

West Valley
Demonstration Project

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WEST VALLEY DEMONSTRATION PROJECT
SITE TREATMENT PLAN UPDATE

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LIST OF ACRONYMS

A&PC	Analytical and Process Chemistry Laboratory
AMWTF	Advanced Mixed Waste Treatment Facility
ASDA	New York State Atomic & Space Development Authority
ATG	Allied Technology Group
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH	Contact-Handled
CHBWV	CH2M HILL BWXT West Valley, LLC
CPC	Chemical Process Cell
CPCWSA	Chemical Process Cell Waste Storage Area
CSTP	Conceptual Site Treatment Plan
CWA	Clean Water Act
CX	Categorical Exclusion
D&D	Decontamination and Decommissioning
DEIS	Draft Environmental Impact Statement
DOE	Department of Energy
DSTP	Draft Site Treatment Plan
EA	Environmental Assessment
EIS	Environmental Impact Statement
ELAP	Environmental Laboratory Approval Program
EPA	Environmental Protection Agency
ER	Environmental Restoration
FFCAct	Federal Facility Compliance Act
FONSI	Finding of No Significant Impact
FR	Federal Register
FSFCA	Federal & State Facility Compliance Agreement
FY	Fiscal Year
GEL	General Engineering Laboratory
GPC	General Process Cell
GTCC	Greater Than Class C waste
HEV	Head End Vent
HLW	High-Level Waste
HLWISF	High-Level Waste Interim Storage Facility
HSWA	Hazardous & Solid Waste Amendments
ID	Idaho
INEEL	Idaho National Engineering and Environmental Laboratory
IWTS	Integrated Waste Tracking System
LDR	Land Disposal Restrictions
LLW	Low-Level Waste
LWTS	Liquid Waste Treatment System
MLLW	Mixed Low-Level Waste
MPPB	Main Plant Process Building
MTRU	Mixed TRU Waste
MWIR	Mixed Waste Inventory Report
NEPA	National Environmental Policy Act
NFS	Nuclear Fuel Services Company, Inc.
NRC	Nuclear Regulatory Commission
NSSI	NSSI Recovery Services, Inc.
NTS	Nevada Test Site
NYSERDA	New York State Energy Research & Development Authority
NYSDEC	New York State Department of Environmental Conservation
NYCRR	New York Compilation of Codes, Rules, and Regulations
OGBR	Off-Gas Blower Room
OR	Oak Ridge
PEA	Programmatic Environmental Assessment

LIST OF ACRONYMS *(continued)*

PEIS	Programmatic Environmental Impact Statement
PPC	Product Purification Cell
PSTP	Proposed Site Treatment Plan
PVS	Permanent Ventilation System
RCL	Radio-Chem Lab
RCRA	Resource Conservation & Recovery Act
RFP	Request for Proposal
RH	Remote-Handled
RHWF	Remote-Handled Waste Facility
RL	Richland
RMW	Radioactive Mixed Waste
ROD	Record of Decision
SBS	Submerged Bed Scrubber System
SEG	Scientific Ecology Group
SEIS	Supplemental Environmental Impact Statement
SOP	Standard Operating Procedure
SPDES	State Pollutant Discharge Elimination System
SR	Savannah River
STP	Site Treatment Plan
T&VDS	Tank and Vault Drying System
TCLP	Toxicity Characteristic Leaching Procedure
TN	Tennessee
TRU	Transuranic Waste
TSDF	Treatment, Storage, and Disposal Facility
UHC	Underlying Hazardous Constituents
UPC	Uranium Process Cell
VCD	Vitrification Cell Dismantlement
VF	Vitrification Facility
VOC	Volatile Organic Compound
WA	Washington
WAC	Waste Acceptance Criteria
WCS	Waste Control Specialists
WIPP	Waste Isolation Pilot Plant
WIR	Waste Incidental to Reprocessing
WM	Waste Management
WMin/PP	Waste Minimization/Pollution Prevention Plan
WNYNSC	Western New York Nuclear Service Center
WV	West Valley
WVCA	West Valley Cleanup Alliance, LLC
WVDP	West Valley Demonstration Project
WVDP Act	West Valley Demonstration Project Act

EXECUTIVE SUMMARY SITE TREATMENT PLAN (STP)

REGULATORY BACKGROUND

On October 6, 1992, the Federal Facility Compliance Act (FFCA) (Pub. L. No. 102-386, 106 Stat. 1505) was enacted as an amendment to the Resource Conservation and Recovery Act (RCRA 42 U.S.C. ' 6901 *et seq.*). The FFCA requires Department of Energy (DOE) facilities that are generating or storing mixed waste to develop plans for treating their mixed waste inventories. Treatment plans can include on-site treatment at the generating facility, off-site treatment at a commercial facility, or off-site treatment at another DOE facility. The purpose of the Plan is to describe the development of treatment capacities and technologies for treating mixed waste.

To meet the Site Treatment Plan (STP) requirement of the FFCA, the DOE developed a three-step approach. First, the West Valley Demonstration Project (WVDP) prepared a Conceptual Site Treatment Plan (CSTP) that identified the technology needs, treatment capabilities, and existing plans and options for treating its mixed waste. The WVDP CSTP was submitted to the New York State Department of Environmental Conservation (NYSDEC) in October 1993 for review. Second, a Draft Site Treatment Plan (DSTP) was prepared which incorporated NYSDC's comments on the CSTP, provided an analysis of the treatment options identified in the CSTP, and identified the preferred method of treatment for each waste stream. The DSTP was submitted to NYSDC in August 1994. Third, following modification to address input on the DSTP by NYSDC and other stakeholders, the Proposed Site Treatment Plan (PSTP) was submitted to NYSDC in March 1995. The WVDP STP incorporated all comments received. The DOE is required to update the STP annually as per the FFCA Order of Consent.

STP STRUCTURE

The STP is divided into two volumes: The Background Volume and the Plan Volume. The Background Volume provides a detailed discussion of the preferred option or options, identifies the waste stream(s), and addresses and gives explanatory information for the Plan Volume. The Plan Volume provides specific plans and schedules for treating waste streams.

STP Organization

Summary Tables

The preferred treatment options that have been identified for the WVDP waste streams have historically been presented in Tables ES-1, ES-2, ES-3, ES-4, and ES-5. For the purpose of providing a summary of the preferred treatment options, the tables have been categorized as On-Site Treatment (Table ES-1), Off-Site Commercial Treatment (Table ES-2), Off-Site DOE Treatment (Table ES-3), Off-Site Commercial/DOE Treatment (Table ES-4), and Wastes That Need Further Characterization or Evaluation (Table ES-5). Although many of the waste streams that have been included in these tables have been deleted from the STP, the numbering of the tables has been maintained for consistency.

Background Volume:

The Background Volume meets the requirements of Section II (B)(1) of the Order as follows:

Requirement II.B(1) (a); Provides the estimated amount of covered waste in storage at the end of the Fiscal Year (FY) and the estimated amount of waste anticipated to be placed into storage in the next five FYs: The volume of waste reported is obtained from the Electronic Waste Tracking System (EWTS). The volume reported may change from year to year due to the generation of additional mixed waste, treatment, or off-site shipment of mixed waste, or from adjustments or corrections to mixed waste inventories previously reported.

This information can be found in the summary tables in Sections 3.0 through 5.0 for each treatability group.

Requirement II.B(1) (b); Provides a description of progress made up to the end of the last FY on treatment or technology development of each treatment facility or activity scheduled in the Plan Volume of the STP.

A discussion of the progress for the waste streams in each treatability group is provided in relevant “preferred options and other options” sections of the Background Volume.

Requirement II.B (1) (c); Provides a description of DOE’s funding for the STP.

This information can be found in Section 7.0 of the Background Volume.

Requirement II.B (1) (d); Provides the status of any planned requests for Amendments, treatability variance, or no migration petition:

Not applicable for FY2025.

Requirement II.B (1) (e); Provides Information which has changed or has not been previously included regarding waste form, waste code, technology, and capacity needs. A discussion of changed or new waste form or waste code information and technology or capacity needs is provided in relevant “description of technology and capacity needs” sections of the Background Volume.

Requirement II.B (1) (f); Provides for newly identified waste streams, a discussion of available treatment technologies and rationale to support selection of a preferred treatment option:

Not applicable for FY2025.

Requirement II.B (1) (g); Provides for notification of deletion of waste streams:

Deletions of waste streams for FY2025 are identified in the corresponding sections.

Plan Volume:

Requirement II.B (2) (a); Provides documentation to support completion of milestone for the previous year.

The documentation of completion of milestones is contained in Appendix A of the Plan Volume.

Requirement II.B (2) (b); Provides any approved Amendments:

Not applicable for FY2025.

Requirement II.B (2) (c); Provides for any conditionally approved Amendments:

Not applicable for FY2025.

Requirement II.B (2) (d); Provides discussion for any proposed Amendments:

Not applicable for FY2025.

Requirement II.B (2) (d) (i); Proposed changes to milestones:

Not applicable for FY2025.

Requirement II.B (2) (d) (ii); Proposed preferred treatment alternative and proposed schedule for newly identified waste streams:

Not applicable for FY2025.

Requirement II.B (2) (d) (iii); Proposed preferred treatment alternative and/or proposed schedule for waste streams for which characterization and technology assessment had not been completed or approved on the effective date of the Consent Order:

Not applicable for FY2025.

Requirement II.B (2) (e); A proposed schedule reflecting the annual conversion of planning schedule activities to milestones:

Not applicable for FY2025.

FY2025 ANNUAL UPDATE SUMMARY

The FY2025 update to the STP brings waste stream and inventory and treatment information current to the end of FY2025 (September 30, 2025). Over the past several years the WVDP has been successful in treating and disposing of all the legacy low-level mixed waste streams covered in the STP. As such those waste streams have been deleted from the STP. The STP will remain in effect for the Transuranic (TRU) and High Activity residual waste streams for which treatment and/or disposal options are still unavailable.

The volume of mixed waste in inventory at the WVDP at the end of FY2025 was 49.2 cubic meters (m³). This volume represents a decrease of 4.6 m³ as compared to last year.

If further information is needed, you may contact:

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TABLE ES-1: PREFERRED TREATMENT OPTION – ON-SITE TREATMENT

TREATABILITY GROUP	VOLUME m ³ SEPTEMBER 30, 2025	TREATMENT TYPE	PREFERRED OPTIONS	STP BACKGROUND/PLAN VOLUME SECTION NUMBER
TRU Liquids	16.58	Deactivation and Stabilization	Treatment in Containers	4.2.2

TABLE ES-2: PREFERRED OPTION – OFF-SITE COMMERCIAL

All wastes in this group have been treated and disposed of.

TABLE ES-3: PREFERRED OPTION – OFF-SITE DOE

All wastes in this group have been treated and disposed of.

TABLE ES-4: PREFERRED OPTION – OFF-SITE COMMERCIAL/DOE

TREATABILITY GROUP	VOLUME m ³ SEPTEMBER 30, 2025	TREATMENT TYPE	PREFERRED OPTIONS	STP BACKGROUND/ PLAN VOLUME SECTION NUMBER
TRU Elemental Lead and Debris, Toxic Metals, and/or Organics	32.64	Decontamination and Macroencapsulate of Elemental Lead	Waste Control Specialists (WCS) (For Macroencapsulate, treat as Greater Than Class C)	4.2.1

TABLE ES-5: NEEDS FURTHER CHARACTERIZATION OR EVALUATION

The contents of 8D-4 that were included in this Section have been reassigned to Section 4.2.2.

