste with Enriched Uranium and Solvent Contaminated Wipes	N/A
SR-W057	D-Tested Neutron Generators	N/A
SR-W060	Tritiated Water with Mercury	N/A
SR-W073	Cadmium-Containing Raschig Rings	N/A
SR-W078	LDR Hazardous Waste Awaiting Radiological Screening	N/A

Table 11.2 Volume Summary by Treatment Facility		
Waste Stream No.	Waste Stream Name	Current Cumulative Inventory through 7/01/16 10/01/19 (m³)
SR-W080	Charleston Naval Shipyard (CN-W001, CN-W004)	N/A
SR-W082	Radioactive CMP Soil	N/A
SR-W083	Mercury- and Chromium-Contaminated Residues	N/A
SR-W085	Rocky Flats Plutonium Fluoride Residues	N/A
SR-W087	Bettis Atomic Power Laboratory Contaminated Oil (BT-W035, part of BT-W003)	N/A
TOTAL		135,113.3 132,071.5

TABLE 11.2 NOTES: Volumes reflect inventories as of ~~July 1, 2016~~ October 1, 2019. They may not represent actual volumes of mixed waste of SRS as of the date of the update.

Waste streams with '0.0' volumes have been treated or otherwise managed in accordance with RCRA regulations or are future waste streams.

Waste streams with 'N/A' in the volume columns have had their waste volume incorporated into other waste streams or, if they have been re-characterized, are no longer a part of the STP. Additionally, these waste streams may have been treated and eliminated because no future waste is expected to be generated in that waste stream.

Table 11.3 Mixed Waste Treatment Residue Summary

Residues from mixed waste treatment requiring RCRA Subtitle C disposal (as of 7/1/16 10/01/19).			
Waste Stream	Treatment	Residue Status	Comment
SR-W015 Mercury/Tritium Contaminated Equipment	Macroencapsulated in a stainless steel containers	Containers stored at SRS on TRU Pad 18 Total Volume = 40.9 m ³	Waste continues to be generated.
SR-W023 Cadmium Safety/Control Rods	Macroencapsulated in a stainless steel container	Container stored at SRS on TRU Pad 219. Upon closure of TRU Pad 2, container will be re-located to TRU Pad 19. Volume of Waste = 3.4 m ³	Total Volume = 15.2 m ³ Calculated from container outside dimension.
SR-W024 Mercury/Tritium Gold Traps	Macroencapsulated in stainless steel containers	Containers stored at SRS on TRU Pad 18 Total Volume = 3.0 m ³	
SR-W040 Listed Stabilized Sludge/Listed LDR Compliant Debris	Stabilization at CIF Ashcrete Unit or Vitrification at M-Area Vendor Treatment Facility	Containers of M-Area vitrified glass were delisted and moved to LLW disposal	

TABLE 11.3 NOTES:

The following characteristic waste streams have undergone treatment. However, treatment residues are not Toxicity Characteristic Leaching Procedure (TCLP) hazardous and do not require disposal in a RCRA Subtitle C facility: SR-W041, Aqueous Mercury and Lead; SR-W077, Aqueous Characteristic Wastewater; SR-W032B, Mercury-Contaminated Heavy Water Residues.

As of ~~July 1, 2016~~October 1, 2019, DWPF has produced or filled a total of ~~4,0774,207~~ stainless steel glass canisters, which have been placed in storage at SRS awaiting final disposition.

As of November 5, 2001, all CIF stabilized ashcrete and blowdown had been shipped offsite for disposal.

The following material has been recycled in part or total. No residues have been generated requiring disposal as mixed waste by SRS: SR-W011, Cadmium-Coated HEPA Filters; SR-W032, Mercury-Contaminated Heavy Water.

By previous agreement with DHEC, small (less than 55 gallons) quantities of mixed waste(s) stored in RCRA Satellite Accumulation Areas [R.61-79.262.34(c)] are not subject to R.61-79.268 and are not included in this plan unless requested otherwise by DHEC. Also per agreement with DHEC, wastes stored in 90-day accumulation areas are not included in the waste inventory.

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