SITE TREATMENT PLAN BACKGROUND VOLUME

**SITE TREATMENT PLAN FOR
THE WEST VALLEY DEMONSTRATION PROJECT
BACKGROUND VOLUME**

1.0 INTRODUCTION

1.1 Purpose

The United States Department of Energy (DOE) is required by Section 3021(b) of the Resource Conservation and Recovery Act (RCRA), as amended by the FFCAct, to prepare Site Treatment Plans (STPs or Plans) describing the development of treatment capacities and technologies for treating mixed waste and to update those Plans annually. STPs are required for facilities at which DOE generates or stores mixed waste, which is defined by the FFCAct as waste containing both a hazardous waste component subject to the Resource Conservation and Recovery Act and a radioactive source, special nuclear or by-product material waste component subject to the Atomic Energy Act of 1954 (42 U.S.C. et seq.). The WVDP STP has been approved by the New York State Department of Environmental Conservation (NYSDEC).

The WVDP Plans and subsequent updates present information on treatment needs, capabilities, and preliminary options for treating mixed waste. Recent versions of the plan will be available at the DOE WVDP online Document Index at <https://www.energy.gov/wvdp/public-reading-room>.

This “Background Volume” is one of two volumes that constitute the FY2025 annual update to the WVDP STP. It provides a detailed discussion of the preferred, most current treatment option or options (and in some instances evaluation of dual treatment and/or treatment facility pathways), identifies the waste streams that the option or options address, and gives explanatory information for the “Plan Volume.” The annual FY2025 update to the Plan Volume identifies the facilities and technologies currently targeted to be used for treatment and the associated schedules.

1.2 Site History and Mission

The WVDP is located on the site of the only commercial nuclear fuel reprocessing plant to have operated in the United States. The WVDP facilities occupy approximately 0.8 km² of the Western New York Nuclear Service Center (WNYNSC) in West Valley, New York, a rural setting approximately 50 km south of Buffalo, New York. The site includes a commercial nuclear fuel reprocessing plant that was operated from 1966 to 1972 by Nuclear Fuels Services, Inc. (NFS) under a long-term lease from the New York State Energy Research and Development Authority (NYSERDA). The reprocessing operations generated approximately 2,500 m³ of highly radioactive liquid waste (high-level mixed waste) which was stored in underground steel tanks. In 1976, the reprocessing plant operator notified NYSERDA of its intention to cease operations.

1.2.1 West Valley Demonstration Project Act

The WNYNSC, including the WVDP, is owned by New York State. The 1980 West Valley Demonstration Project Act, Public Law 96-368 (WVDP Act) authorizes DOE to carry out a project for demonstrating solidification techniques that can be used for preparing high-level radioactive waste for disposal. Under the WVDP Act, the DOE is required to carry out the following activities:

- (1) Solidify, in a form suitable for transportation and disposal, the high-level radioactive waste.
- (2) Develop containers suitable for permanent disposal of the high-level radioactive waste solidified at the WNYNSC.
- (3) Transport the solidified waste to an appropriate federal repository for permanent disposal.

- (4) Dispose of low-level radioactive waste and transuranic waste produced by the solidification of the high-level radioactive waste under the Project (i.e., WVDP).
- (5) Decontaminate and decommission the tanks, facilities, materials, and hardware used in connection with the Project.

These activities are to be carried out in accordance with applicable rules and regulations, executed orders and agreements, and DOE directives. The scope of the DOE's authority under the WVDP Act of 1980 is limited. That scope authorizes the DOE to treat, store, and/or dispose of wastes produced by the reprocessing of spent nuclear fuels and from the demonstration of solidification techniques at the WVDP. Under the WVDP Act, the Nuclear Regulatory Commission (NRC) also has certain responsibilities at the WVDP.

1.2.2 RCRA Authority

NYSDEC was authorized to administer most of the Hazardous and Solid Waste Amendments (HSWA) Program (including Land Disposal Restriction [LDR] requirements) on May 21, 1992. By authority of the Environmental Protection Agency (EPA) "Immediate Final Rule," dated March 6, 1990, NYSDEC was authorized to regulate the hazardous constituents of radioactive mixed waste, effective May 7, 1990 (55 Federal Register [FR] 7896). The WVDP has been operating under RCRA interim status for treatment and storage of hazardous and radioactive mixed waste since June 1990. DOE, NYSERDA, and the Site Contractor, as parties, negotiated a Federal & State Facility Compliance Agreement (FSFCA) with EPA Region II and NYSDEC that addressed various mixed waste management and compliance issues. This agreement was put into place in March 1993. A one-year extension, pertaining to Section 7.2 of the FSFCA (i.e., Waste Analysis), was granted to the WVDP, extending the agreement to March 22, 1999. Actions associated with Section 7.2 of the FSFCA were completed by March 22, 1999, thereby closing out the Agreement. Wastes restricted from LDR which were identified as Radioactive Mixed Waste (RMW) pursuant to the FSFCA have been incorporated into the FFCAct process. In addition, in March 1992, DOE and NYSERDA executed a RCRA 3008(h) Administrative Order on Consent with EPA Region II and NYSDEC. The WVDP is currently implementing that Order.

1.3 Framework for Developing DOE's Site Treatment Plans

RCRA requires the treatment of hazardous waste (including the hazardous component of mixed waste) to certain standards before the waste can be land disposed and prohibits storage of hazardous wastes that do not meet LDR standards, except for the purposes of accumulating sufficient quantities to facilitate proper recovery, treatment, or disposal of the waste.

The FFCAct, signed on October 6, 1992, waives sovereign immunity for fines and penalties for RCRA violations related to LDR storage prohibition for mixed wastes at federal facilities. However, the FFCAct postpones the waiver for three years for violations of LDR storage prohibitions for DOE's mixed wastes. The FFC Act also required DOE to prepare plans for developing required treatment capacity for mixed waste at each site at which it stores or generates mixed waste. Each plan was approved by the state or EPA, after consultation with other affected states and consideration of public comment. An Order was subsequently issued by the regulatory agency requiring compliance with the Plan. The FFCAct further provides that DOE will not be subject to fines and penalties for LDR storage prohibition violations for mixed waste as long as it is in compliance with an approved plan and Order.

The FFCAct requires the plans to contain schedules for developing capacity for mixed waste for which identified treatment technologies exist, and schedules for identifying and developing technologies for mixed waste without an identified existing treatment technology. The FFCAct also requires the plans to provide certain information where radionuclide separation is proposed.

The FFCAct states that the plans may provide for centralized, regional, or on-site treatment of mixed waste, or any combination thereof, and requires the states to consider the need for regional treatment facilities in reviewing the plans.

The “Schedule for Submitting Plans for the Treatment of Mixed Waste Generated or Stored at Each Site” was published on April 6, 1993 (58 FR 17875). In the Notice, the DOE committed to providing the Site Treatment Plans in three phases: a “Conceptual Plan” to be completed in October 1993, a “Draft Plan” to be completed no later than August 1994, and a “Final Proposed Plan” to be completed no later than February 1995. (This date was later changed to April 1995 by an agreement between DOE and the states.) This process provided an opportunity for early involvement by the states and other stakeholders to discuss technical and equity issues associated with the plans.

The CSTP, submitted in October 1993, focused on identifying treatment needs, capabilities, and options for treating the site's mixed waste. The DSTP, submitted in August 1994, focused on identifying preferred options for treating the site's mixed wastes, wherever possible, as well as proposed schedules for constructing capacity. The “Final Proposed Site Treatment Plan” (PSTP), submitted in April 1995, addressed DOE complex-wide treatment issues. It provided preferred plans and schedules for treating the wastes with a mechanism for establishing milestones that are enforced through a Consent Order. Comments received on the CSTP, DSTP, and PSTP were incorporated into the Final STP.

1.4 Site Treatment Plan Organization

The WVDP's STP and each annual update to the STP follow the same format as the Site Treatment Plans of other DOE sites to facilitate cross-site comparisons. This annual update to the STP is organized in two separate but integrated volumes. The Background Volume provides the detailed discussion of the options. It contains information on the waste streams and treatability groups that a particular treatment option or options would address and describes uncertainties associated with that option, and regulator and stakeholder input. The Plan Volume is a short, focused document containing the preferred options and schedules for implementing the options and is intended to contain all the information required by the FFCAct. It references, but does not duplicate, details on the options in the Background Volume.

Sections 1.0 and 2.0 in both volumes contain introductory material relevant to the purpose of the volume. The Background Volume contains general information on the STP and the WVDP site in Section 1.0 and provides top-level assumptions and a description of the process used to determine the preferred options in Section 2.0. Sections 1.0 and 2.0 of the Plan Volume summarize the mechanisms and procedures for implementing the STP.

Sections 3.0 and 4.0 of the Background and Plan Volumes discuss the most current preferred option or options for low-level mixed waste and mixed transuranic waste. Each volume discusses waste streams and options in parallel sections. The Background Volume discusses the waste streams, technology needs, uncertainties, and other details on the preferred options. In the Plan Volume, these sections contain a description of the activities and proposed schedules for treating the wastes. To maintain consistency of STP section numbers and to record waste stream category treatment completions (i.e., current inventory reduced to 0), the following formatting will be utilized in annual updates to the STP. When a waste stream category, as represented by STP section numbers, has been treated in total, notification of such treatment will be provided in the associated FY annual update. In subsequent FY updates, the associated categories and STP section numbers will not be included. The Background Volume includes three additional sections that are not included in the Plan Volume because they are not required by the FFCAct and are not compliance-related. Section 5.0 discusses mixed wastes expected to be generated in the future.

This section is included to assist in anticipating treatment needs. The waste streams identified in Section 5.0 will be incorporated into the Plan Volume and the treatment approaches and schedules will be developed when the waste streams are generated.

Section 6.0 discusses storage capacity needs and how compliant storage will be provided for the WVDP's mixed wastes pending treatment. Section 7.0 contains funding information.

1.5 Related Documents

Other DOE efforts are closely linked to STP development. These include the Mixed Waste Inventory Report, activities conducted pursuant to the National Environmental Policy Act (NEPA), and compliance and cleanup agreements containing commitments relevant to mixed waste.

1.5.1 Mixed Waste Inventory Report

The Mixed Waste Inventory Report (MWIR) required by the FFCAct provides an inventory of mixed waste currently stored or generated or expected to be generated over the next five years, at each DOE site, and an inventory of treatment capacities and technologies. The Interim MWIR published by DOE in April of 1993 provided information on a waste-stream-by-waste-stream basis for each DOE site that generates or stores mixed waste. The DOE made updated waste stream and capacity data available to the states and EPA in May 1994. The May 1994 MWIR data represented the best record of the DOE's mixed waste inventory at the time the DOE began developing STPs. The final MWIR required by the Act was issued in June 1995. The June 1995 MWIR data reflected DOE's mixed waste inventory as of September 1, 1994. The WVDP STP has been updated to reflect the site's mixed waste inventory data as of September 30, 2025.

The volume of mixed waste in inventory at the WVDP as of September 30, 2025 was 49.2 m³. This volume represents a decrease of 4.6 m³ during the fiscal year.

1.5.2 Waste Management Programmatic Environmental Impact Statement (WM PEIS)

In May 1997, the DOE issued the Final Waste Management (WM) Programmatic Environmental Impact Statement (DOE/EIS-0200-PEIS) for public comment, which was used to formulate and implement a waste management program in a safe and environmentally sound manner and in compliance with all applicable laws, regulations, and standards. The PEIS presents to the public, states, EPA, and DOE an understanding of impacts to human health and the environment together with the costs associated with a wide range of alternative strategies for managing the DOE's environmental program. The PEIS examines activities involving the following waste types: high-level, transuranic, mixed low-level, low-level, and hazardous waste. The analysis for the waste management PEIS evaluates decentralized, regional, and centralized approaches for storage of high-level waste (HLW), treatment and storage of transuranic waste, treatment, and disposal of low-level waste (LLW) and mixed low-level waste (MLLW), and treatment of hazardous waste.

Based on the analyses in the WM PEIS, the DOE has issued a Record of Decision (ROD) for each of the five waste types and sites in a phased manner. During 1998, the following two (2) RODs were issued:

- A. "Record of Decision for the Department of Energy's Waste Management Program: Treatment and Storage of Transuranic Waste," issued on January 23, 1998 (63 FR 3629); and
- B. "Record of Decision for the Department of Energy's Waste Management Program: Treatment of Non-Wastewater Hazardous Waste," issued on August 5, 1998 (63 FR 41810).

On August 26, 1999, the ROD for the storage of immobilized HLW was issued ("Record of Decision for the Department of Energy's Waste Management Program: Storage of High-Level Radioactive Waste," 64 FR 46661).

The final ROD, which covers the treatment and disposal of mixed and LLW as analyzed in the WM PEIS, was issued on February 25, 2000 ("Record of Decision for the Department of Energy's Waste Management Program; Treatment and Disposal of Low-Level Waste and Mixed Low-Level Waste; Amendment of Record of Decision for Nevada Test Site," 65 FR 10061). For this STP, the WM PEIS RODs for TRU waste and mixed wastes are applicable and are discussed below.

The 1998 TRU ROD states that each of the DOE sites that has or generates TRU waste in the future will prepare and store it on site prior to disposal at the Waste Isolation Pilot Plant (WIPP) in New Mexico. The DOE may, in the future, decide to ship TRU wastes from sites where it may be impractical to prepare them for disposal to sites where the DOE has or will have the necessary capability. However, any future decisions regarding such transfers would be subject to appropriate NEPA review, and agreements, such as those between the DOE and the states, relating to the treatment (including packaging) and storage of TRU waste. The DOE coordinated the WM PEIS ROD for treating and storing TRU waste with the ROD it issued for the "Waste Isolation Pilot Plant Disposal Final Phase Supplemental Environmental Impact Statement (SEIS)," (WIPP SEIS-II, September 1997). The WIPP SEIS-II ROD identified the WIPP, a geologic repository, as the disposal location of TRU waste. However, the ROD limits disposal to defense-generated waste. Currently the WVDP's TRU mixed waste is considered non-defense and, as such, is precluded from immediate disposal at the WIPP.

The 2000 ROD for MLLW indicates that DOE sites will either treat their waste on-site or ship their MLLW to Hanford, Idaho National Environmental and Engineering Laboratory, Oak Ridge Reservation, or Savannah River for treatment. The Savannah River site's RCRA Part B permit needs to be revised to allow treatment of off-site waste while resumption of receipt of off-site waste at Oak Ridge was approved by the state of Tennessee. Additionally, the 2000 ROD identifies Hanford and the Nevada Test Site (NTS) as disposal options for DOE's MLLW treatment residues. However, the ROD does not preclude DOE's use of commercial facilities for treatment and/or disposal of MLLW.

1.5.3 The Federal and State Facility Compliance Agreement (FSFCA)

The FSFCA entered into by the WVDP, NYSDEC, and the EPA, established requirements for the on-site storage of mixed waste until such time as treatment is available. Pursuant to this agreement, the WVDP was required to store wastes in a specified manner, perform regular inspections of storage areas, and better characterize the wastes in storage. The FSFCA specified terms and conditions under which the DOE, NYSERDA, and the Site Contractor shall identify, store, and minimize generation of radioactive mixed wastes prohibited from land disposal and come into compliance with requirements for RCRA interim status treatment and storage facilities. This agreement was executed on March 22, 1993. A one-year extension, pertaining to Section 7.2 of the FSFCA (i.e., Waste Analysis), was granted to the WVDP, extending the agreement to March 22, 1999. Actions associated with Section 7.2 of the FSFCA were completed by March 22, 1999 thereby closing out the Agreement. The FSFCA characterization process identified new mixed waste streams that were incorporated in the STP through the annual updating process.

1.5.4 National Environmental Policy Act (NEPA)

The NEPA of 1969, as amended (42 USC Section 4321), requires all federal agencies to assess and document the actions they propose to undertake to determine if those actions have the potential to significantly impact the environment. The DOE's regulations for implementing the NEPA are promulgated in 10 CFR 1021. The DOE prepared the following NEPA documents that pertain to the WVDP mixed waste.

A. Categorical Exclusion for Low Level and Mixed Waste Oil (1994 CX)

A categorical exclusion (CX) was issued on August 1, 1994 for a one-time removal action to treat approximately 1,500 gallons of low level and mixed waste oil at an approved, permitted commercial facility in Kingston, Tennessee (TN).

B. Environmental Assessment (EA) for the Treatment of Class A LLW and MLLW Generated by the WVDP

An EA to transport the WVDP LLW and MLLW for off-site treatment was prepared and issued to the DOE for review during the fourth quarter of FY1995. The EA assesses the transportation of wastes to several approved and permitted commercial facilities (i.e., EnergySolutions, Scientific Ecology Group [SEG], GTS Duratek, NSSI Recovery Services [NSSI]). On November 29, 1995, after responding to public comments on the proposed action, the DOE approved the EA and issued a Finding of No Significant Impact (FONSI) thereby completing all necessary NEPA requirements for this action.

C. Draft Environmental Impact Statement (DEIS) for Completion of WVDP and Closure or Long-Term Management of Facilities at the Western New York Nuclear Service Center.

In January 1996, the DOE and NYSDERDA issued a draft EIS which discussed alternatives for integrated site-wide actions to complete DOE decontamination and decommissioning activities and provide for NYSDERDA's closure or long-term management of facilities at the WNYNSC. Since the issuance of the DEIS, the DOE determined that its decision-making process would be better facilitated by preparing two separate EISs. Thus, in March 2001, the DOE issued its revised strategy for completing the 1996 DEIS and a Notice of Intent to prepare the Waste Management EIS (66 FR 16447). As part of its strategy to address the full scope of the 1996 DEIS, the DOE also stated its intention to prepare a subsequent EIS to address the decommissioning and/or long-term stewardship of the WVDP and the WNYNSC. In December 2001, the DOE issued an advanced Notice of Intent (66 FR 56090) and a Notice of Intent on March 13, 2003 (68 FR 12044). During 2002, preparation of the WVDP WM EIS was in process and the formal Notice of Intent was drafted. Availability of the final WVDP WM EIS was published in the Federal Register on January 16, 2004 and the ROD was issued on June 16, 2005. The ROD provides NEPA coverage for the treatment and off-site shipment of LLW and MLLW at commercial and or DOE disposal facilities.

A Revised Draft Environmental Impact Statement (DEIS) for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center [DOE/EIS-0226-D (Revised)] was made publicly available on December 5, 2008. The U.S. Department of Energy and the New York State Energy Research and Development Agency were co-lead agencies for the DEIS, and the U.S. Environmental Protection and Nuclear

Regulatory Agencies, and the New York State Departments of Environmental Conservation and Health are cooperating agencies. Following a nine-month public comment period, a Final EIS was prepared and issued on January 29, 2010. DOE announced a ROD on April 14, 2010 for a phased decommissioning of the

WVDP Phase 1 will focus on removal of the Main Process Plant, the Vitrification Facility (VF) and the Wastewater Treatment lagoons. Further evaluations will be conducted on the approaches to decommission the remaining facilities before a final decision on these facilities is made.

D. Categorical Exclusion for Mixed Wastes (1998 CX)

A categorical exclusion (CX) for 250 m³ of MLLW at the DOE and/or commercial facilities was issued in 1998. This CX provides one comprehensive “umbrella” coverage for the management of all MLLW waste streams in accordance with the WVDP STP. Management includes treatment, shipment, and/or disposal at commercial and/or the DOE facilities.

E. WVDP site specific NEPA coverage for the shipment, treatment, and disposal of MLLW to both commercial and DOE facilities is provided by the WVDP WM EIS ROD that was issued on June 16, 2005. The DOE coordinated the WM PEIS ROD for treating and storing TRU waste with the ROD it issued for the, “Waste Isolation Pilot Plant Disposal Final Phase Supplemental Environmental Impact Statement (SEIS),” (WIPP SEIS-II, September 1997). However, the ROD limits disposal to defense-generated waste, and the WVDP's TRU mixed waste is considered non-defense, which is precluded from disposal at the WIPP. It is assumed that the ROD for the Final EIS for disposal of Greater Than Class C (GTCC) and GTCC-Like wastes will provide the NEPA coverage needed to ship these wastes to the disposal facility designated in this ROD.

2.0 METHODOLOGY

2.1 Assumptions

All the DOE sites used the following assumptions to provide for a degree of consistency in the preparation of the STPs. The assumptions were developed as part of the “Draft Site Treatment Plan Development Framework” and reflect review and comment from the states and the EPA:

HLW will continue to be managed according to current plans at each site (i.e., Hanford, West Valley, Savannah River, Idaho National Engineering and Environmental Lab [INEEL]). Primarily due to potential safety concerns, HLW will not be transported off site except as a treated, stable waste that is ready for disposal. The STPs will not change management strategies for HLW.

The original STPs assumed, at that time, that the WIPP would open in 1998. The STPs identified characterization, processing, and treatment of TRU waste to meet the WIPP waste acceptance criteria. Treatment of defense-related mixed TRU (MTRU) waste to meet LDR standards was not included in the STPs at that time. However, the original STPs did recognize that DOE's policy regarding the WIPP was under review and could change in the future. This annual update of the STP reflects the 1998 WM PEIS ROD that TRU waste will continue to be treated and stored on site pending disposal at the WIPP. However, the DOE may, in the future, decide to transfer TRU wastes from sites where it may be impractical to prepare them on-site for disposal to those sites where the DOE has or will have the necessary capability. The WIPP SEIS-II ROD identified the WIPP as the disposal location of TRU waste. However, the SEIS-II ROD limits disposal to defense-generated waste. Currently the WVDP's TRU mixed waste is considered non-defense and, as such, is precluded from immediate disposal at the WIPP.

The DOE recognizes some states' preference for treatment of all wastes on site. Where appropriate, existing on-site capacity will be utilized before new facilities are constructed. When on-site treatment or use of commercial or mobile facilities is not practicable, the use of existing off-site capacity, as well as the construction of new facilities, was considered.

Sites in the same state investigated the practicality of consolidated treatment facilities.

Mixed waste resulting from environmental restoration (ER) and decontamination and decommissioning (D&D) activities have been factored into planning activities and equity discussions, particularly where utilization of facilities identified in the STPs are being considered for managing ER and Decontamination and Decommissioning (D&D) waste.

On a volume basis, the large majority of DOE's mixed waste will be treated on site. Because of transportation concerns and costs, this generally includes process wastewater and some explosives and remote-handled wastes. In addition, other large volume waste streams will generally be treated on site. At a minimum, Richland (RL), Oak Ridge (OR), Idaho (ID), and Savannah River (SR) will have on-site facilities to treat the majority of their wastes.

Each site will prepare the necessary specific NEPA documentation before proceeding with a given project or facility ordered by the state or the EPA as a result of the STP process. Such documentation will consider the DOE's Final Waste Management PEIS and subsequent waste-type-specific RODs. NEPA requirements for shipment and treatment to the DOE facilities have been satisfied by the February 2000 WM PEIS ROD for mixed waste. The CX approved by the DOE in August 1998 reflects the WVDP's site-specific comprehensive NEPA documentation.

In support of the DOE's cradle-to-grave waste management philosophy, disposal site location and criteria will be factored into state equity discussions, waste treatment facility designs, and the characteristics of the final waste forms.

The following assumptions are specific to the WVDP:

The STP annual update addresses all mixed wastes in inventory as of September 30, 2025 with no path for disposal. Any subsequent additions to this inventory will be incorporated into the STP process through future annual STP updates.

Based upon the PEIS ROD for TRU waste, the WVDP's TRU waste is not currently eligible to be disposed of at the WIPP. (Ref.: U.S. Department of Energy National Security and Military Applications of Nuclear Energy Authorization Act of 1980, PL 96-164.) If, in the future, DOE determines that the WVDP waste is eligible for disposal at the WIPP, the treatment options presented for TRU waste in this plan will be reevaluated. In such event, treatment may not be required since the National Defense Authorization Act states that TRU mixed waste designated by the Secretary of DOE for disposal at the WIPP is exempt from the treatment standards and is not subject to the LDR. (See Section 4.1 for additional discussion of this issue)

WVDP TRU waste is included in the January 2016, US DOE Final Environmental Impact Statement for Disposal of Greater Than Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste (DOE/EIS-0375). The EIS defines GTCC-Like waste as DOE owned or generated LLRW and non-defense generated TRU radioactive waste, which have characteristics like those of GTCC LLRW and for which there may be no path for disposal at this present time. The preferred alternative for disposal of GTCC and GTCC-Like waste is the WIPP geologic repository and /or land disposal at generic commercial facilities. The ROD has not been issued as of September 2025; however, the following assumptions for the WVDP waste as GTCC-Like can be made.

- If WIPP is a preferred alternative, then treatment prior to disposal will not be necessary as long as the same conditions for DOE TRU waste applies to GTCC and GTCC-Like.
- If generic commercial is a preferred alternative, then it is assumed that treatment to the LDRs will be required for WVDPs GTCC-Like waste streams. It is further assumed that the commercial facility selected will be able to treat the WVDP GTCC-Like waste to the LDRs prior to disposal and there would be no need for on-site treatment.

2.2 Characterization of Mixed Waste

Characterization involves the identification of a waste's radionuclide content and hazardous constituents.

HLW is defined by DOE Order 435.1 (previously DOE Order 5820.2A) as "... the highly radioactive material that results from the reprocessing of spent nuclear fuels, including the liquid waste produced directly in the reprocessing, and any solid waste derived from the liquid that contains a combination of transuranic waste and fission products in concentrations as to require permanent isolation." In the same DOE Order, TRU waste is defined as all radioactive wastes that contain more than 100 nCi/gm of alpha-emitting isotopes with atomic numbers greater than 92 and half-lives of greater than 20 years. LLW are radioactive wastes that are not classified as HLW, TRU wastes, spent fuel, or by-product materials. (Note: the WVDP Act of 1980 defines TRU wastes as >10 nCi/gm.)

Solid wastes generated at the WVDP are characterized based on their radioactive and hazardous constituent content. The method is documented in Standard Operating Procedures (SOP) 300-07, "Waste Generation, Packaging, and On-Site Transportation," and WM-210, "Waste Stream Characterization," which incorporates the regulatory requirements for the classification of solid waste. Identification of waste streams is based on process knowledge, sampling, and analysis as required by 40 CFR Part 261, and 6 New York Compilation of Codes, Rules, and Regulations (NYCRR) Part 371. Specific LDR requirements are set forth in 40 CFR Part 268 and 6 NYCRR Part 376.

If required, radioactive analysis is performed on-site or at an off-site laboratory. Some chemical constituent testing is performed on site, while the remainder of the testing for hazardous constituent characterization is performed off-site at an approved mixed waste laboratory. During FY2003, the WVDP Analytical and Process Chemistry (A&PC) laboratory developed the ability to analyze liquids and some solids for toxicity characteristic leach procedure (TCLP) metals. During FY2006, the A&PC laboratory suspended the majority of waste analysis operations. The current need for analytical data will be provided by contracting with off-site laboratories. The adequacy of waste characterization for waste determination and treatment for each WVDP waste stream is summarized in Sections 3.0 and 4.0.

2.3 Waste Minimization

The WVDP has a Waste Minimization/Pollution Prevention (WMin/PP) Program Awareness Plan, WVDP-087 that includes long-range planning for waste storage and processing facilities. The WMin/PP Plan establishes the strategic framework for integrating WMin/PP into all site activities beginning with the planning stage. This program includes setting goals for reducing the generation of wastes and pollutants, increasing recycling activities, and establishing an infrastructure to achieve and measure WMin/PP goals. The WVDP has goals to reduce all types of waste generated.

3.0 LOW-LEVEL MIXED WASTE STREAMS

3.1 Mixed Waste Streams for Which Technology Exists

There is currently no waste in inventory for this STP section, and it is anticipated that no more waste will be added to this section.

3.2 Mixed Waste Streams Requiring Further Characterization or for Which Technology Assessment Has Not Been Done

All waste streams other than the High Activity Residual Liquid Waste Stream discussed below have been deleted from this section of the FY2025 STP due to availability of treatment/disposal options or since no further wastes in these categories are anticipated to be generated.

This section includes waste that must be more fully characterized before appropriate treatment technologies can be identified. It also includes waste streams for which a technology assessment has not been done; therefore, the technology and treatment needs cannot yet be identified. As the wastes are further characterized and technology assessment completed, plans and schedules for developing treatment capacity for these mixed waste streams will be developed and, where applicable, moved to Section 3.1.

3.2.1 High Activity Residual Liquid Waste Stream

High Activity Residual liquid mixed waste is managed in process and storage tanks resulting from laboratory operations, residual flushing, equipment decontamination, and process building sump collection. This waste stream was added to the STP in FY2005 Update in anticipation of the potential for future generation and isolation of liquid and residual solids in the tank system. Additional characterization for radiological and chemical classification is necessary to support long-term management and treatment determinations. A final Waste Incidental to Reprocessing determination may be made as part of the final characterization efforts.

The liquid waste in Tank 8D-4 that was originally included in this section of the STP has been reassigned to Section 4.2.2 MTRU CH/RH TRU Liquids in FY2020. The reassignment is due to radiological characterization that the contents are MTRU waste.

A waste stream identification number has not yet been assigned to this waste stream. The potential exists that more than one waste stream could result from this waste based on physical, chemical, or radiological characterization.

The waste stream is presented in Table 3.13.

The Fiscal Year Summary Activities were prepared during the year that the specific version of the Site Treatment Plan was issued. Any speculative statements were made to the best knowledge at the time and may not reflect what has actually happened. For the most current information, please refer to the current FY.

Summary of 2009 Activities

During FY2009, activities were initiated on this waste:

5D-15A1 – Solidification

Summary of FY2010 Activities

To prepare for stabilization and solidification of the liquid contained in the Main Plant Process Building (MPPB) Uranium Process Cell (UPC) tanks, the sample taken from Tank 5D-15A1 in FY2009 was shipped to an off-site lab that is NYS Environmental Laboratory Approval Program (ELAP) certified. The sample was analyzed for radioactive, RCRA characteristic metals and general chemical constituents. These results were provided to the WVDP subcontractor that had been retained to develop candidate stabilization/ solidification recipes on a laboratory scale. Following successful laboratory testing with a non-radioactive surrogate, an actual sample of the Tank 5D-15A1 liquid was provided to the off-site lab and confirmatory testing was conducted with the most promising recipes. Candidate recipes were successfully developed to achieve the desired waste form that meets LDR criteria. The preliminary design of the full scale WVDP stabilization/ solidification system was completed and a design review conducted. The solid ingredient bulk bag delivery system was specified, ordered, and received. This system accommodates three 1-ton bags of solid ingredients (such as Portland cement, silica fume and fly ash) on weigh scales with an enclosed conveyor system to deliver the solid ingredients to the mixing vessel. The system also incorporates a bag-break/addition station to accommodate small quantities of dry ingredients. The container fill/mixing station design was partially completed with a preliminary design for the waste container support stands and the control system. A purchase requisition was issued for the IP-2 mixing containers and quotes were received. NYSDEC approval for RCRA Interim Status Operation is pending.

Relative to Tank 8D-4, in January 2010, two 30 milliliter grab liquid samples were retrieved from Tank 8D-4 through the density probe located approximately four feet off the bottom of the tank (in the liquid region). The two grab samples were composited into one sample which exhibited 130 mR/hr gamma and 300 mR/hr beta/gamma. General Engineering Laboratory (GEL) data for the sample indicated chromium and mercury existing above EPA hazardous waste regulatory levels in the liquid. Note that subsequent to sample collection, the addition of sodium hydroxide to the tank to raise the pH of the liquid to reduce corrosion potential may have impacted analyte concentrations. Tank 8D-4 dose rates ranged from 1.3 R/hr at the top of the tank to 315 R/hr beta/gamma at the bottom of the tank. The sludge layer was not sampled in 2010.

During FY2010, to further enhance corrosion protection of isolated Tanks 8D-1, 8D-2, 8D-3, and 8D-4 and their vaults, the installation of a Tank and Vault Drying System (T&VDS) was initiated. The T&VDS is a ventilation system whereby dehumidified air is introduced into the tanks and vaults enhancing liquid evaporation in the vaults and in the tanks. The dry air injected into the tanks and vaults picks up moisture from the wetted surfaces in the tanks and vaults so that the exhaust air has significantly higher moisture. After the first few days of T&VDS operation, the relative humidity in the tanks and vaults was reduced. Wetted surfaces and standing liquid in the tanks and vaults are evaporated over longer periods of time depending on the volume of the residual liquid, dry air flow rate and the area of the wet surfaces. The moist air exiting the vaults passes through a rotary desiccant dryer to remove moisture before the dried air is recirculated back to the vaults. Moist exhaust air from the tanks is routed through the underground ventilation lines to the Permanent Ventilation System (PVS) inlet plenum where the moist air is filtered before passing up the discharge stack. Moisture collected on the rotary desiccant dryer is removed by a heated reactivation air flow supplied from the outside environment. The moist air from desiccant reactivation is ducted to the PVS inlet plenum where it is exhausted through the PVS.

The enhanced air circulation system is expected to achieve an evaporation rate up to approximately 4,000 gallons per year from 8D-1 and 8D-2 and up to approximately 400 gallons per year each from 8D-3 and 8D-4 (previously, prior to installation of T&VDS, rates of 1,000 and less than 50 gallons per year, respectively, were realized). The maximum volume of liquid waste that is expected to be processed by the T&VDS is approximately 60 gallons per day from the tanks.

The T&VDS unit was conditionally approved as a RCRA Interim Status Hazardous Waste Management unit on 10/16/2009 by NYSDEC.

Summary of FY2011 Activities

Treatment of the liquids contained in the MPPB UPC tanks was placed on hold in FY2010 due to funding constraints; as a result, this scope was added into the Phase I Decommissioning contract. Treatment alternatives for these liquids are being reexamined under the contract with CH2M HILL BWXT West Valley, LLC (CHBWV). The T&VDS was completed, tested, and started up in December 2010. The system was checked out at 100% of rated flows but was continuously operated at only 50% of nominal flows until a damper on the PVS was replaced on February 8, 2011, when the system was returned to 100% of rated flows. The system has performed as designed and expected with liquid evaporation from Tanks 8D-1, 8D-2, 8D-3 and 8D-4 and the 8D-1 vault, 8D-2 vault, and 8D-3/4 common vault. The relative humidities in all four tanks and the three underground vaults have also been greatly reduced to minimize tank general corrosion. The liquid level in Tank 8D-1 fell below the level indicator on August 12, 2011 with 10,190 gallons evaporated of the 14,000 gallons present at the start of T&VDS operation. Based on an average evaporation rate over this period of 46.2 gallons per day, the actual liquid volume remaining in Tank 8D-1 as of September 30, 2011 is 1,550 gallons, with the tank expected to be dry in November 2011.

The liquid level in Tank 8D-2 fell below the level indicator on March 28, 2011 with 2,380 gallons evaporated of the 4,270 gallons present at the start of T&VDS operation. Based on an average evaporation rate over this period of 28.7 gallons per day, the remaining liquid volume Tank 8D-2 would have been evaporated in June 2011. Therefore, no liquid is expected to be present in Tank 8D-2 as of September 30, 2011.

The liquid volume in Tank 8D-3 decreased from 1,560 gallons at the start of T&VDS operation to 1,170 gallons on September 30, 2011 for a 25% reduction (390 gallons) in liquid volume.

The liquid volume in Tank 8D-4 decreased from 5,870 gallons at the start of T&VDS operation to 5,620 gallons on September 30, 2011 for a 4.3% reduction (250 gallons) in liquid volume.

In summary, the T&VDS has evaporated 15,100 gallons of tank liquids in FY2011 from a starting inventory of 25,700 gallons prior to T&VDS operation, for a 59% volume reduction. No liquid is expected to remain in Tank 8D-2 and Tank 8D-1 is projected to be dry in November 2011.

Also, additional sampling of Tank 8D-4 is scheduled in FY2012. Analytical data will be reviewed. This waste will then be reclassified as appropriate in the 2012 update to the STP.

Summary of FY2012 Activities

Alternatives for treatment of the liquids in the MPPB UPC Tanks 5D-15A1, 5D-15A2, and 5D-15B were examined with off-site treatment and disposal identified as the best course of action.

During FY2012, the T&VDS evaporated 1,020 gallons of liquids from Tanks 8D-3 and 8D-4 from the September 30, 2011 inventory of 6,790 gallons, for a 15% volume reduction.

The liquid volume in Tank 8D-3 decreased by evaporation from 1,170 gallons on September 30, 2011 to 580 gallons on September 30, 2012 for a 50% (590 gallons) reduction in liquid volume. The liquid volume in Tank 8D-4 decreased by evaporation from

5,620 gallons on September 30, 2011 to 5,190 gallons on September 30, 2012 for a 7.7% (430 gallons) reduction in liquid volume.

Tank 8D-4 was sampled in FY2012 and the liquid and tank solids' samples analyzed for radionuclides, RCRA characteristic metals and general chemistry. Sample analyses indicate that the tank liquid and bottom solids are RCRA hazardous. Samples of each region of the tank have been archived for potential future use. The sampling, analysis and characterization is detailed in the final report WD:2012:0473 dated August 30, 2012.

Summary of FY2013 Activities

During FY2013, the T&VDS evaporated 1,139 gallons of liquids from Tanks 8D-3 and 8D-4 from the September 30, 2012 inventory of 5,770 gallons, for a 19.7% volume reduction. The evaporation rate was higher in 2013 since the system was on-line and drying these tanks longer than in 2012, when the dry air supply to these two tanks was suspended for a few months to support Tank 8D-4 characterization activities.

The liquid volume in Tank 8D-3 decreased by evaporation from 580 gallons on September 30, 2012 to an estimated 0 gallons (based on projected evaporation continuing following the liquid level decreasing below the level probe in April 2013) on September 30, 2013 for a 100% (580 gallons) reduction in liquid volume.

The liquid-sludge volume in Tank 8D-4 decreased by evaporation from 5,190 gallons on September 30, 2012 to 4,631 gallons on September 30, 2013 for a 10.8% (559 gallons) reduction in liquid volume.

Summary of FY2014 Activities

During FY2014, the T&VDS evaporated 151 gallons of liquids from Tank 8D-4 from the September 30, 2013 inventory of 4,871 gallons (4,631 plus the 240-gallon volume below the level indicator), for a 3.1% volume reduction. The evaporation rate was lower in 2014 since the liquid in Tank 8D-3 had been previously evaporated in FY2013 and the rate of evaporation in Tank 8D-4 continued to be purposefully reduced to allow additional time for decision-making on potential retrieval of the solids before all the liquid above the solids is evaporated, making solids retrieval more difficult.

The liquid volume in Tank 8D-3 was maintained below the level indicator during FY2014. This tank is expected to be dry, with all liquid evaporated.

Summary of FY2015 Activities

During FY2015, the Tank 8D-4 liquid was sampled and based on the analysis, 28 gallons of 50 wt% NaOH was added to boost the alkalinity of the liquid. Approximately one gallon of demineralized water was added to the tank to flush the sample and caustic addition line.

The T&VDS evaporated 109 gallons of liquids from Tank 8D-4 from the September 30, 2014 inventory of 4,720 gallons taking into account the 29-gallon addition of liquid associated with sampling and caustic addition, for an overall 1.7% volume reduction.

The evaporation rate was comparable to that in FY2014 and the rate of evaporation in Tank 8D-4 continued to be purposefully reduced to allow additional time for decision-making on potential retrieval of the solids before all the liquid above the solids is evaporated, making solids retrieval more difficult.

No additions were made to Tank 8D-3, and the tank level indicator never indicated any measurable volume during FY2015. This tank is expected to be dry, with all liquid evaporated.

The liquid-sludge volume in Tank 8D-4 decreased by evaporation from 4,720 gallons on September 30, 2014 to 4,640 gallons on September 30, 2015 for a 1.7% (80 gallons) reduction in volume.

Summary of FY2016 Activities

The High Activity Residual Liquid Waste Stream in Tanks 5D-15A2 and 5D-15B was sampled and analyzed during FY2016. The liquid in Tank 5D-15A2 was determined to be hazardous waste for the corrosivity (acidic) and the toxicity characteristics and the liquid in Tank 5D-15B was determined to be non-hazardous waste. The liquid in Tank 5D-15A1 was also identified as hazardous waste for the corrosivity and toxicity characteristics. Based on the analyses, the liquids in Tanks 5D-15A1 and 5D-15A2 were re-assigned to the Aqueous Liquids and Low-Concentration Organic Liquid Waste Streams category and given WVDP waste profile designator WV-W030 (see Section 3.1.1).

During FY2016, no activities were performed on Tank 8D-4 or its contents.

The T&VDS evaporated 80 gallons of liquids from Tank 8D-4 from the September 30, 2015 inventory of 4,640 gallons, for an overall 1.7% volume reduction. The evaporation rate was comparable to that in FY2015 and the rate of evaporation in Tank 8D-4 continued to be purposefully reduced to allow additional time for decision-making on potential retrieval of the solids before all the liquid above the solids is evaporated, making solids retrieval more difficult. The liquid-sludge volume in Tank 8D-4 decreased by evaporation from 4,640 gallons on September 30, 2015 to 4,560 gallons on September 30, 2016 for a 1.7% (80 gallons) reduction in volume.

Summary of FY2017 Activities

During FY2017, the liquid contents of Tank 8D-4 were sampled and analyzed.

The T&VDS evaporated 52 gallons of liquids from Tank 8D-4 from the September 30, 2016 inventory of 4,560 gallons, for an overall 1.1% volume reduction. The evaporation rate was comparable to that in FY2016 and the rate of evaporation in Tank 8D-4 continued to be purposefully reduced to allow for retrieval of the solids before all the liquid above the solids is evaporated, making solids retrieval more difficult. The liquid-sludge volume in Tank 8D-4 decreased by evaporation from 4,560 gallons on September 30, 2016 to 4,508 gallons on September 30, 2017 for a 1.1% (52 gallons) reduction in volume.

Summary of FY2018 Activities

During FY2018, the liquid contents of Tank 8D-4 were sampled for off-site for analysis. The Chain of Custody requested analysis for gross alpha, gross beta, Tc-99, Sr-90, and Cs-137. It also requested pH and halides (Cl, Br, & F). The data is used for corrosion control and management of the tank; however, General Engineering Laboratories (GEL) was not able to accept the sample due to sample size and activity. The liquid will be resampled for a smaller volume and resubmitted for consideration or submitted to South West Research Institute (SWRI) for approval.

The T&VDS evaporated 68 gallons of liquids from Tank 8D-4 from the September 30, 2017 inventory of 4,508 gallons, for an overall 1.5% volume reduction. The evaporation rate was comparable to that in FY2017 and the rate of evaporation in Tank 8D-4 continued to be purposefully minimized to allow additional time for decision-making on potential retrieval of the solids before all the liquid above the solids is evaporated, making solids retrieval more difficult. The liquid-sludge volume in Tank 8D-4 decreased by evaporation from 4,508 gallons on September 30, 2017 to 4,440 gallons on September 30, 2018 for a 1.5% (68-gallon) reduction in volume.

Literature searches and brainstorming were conducted to identify potential processes/technologies that could be used to remove the remaining waste. Contacts were made with various specialty subcontractors to solicit their input, and the Savannah River National Lab was contacted to review alternatives developed by the team and determine if there were existing mature technologies that could be applied for waste removal. Several alternatives were developed including:

- Mixing the remaining liquid and solid fractions into a remote TRU solid waste form which would result in approximately 200 30-gallon drums or 110 55-gallon drums of extremely high dose waste. This waste form would likely continue to be managed in the STP.
- Evaporation of approximately 1,500 gallons of the existing liquid and then mixing the remaining liquid and solid fractions into a remote TRU solid waste form which results in approximately 70 55-gallon drums. This waste form would likely remain mixed waste and continue to be managed in the STP.
- Mixing the remaining liquid and solid fractions and RCRA stabilizing in a cement waste form as LLW. 55-gallon drums with removable agitators were investigated as waste containers as well as heavily shielded 170-cubic foot containers with integral and disposable mixing blades. At least 3,000 to 4,000 55-gallon drums or 130 to 170-cubic foot containers would be produced to maintain the waste as LLW. This waste form would likely be treated to below the LDRs and acceptable for land disposal as LLW.
- Packaging the solid fraction as remote mixed-TRU waste by filtration, evaporation or drying and decontaminating the liquid fraction in zeolite columns with the zeolite columns shipped as high activity LLW and the decontaminated liquid left to evaporate with the Tank & Vault Drying System. Approximately 50 to 70 55-gallon drums of RH mixed-TRU.
- The schedule and resources required to execute any of these alternatives work exceeds the current Phase1A Contract scope and funding. The options will be reviewed and evaluated in the FY2019 update.

Summary of FY2019 Activities

The Tank 8D-4 sample that was rejected at GEL (see Summary of FY2018 Activities) was sent to SWRI for analysis in FY2019. The analytical results were received in July.

The T&VDS evaporated 68 gallons of liquids from Tank 8D-4 from the September 30, 2018 inventory of 4,440 gallons, for an overall 1.5% volume reduction. The evaporation rate was comparable to that in FY2018 and the rate of evaporation in Tank 8D-4 continued to be purposefully reduced to allow for retrieval of the solids before all the liquid above the solids is evaporated, making solids retrieval and treatment and disposal more difficult.

The options for removal of liquid from 8D-4 that were developed in FY2018 were further evaluated and DOE has preliminarily decided on the third alternative as it is the only one that at this time will result in an LDR compliant waste stream that has a viable path for disposal. DOE plans to include this activity in the scope of work Phase of in the Phase 1B of the project which is anticipated to be initiated in 3-5 years. If new treatment and/or disposal options are available at that time they will also be evaluated.

There was no liquid waste added to 8D-4 and there is none expected to be added in the next five years. The volume will continue to decrease slightly with the T&VDS system as discussed above.

Summary of FY2020 Activities

The Liquid content of Tank 8D-4 was reassigned to from Section 3.1 to Section 4.2.2 MTRU CH/RH TRU Liquid. The reassignment is made based on analysis of the contents of the tank in FY2012 which indicates that the contents as a whole is MTRU waste.

There was no other activity in FY2020 and there are currently no waste streams managed under this section.

TABLE 3.13: STP – SUMMARY OF WVDP MIXED WASTE STREAMS REQUIRING FURTHER CHARACTERIZATION
OR TECHNOLOGY ASSESSMENT

The contents of 8D-4 that were included in this section have been reassigned to Section 4.2.2.

4.0 TRU MIXED WASTE STREAMS

4.1 TRU Wastes - WIPP Status and GTCC-Like Classification

WVDP TRU waste is currently not eligible for disposal at the WIPP as prescribed by the PEIS ROD discussed in Section 1.5. If, in the future, it is determined that non-defense waste can be disposed at the WIPP, the WVDP may pursue the following strategy consistent with the national strategy for managing mixed TRU waste and the WM PEIS RODs.

The current DOE strategy for management of MTRU waste is to segregate MTRU wastes from MLLW; to maintain the MTRU wastes in safe interim storage; to characterize, certify, process (if necessary), and package the wastes to meet the WAC of the WIPP; and to permanently dispose of applicable MTRU waste in the WIPP. Under this strategy, no treatment other than what is necessary to meet the WIPP WAC is anticipated. The National Defense Authorization Act for FY1997 included a subsection that prescribed significant changes to the way that RCRA applies to the WIPP. The Act states that TRU mixed waste designated by the Secretary of the DOE for disposal at the WIPP is exempt from the treatment standards and is not subject to the Land Disposal Restrictions. The WIPP Land Withdrawal Amendments Act, as amended in 1996, limits the capacity of the WIPP to 6.2 million ft³ and also specifies that only defense TRU waste may be disposed at the WIPP.

However, there is a potential alternative to WIPP with efforts to license a commercial disposal facility for GTCC waste. TRU waste is defined in the DOE complex as waste with transuranic nuclide activity greater than 100 nCi/g. That concentration also meets NRC's classification as GTCC. Therefore, WVDP TRU waste can potentially be classified as GTCC or GTCC-Like waste. The following is a brief summary and timeline of activities to create an alternative path forward for GTCC and GTCC-Like waste.

In February 2016, DOE publicly issued the Final Environmental Impact Statement for the Disposal of GTCC Low-Level Radioactive Waste and GTCC-Like Waste (DOE/EIS-0375) (Final GTCC EIS) to evaluate the potential environmental impacts associated with the proposed development, operation, and long-term management of a disposal facility or facilities for GTCC low-level radioactive waste (LLRW) and GTCC-like waste. The Final GTCC EIS evaluated five alternatives including a No Action Alternative, geologic repository at the WIPP, intermediate-depth borehole, enhanced near-surface trench, and above-grade vault facilities. The Final GTCC EIS evaluated the Hanford Site, Idaho National Laboratory, Los Alamos National Laboratory, Nevada National Security Site, Savannah River Site, the WIPP and the WIPP vicinity. The Final EIS also evaluates generic commercial disposal sites in four regions of the United States. The preferred alternative identified in the Final GTCC EIS is the WIPP geologic repository and/or land disposal at generic commercial facilities. The final EIS is not a final decision document for GTCC LLRW waste disposal by DOE. Under the Energy Policy Act of 2005, prior to making a final decision on the disposal alternatives, DOE is required to:

- Submit a report to Congress that describes the disposal alternatives and includes all of the information required in the comprehensive report that DOE submitted to Congress in February 1987 and
- Await action by Congress
- As of September 2025, there has been no action by Congress and no further developments.

In November 2017, DOE submitted the *Alternatives for the Disposal of Greater-Than-Class C Low-Level Radioactive Waste and Greater-Than-Class C-Like Waste Report to Congress*. This Report to Congress provides an overview of the disposal alternatives for GTCC LLW and GTCC-like waste

that were analyzed in the Final EIS. The Report to Congress noted that full waste emplacement operations at WIPP are not expected until the 2021 timeframe; therefore, DOE is primarily considering disposal in generic commercial facilities.

DOE will not issue a Record of Decision on the EIS until Congress has taken the appropriate actions in accordance with the Energy Policy Act of 2005.

If WIPP is determined to be the preferred alternative, then a modification to the Land Withdrawal Act or new legislation would be required to authorize disposal of waste other than TRU waste generated by atomic energy defense activities. A modification to the Land Withdrawal Act may also be required to increase the disposal capacity for RH volume and total curies. In addition, a corresponding modification to the RCRA permit with the NMED and compliance recertification with the EPA would be required.

In conjunction with the above, in February 2018, the U.S. Nuclear Regulatory Commission (NRC) independently requested stakeholder participation and involvement in identifying the various technical issues that should be considered in the development of a Regulatory Basis for the Disposal of GTCC and transuranic radioactive waste through means other than a deep geologic disposal, including near surface disposal at commercial facilities. NRC is still reviewing stakeholder comments. This NRC action is intended to address the commercial licensing of Waste Control Specialists (WCS) and not to meet DOE's NEPA obligations with respect to the dispositioning of DOE's GTCC wastes.

In October 2018, DOE issued an EA that evaluated the disposal of DOE GTCC waste and GTCC – like waste at the WCS Andrews TX Facility *Radioactive Waste and GTCC-Like Waste*. DOE is still reviewing stakeholder comments on the EA. It is unlikely that DOE will issue a decision on the WCS EA until Congress has acted on the 2017 DOE Report and a ROD is issued on the 2017 GTCC EIS.

The NRC sponsored a webinar in August of 2019 to discuss the Draft Regulatory Basis for Disposal of GTCC and Transuranic Waste (TRU). Individuals from CHBWV participated in the event and provided comments relative WVDP Remote Handled TRU waste streams. The Draft Regulatory Basis specifically identified the WVDP and provided volumes of 710 m³ of contact handled (CH) and 540 m³ of remote handled (RH) waste in storage. The document identified the concentration of Americium-241 at 13,300 nCi/g for all RH waste containers in inventory and concluded that the WVDP RH waste stream is not potentially suitable for near surface disposal. The volumes and activity data used in the Draft Regulatory Basis was obtained from the DOE Final EIS. Waste above 10,000 nCi/g was determined to not be suitable for near surface disposal.

The WVDP comments recommend removing reference to specific sites in the Draft Regulatory Basis and focus on the distribution range and preliminary waste acceptance criteria (WAC) of less than 10,000 nCi/g TRU.

Based on the information available today, it appears that a significant amount (up to 90%) of the existing WVDP RH-TRU waste would be eligible for disposal if the 10,000 nCi/g TRU standard is accepted by NRC.

The due date for public comments to the Draft Regulatory Basis was extended from September 20, 2019 to November 19, 2020 to allow more time for members of the public to develop and submit their comments. After review of the comments and based upon its generic evaluation of the hazards and other considerations, NRC determined that most of the GTCC waste streams analyzed are potentially suitable for near surface disposal provided appropriate controls are implemented.

On October 21, 2020 the NRC issued SECY-20-0098 "Path Forward and Recommendations for Certain Low-Level Radioactive Waste Disposal Rulemaking". In this document the NRC is implementing two Commission directed rulemaking activities. 1) The 10 CFR Rule and 2) The

GTCC waste regulatory basis. The purpose is to consolidate and integrate the GTCC waste and 10 CFR 61 LLRW rulemaking activities.

The NRC concluded that the waste streams that they evaluated in the GTCC waste regulatory basis are suitable for near surface disposal and that most do not present a hazard that would require NRC to retain authority, thus allowing Agreement States to retain authority. In an April 5, 2022 memorandum, the Commission approved the staff's recommendation to issue a new proposed rule that consolidates and integrates criteria for licensing the disposal of GTCC waste and 10 CFR 61 LLRW disposal rulemaking activities.

However, a decision on the disposition of DOE waste is still on hold pending ROD issuance of the GTCC EIS.

NRC staff held a public meeting via webinar on May 17, 2023 to discuss "Regulatory Concepts for the Integrated Low-Level Radioactive Waste Disposal Rulemaking". NRC staff received requests for a second public meeting that was held on January 23, 2024. WCS was acknowledged as the sole commercial facility interested in receipt and disposal of waste up to 10,000 nCi/g under the proposed rulemaking.

The NRC staff submitted the "Proposed Rule: Integrated Low-Level Radioactive Waste Disposal (SECY-24-0045)" to the Commission on May 29, 2024. The package includes a Commission paper, the Proposed Rule Federal Register Notice, the Draft Regulatory Analysis, and the Greater-Than-Class-C (GTCC) Regulatory Basis Public Comments Summary.

At this point it is assumed that the mixed waste sent to WCS, or any other commercial facility will need to be treated in accordance with the 40 CFR Part 268 Land Disposal Restrictions prior to land disposal, but mixed waste sent to WIPP would not because TRU mixed wastes disposed at WIPP are exempt from LDR treatment standards.

WCS has treatment capability for much of the waste that they currently accept for disposal. Existing treatment includes macroencapsulation of radioactive lead solids and debris, chemical stabilization, and chemical oxidation. A discussion with a technical representative of the company indicated that these technologies may be available for some of the GTCC waste streams in the future and potentially applicable to WVDP waste streams.

In February 2024, the NRC Advisory Committee on Reactor Safeguards issued a recommendation to the NRC on 10 CFR Part 61 Revisions to Low-Level Waste Disposal Requirements. The rule making introduced site specific performance assessments and inadvertent human intrusion analysis to Part 61. Additionally, the proposed rule allows for the disposition of GTCC waste. The conclusions and recommendations included the following:

- The proposed rule represents a significant step forward in the management of a broad range of LLW.
- The inclusion of licensing flexibility and pathways for disposition of GTCC waste, depleted uranium, and other transuranic waste streams covered the proposed rule.
- The proposed rule should be issued for public comment.

As of September 2025, the proposed rule has not been submitted for public comment.

On October 31, 2024, DOE awarded the Phase 1B Deactivation and Demolition Contract to West Valley Cleanup Alliance, LLC (WVCA) who subsequently initiated site operations on June 24, 2025. The scope of the Phase 1B contract requires WVCA to assist DOE in continuing to evaluate disposition alternatives for WVDP-TRU (GTCC-like) waste. Activities to evaluate or pursue such options will be reflected in subsequent updates to this STP.

4.2 WVDP TRU Waste

The WVDP has two MTRU waste streams:

- MTRU CH/Remote-Handled (RH), Elemental Lead, Debris, Solids, and Residues, Toxic Metals and/or Organics
 - MTRU CH/RH, TRU Liquids
- 4.2.1 MTRU CH/Remote-Handled (RH), Elemental Lead, Debris, Solids, and Residues, Toxic Metals and/or Organics

WV-W024 - TRU Lead and Debris

Mixed waste inventory numbers, RCRA waste codes treatability groups, volumes, and level of confidence associated with RCRA characterization data and treatment characterization data for the above waste stream is presented in Table 4.1.

A. Description of Technology and Capacity Needs

Elemental lead waste streams that can be decontaminated and reused are not subject to LDR treatment requirements. For those TRU elemental lead waste streams that cannot be decontaminated and reused (i.e., contain fixed radioactive contaminants) and for TRU lead, and lead/mercury or other metal/organic-containing debris, the technology-based LDR treatment standard is macroencapsulation (for elemental lead) or the alternative treatment standards for hazardous debris (for debris).

Residues and solids that are not debris require treatment of the toxicity characteristics and Underlying Hazardous Constituents (UHCs) to the concentration based universal treatment standards.

As of September 30, 2025, the volume of TRU lead and debris being stored at the WVDP is 32.64 m³ (see Summary of FY2025 Activities). This volume represents the total capacity of the waste containers. However, the actual volume of mixed waste after processing of the containers is expected to be less. It is anticipated that none will be generated over the next five-year generation period (2026-2030).

B. Preferred Options and Other Options

The preferred treatment option for contaminated TRU lead is waste sorting, segregation and radiological decontamination (on-site and/or off-site) so that the resultant lead can be reused or reclassified and managed as MLLW. On-site decontamination activities were initiated in FY1997.

For elemental lead in TRU waste that cannot be successfully decontaminated on site, consideration for off-site decontamination at a commercial facility which can accept TRU waste and associated lead for recycling will be given, when feasible. The preferred option for this waste stream is disposal.

Macroencapsulation is the preferred treatment option for fixed contaminated lead wastes that cannot be decontaminated. If the waste is not elemental lead or elemental mercury (e.g., lead debris waste that is contaminated with mercury), the alternative treatment standards for hazardous debris would be applicable. Residues and solids that are not debris require treatment of the toxicity characteristics and UHCs to the concentration based universal treatment standards.

Macroencapsulation is an immobilization process that yields a solid “stabilized” waste form using polymer encapsulation or cementation. Macroencapsulation is used on solid materials (such as lead, ash, and debris) that are difficult to treat for removal of either the hazardous or radioactive component. Macroencapsulation is a proven, cost-effective method for stabilizing a variety of solid waste streams. The Fiscal Year Summary Activities were prepared during the year that the specific version of the Site Treatment Plan was issued. Any speculative statements were made to the best knowledge at the time and may not reflect what has actually happened. For the most current information, please refer to the current FY.

Summary of FY1996 Activities

There was no activity on this waste stream during FY1996. The volume of this waste was adjusted due to the reclassification of one of the containers (i.e., the lead in the container is being held for reuse and is therefore not waste).

Summary of FY1997 Activities (including Plan milestone completions)

Decontamination of TRU elemental lead was performed during FY1997 using hand wipe-down techniques. Waste packages that contained lead waste were sorted/segregated prior to decontamination operations to identify lead from any non-lead wastes. The non-lead wastes were repackaged as TRU waste. This activity is documented in Appendix A of the FY1997 Plan Volume.

Summary of FY1998 Activities (including Plan Volume milestone completions)

Detailed isotopic analytical data collected through a sampling and analysis program of the elemental lead demonstrated that several of the waste containers in this category should be classified as Class A and not TRU as originally suspected. As a result, these reclassified elemental lead wastes have been transferred to Section 3.1.6 and will be dispositioned accordingly. Additional suspect TRU lead and mercury-containing debris was identified during FY1998 and has been added to this group.

Summary of FY1999 Activities (including Plan Volume milestone completions)

Based on available information, TRU wastes in this category are either Class A or Class C and contain approximately 11,210 nCi/g transuranics. Regardless of Class, it was determined that TRU wastes in this category do not meet INEEL’s WAC for incineration since the wastes contains greater than the WAC-specified 0.1 nCi/g. Additionally, Class C TRU wastes, according to the Stipulation of Compromise, cannot be shipped off-site until an EIS ROD or other agreement is approved. Plan Volume milestones have been revised to reflect these conditions.

Summary of FY2000 Activities (including Plan Volume milestone completions)

As of September 30, 2000, there is no commercial or DOE facility capable of accepting and treating TRU mixed waste. INEEL’s planned (for FY2003) Advanced Mixed Waste Treatment Facility (AMWTF) may have the capacity to treat certain TRU mixed waste. However, the facility is planned to be initially used to treat INEEL waste with actual receipt of off-site waste not expected for several years after that. Allied Technology Group (ATG) is also planning to accept certain TRU wastes for treatment.

Additionally, as of September 30, 2000, the requirements of the Stipulation of Compromise have not been completed relative to the disposition of Class B and C waste. Also, NEPA documentation is in place for the treatment and disposal of

Class A, B, and C waste covered under the STP but is not in place for waste classified as mixed TRU waste.

During FY2000, approximately 3,353 kg of additional suspect TRU, potential mercury-containing, debris were generated during normal facility operations (i.e., filter change-out). Additionally, several containers of metal-containing debris that were originally listed under Section 3.1.10 but were found to be suspect TRU were moved to this section to better facilitate their management.

Summary of FY2001 Activities (including Plan Volume milestone completions)

As identified above, since the waste in this category could not be shipped off site by the fourth quarter of FY2000, an alternative schedule and associated milestone were developed in the first quarter of FY2001 and have been incorporated into the FY2001 Plan Volume.

During FY2001, approximately 1,740 kg of additional suspect TRU elemental lead and debris were generated during normal facility operations and preliminary facility decontamination activities. Since annual generation rates are higher than those predicted in earlier years, the projected five-year generation rate has been increased (see Table 4.1).

Summary of FY2002 Activities

During FY2002, an additional 0.21 m³ of this waste was generated. Also, high-activity waste volumes for containers of waste stored in the CPCWSA were added to the inventory (169.75 m³).

Summary of FY2003 Activities

During FY2003, fourteen containers of TRU vacuum filters from cleaning the bottom of the fuel storage pool floor were generated. The containers were originally characterized as mixed waste based upon a total metals analysis of pool bottom sludge and sediment. At the time of that analysis the A&PC lab did not have the capability to test for all RCRA metals, nor did it have TCLP capability. The samples were analyzed for total barium, chrome, and mercury. The analysis indicated that the sample contained chromium at more than 20 times the TCLP limits. Consequently, the filters were conservatively characterized as hazardous for chromium. It was suspected that the pool bottom sludge and sediment contained stainless steel fines and particles from the canister rack cutting operation. Chrome is a significant constituent of stainless steel and would be expected to be detected in a total metals analysis. However, the chrome component of stainless steel would not be expected to be leached and consequently detected above regulatory limits in a TCLP analysis.

In July 2003, A&PC developed the procedures for TCLP of all RCRA metals. A duplicate sample of the pool bottom sludge and sediment was submitted to the lab for TCLP analysis. The samples results passed for all RCRA metals. Consequently, the containers were recharacterized as radioactive non-hazardous waste and removed from the STP.

Summary of FY2004 Activities

Two D&D projects, the VCD and General Process Cell (GPC), generated a significant quantity of MTRU waste in 2004. The VCD generated four large pieces of equipment and three liners of debris that are suspected of containing mercury. The GPC D&D operation generated 20 drums of floor debris that were sampled

and determined to contain lead. Both waste streams are being stored in the HLWISF. The same two projects also generated most of the additional waste that was sent to LAG storage.

The VCD equipment is currently being managed as mixed waste containers because they are suspected of containing residues and solids contaminated with mercury. The extremely high dose rates and inaccessibility of the equipment make it difficult to determine the exact quantity and form of the mixed waste.

Consequently, the entire volume of the units was conservatively characterized as mixed waste. At the point that the waste is removed from the HLWISF for processing or preparation for off-site shipment, a detailed evaluation will be conducted.

Summary of FY2005 Activities

The VCD project generated additional MTRU waste to be managed under this section. An additional 2.29 m³ of waste for storage in the LAG system were generated along with 1.79 m³ for storage in HLWISA.

Summary of FY2006 Activities

During FY2006, four large containers of waste that had been stored in CPCWSA were taken into the RHWF for processing. The containers were generated during the Chemical Process Cell decontamination project and were characterized as mixed waste for the potential of TC mercury from light bulbs and TC lead. Container J-12 consisted primarily of debris from the CPC D&D project, and all the waste was inspected and sorted for LLW disposal. Containers J4, J6, and J7 were inspected, and any hazardous waste constituents were segregated and packaged for storage. A total of four (4) shield drums of mixed waste were generated from the processing of these four containers. Each of the original four containers were 12.23 m³, thereby resulting in a net reduction of 48.90 m³.

During the year three drums of waste were recharacterized as MLLW and transferred to the appropriate sections of the STP. An additional 25 drums of MTRU waste were generated or characterized during the year and placed into storage in the HLWISA.

Summary of FY2007 Activities

Three drums of cement solidified acidic lab solutions with high levels of chlorides, chromium and nickel were generated. The liquids were generated from dissolving stainless steel vessel and pipe coupons in concentrated acid. The liquids were solidified to better store the high alpha activity waste. There were no other changes or activities for this STP section in FY2007.

Summary of FY2008 Activities

During FY2008, TC-193 was transferred from storage in the CPCWSA to LAG for further STP management. Two TC boxes were recharacterized from MTRU to MLLW and transferred to WV-W020 for further STP management. Three TD drums were recharacterized as MLLW and shipped to Perma-Fix Northwest for treatment. Fourteen TD drums were generated or recharacterized from MLLW to MTRU during the year. J1 was processed through the RHWF during the year with the vast majority of waste processed and repackaged as non-mixed waste and any lead

removed from the container being repackaged as MLLW and managed in the corresponding STP sections. J5 was also processed during the year but it was not completely recharacterized as of September 30, 2008 and was therefore still listed in the inventory for this section as of September 30, 2008.

Summary of FY2009 Activities

During FY2009, ten containers were recharacterized from MTRU to MLLW: three were transferred to WV-W002, four were transferred to WV-W020, two were transferred to WV-W028, and one was transferred to WV-W035 for further STP management.

During FY2009, five containers previously conservatively characterized as mixed waste were processed, found to contain no mixed waste, and were consequently recharacterized as non-mixed LLW.

During FY2009 two containers of MTRU fluorescent light bulbs were generated.

Summary of FY2010 Activities

During FY2010, fifteen new containers were generated and characterized for waste stream WV-W024, including two Liquid Waste Treatment System (LWTS) evaporator sections (reboiler and separator). Twenty-two containers were processed and re-characterized which resulted in a significant reduction of the volume of mixed TRU waste, while at the same time, increasing the volume of some mixed low-level waste streams.

Summary of FY2011 Activities

During FY2011, five new containers were generated and characterized for waste stream WV-W024. The significant decrease in volume from FY2010 to the FY2011 update can be attributed to the WVDP goal to decrease the amount of TRU waste in storage. This was successfully completed through recharacterization, segregation of waste, and size reduction during processing of TRU and mixed TRU waste.

Summary of FY2012 Activities

During FY2012, four new containers were generated and characterized for waste stream WV-W024. One container was recharacterized as MLLW and transferred to the Mercury Wastes and Debris waste stream WV-W020. The Submerged Bed Scrubber (SBS) was inspected/evaluated for liquids and sampled. The visual evaluation indicated no presence of liquids, thus the SBS (container X-8898) was transferred from the TRU Liquids waste stream WV-W050 to the TRU Lead and Debris waste stream WV-W024 on 10/17/2011.

Summary of FY2013 Activities

During FY2013, eleven new containers were generated and characterized for waste stream WV-W024. The significant decrease in volume from FY2012 to the FY2013 update can be attributed to the WVDP goal to decrease the amount of TRU waste in storage. This was successfully completed through recharacterization, segregation of waste, and size reduction during processing of TRU and mixed TRU waste.

Summary of FY2014 Activities

During FY2014, twelve new containers were generated and characterized for waste stream WV-W024. Three containers were recharacterized as MLLW and shipped off site to treatment/disposal facilities.

Summary of FY2015 Activities

During FY2015, no new containers were generated for waste stream WV-W024.

Summary of FY2016 Activities

During FY2016, five new containers were generated and characterized for waste stream WV-W024. One container was recharacterized as MLLW and removed from the Site Treatment Plan inventory.

Summary of FY2017 Activities

During FY2017, five new containers were generated and characterized in addition to a minor amount of repackaging work for waste stream WV-W024.

Summary of FY2018 Activities

During FY2018, two containers were added to this section. However, the overall volume of MTRU decreased by 26.13 m³ and 517.6 kg. The reduction was mainly due to the recharacterization of the Low-Level Waste Treatment Facility (LLWTF) Separator and the outer shell of the Reboiler. The Separator was shipped to WCS for LLW treatment and disposal and the outer shell of the reboiler was cleaned of sludge and sent to NNSS as LLW. The sludge from the bottom of the reboiler was packaged into drums and placed into storage as MTRU waste. The tube bundle was packaged into an SLB-2 WIPP compliant box and placed into safe storage as MTRU waste. Note that some of the inventory included in waste stream WV-W024 was transferred from waste stream WV-W050 due to neutralization and stabilization work performed.

There is no MTRU expected to be generated in FY2019. Main Plant deactivation is expected to be completed by end of first quarter FY2019 and therefore no additional waste from that operation. The RHWF will be processing TRU waste but none of the containers planned for processing are MTRU. However, when the HEV filters are processed they will be sampled and sent for RCRA metals analysis to confirm the existing characterization of TRU. If the analytical results indicate that the filters are MTRU, then they will be added to this section of the STP.

Currently there are no Treatment, Storage, and Disposal Facilities (TSDFs) available for the treatment and disposal of TRU Mixed Wastes. WVDP will continue to research disposal options and continue to look at opportunities for volume reduction. Progress on the effort to locate an alternative disposal option for GTCC/GTCC-Like waste will continue to be monitored.

A discussion was held with a technical representative of WCS to determine if there is a potential for the company to offer treatment for mixed GTCC waste that requires compliance with land disposal restrictions prior to disposal. He indicated that it is possible that the same treatment capability available to the waste streams that they currently accept for treatment and disposal would likely be available to GTCC waste streams assuming that they are able to accept such waste in the future. Existing treatment capability at WCS includes macroencapsulation, stabilization, and chemical oxidation.

Summary of FY2019 Activities

During FY2019, one container of contaminated electronic waste (light bulbs, batteries) was generated from PPC-S and added to this section. A container of stabilized liquid was sampled and analyzed for rad and RCRA constituents and determined to not be mixed. The container was recharacterized as TRU and removed from the STP. The result of the two containers was an overall volume reduction of 0.09 m³.

There is no MTRU expected to be generated in FY2020. Main Plant deactivation is expected to be completed by end of second quarter FY2020 and therefore no additional mixed waste from that operation. Deactivation of PPC-S and GPC will generate TRU waste but none of that waste is expected to have RCRA metals above TCLP limits and therefore will not be MTRU. The RHWF will be processing TRU waste but none of the containers planned for processing are MTRU. Phase 1A of demolition of the Main Plant Process Building (MPPB) is scheduled to start in FY2020 and is not expected to generate any MTRU waste.

Currently there are no TSDFs available for the treatment and disposal of TRU Mixed Wastes. WVDP will continue to pursue disposal options and continue to look at opportunities for volume reduction. Progress on the effort to locate an alternative disposal option for GTCC/GTCC-Like waste will continue to be monitored in the STP.

Summary of FY2020 Activities

During FY2020, one container of contaminated elemental lead and electronic waste (light bulbs, batteries) was generated from the RHWF and four containers of debris from the floor of the GPC were generated and added to this section. The result of the five containers was an overall volume increase of 2.25 m³. The four shield containers generated at the GPC are planned to be processed and repackaged at the RHWF in FY2021.

There is no MTRU expected to be generated in FY2021. Main Plant deactivation is expected to be completed by end of second quarter FY2021 and therefore no additional mixed waste is anticipated from that operation. Deactivation of PPC-S and GPC will generate TRU waste but none of that waste is expected to have RCRA metals above TCLP limits and therefore will not be MTRU. Phase 1A of demolition of the Main Plant Process Building (MPPB) is scheduled to start in FY2021 and is not expected to generate any MTRU waste.

Currently there are no TSDFs available for the treatment and disposal of TRU Mixed Wastes. There were no actions completed in FY2020 by DOE or NRC as they relate to the progress of developing a path to disposal for GTCC and GTCC-Like waste. The NRC extended the comment period for responses to the Draft Regulatory Basis Document to November 2020 and will potentially generate activity in FY2021. WVDP will continue to pursue disposal options and continue to look at opportunities for volume reduction. Progress on the effort to locate an alternative disposal option for GTCC/GTCC-Like waste will continue to be monitored in the STP.

Summary of FY2021 Activities

During FY2021, one container of debris containing aerosol cans was generated from the Main Plant, leading to an overall volume increase of 0.04 m³. The four shield containers generated at the GPC in FY2020 remain in storage.

There is no MTRU expected to be generated in FY2022. Main Plant deactivation is expected to be completed by end of second quarter FY2022 and therefore no additional mixed waste is anticipated from that operation. Deactivation of PPC-S and GPC will generate TRU waste but none of that waste is expected to have RCRA metals above TCLP limits and therefore is not anticipated to be MTRU. Phase 1A of demolition of the Main Plant Process Building (MPPB) is scheduled to start in FY2022 and is not expected to generate any MTRU waste. Currently there are no TSDFs available for the treatment and disposal of TRU Mixed Wastes. There were no actions completed in FY2021 by DOE or NRC as they relate to the progress of developing a path to disposal for GTCC and GTCC-Like waste. WVDP will continue to pursue disposal options and continue to look at opportunities for volume reduction. Progress on the effort to locate an alternative disposal option for GTCC/GTCC-Like waste will continue to be monitored in the STP.

Summary of FY2022 Activities

During FY2022, no MTRU wastes were generated.

There is no MTRU expected to be generated in FY2023. Main Plant deactivation has been completed. Phase 1A of demolition of the Main Plant Process Building (MPPB) started in the 4th Quarter of FY2022 and is not expected to generate any MTRU waste in FY2023.

Currently there are no TSDFs available for the treatment and disposal of TRU Mixed Wastes. There were no actions completed in FY2022 by DOE or NRC as they relate to the progress of developing a path to disposal for GTCC and GTCC-Like waste. WVDP will continue to pursue disposal options and continue to look at opportunities for volume reduction. Progress on the effort to locate an alternative disposal option for GTCC/GTCC-Like waste will continue to be monitored in the STP.

Summary of FY2023 Activities

During FY2023, no MTRU wastes were generated.

There is no MTRU expected to be generated in FY2024. Demolition of the Main Plant Process Building (MPPB) continued throughout FY2023 and is not expected to generate any MTRU waste in FY2024.

Currently there are no TSDFs available for the treatment and disposal of TRU Mixed Wastes. There were no actions completed in FY2023 by DOE or NRC as they relate to the progress of developing a path to disposal for GTCC and GTCC-Like waste. WVDP will continue to pursue disposal options and continue to look at opportunities for volume reduction. Progress on the effort to locate an alternative disposal option for GTCC/GTCC-Like waste will continue to be monitored in the STP.

Summary of FY2024 Activities

During FY2024, no MTRU wastes were generated.

There is no MTRU expected to be generated in FY2025. Demolition of the Main Plant Process Building (MPPB) continued throughout FY2024 and is not expected to generate any MTRU waste in FY2025.

Currently there are no commercial TSDFs available for both the treatment and disposal of TRU Mixed Wastes. There were no actions completed in FY2024 by DOE or NRC as they relate to the progress of developing a path to disposal for GTCC and GTCC-Like waste. WVDP will continue to pursue disposal options and continue to look at opportunities for volume reduction. Progress on the effort to locate an alternative disposal option for GTCC/GTCC-Like waste will continue to be monitored in the STP.

Summary of FY2025 Activities

During FY2025, no MTRU wastes were generated.

There is no MTRU waste expected to be generated in FY2026. Demolition of the above-ground portion of the Main Plant Process Building (MPPB) was completed in FY2025 which did not produce any MTRU waste.

The WVDP began a re-evaluation of previous waste characterizations of MTRU wastes in inventory in FY2025. These re-evaluations resulted in 3.49 m³ of MTRU wastes being re-characterized as non-MTRU wastes primarily through the application of analytical data obtained since the time of the original conservative process knowledge-based characterizations and by a thorough examination of the detailed container contents descriptions. The waste characterization re-evaluations are projected to continue in FY 2026 which may result in further MTRU waste inventory reductions.

Currently there are no commercial TSDFs available for both the treatment and disposal of TRU Mixed Wastes. There were no actions completed in FY2025 by DOE or NRC as they relate to the progress of developing a path to disposal for GTCC and GTCC-Like waste. WVDP will continue to pursue disposal options and continue to look at opportunities for volume reduction. Progress on the effort to locate an alternative disposal option for GTCC/GTCC-Like waste will continue to be monitored in the STP.

TABLE 4.1: STP – SUMMARY OF POTENTIAL MIXED WASTE TREATMENT NEEDS AT THE WVDP FOR
ROAST/RETORT/INCINERATION/MACROENCAPSULATION

TREATABILITY GROUP(S) 4.2.1	WASTE STREAM(S)				QUANTITY OF WASTES			
	ID# MWIR	WASTE CODES	CONFIDENCE LEVEL FOR HAZARDOUS WASTE DETERMINATION	CONFIDENCE LEVEL IN WASTE CHARACTERIZATION FOR TREATMENT	INVENTORY AS OF SEPTEMBER 30, 2025		PROJECTED 5-YR GENERATION (2026-2030)	
					m ³	kg	m ³	kg
MTRU, CH/RH, Elemental Lead and Debris, Toxic Metals and/or Organics	WV-W024	D006 D008 D009	Medium	Medium	32.64	21,122	0	0

4.2.2 MTRU CH/RH, TRU Liquids

WV-W050 – TRU Liquid Wastes WV-W051 – TRU Corrosive Wastes

This waste category was moved from Section 4.3.2 to Section 4.2.2 during FY1998. The legacy TRU acidic metal aqueous waste stream (WV-W050, WV-W051) consisted of alpha contaminated laboratory liquids, associated with high-level waste analyses that were identified during previous laboratory decontamination activities. The laboratory liquids were transferred to the on-site VF for treatment during FY1999, with no additional waste anticipated to be generated in the near future. Therefore, this waste stream was removed from the active portion of the STP during FY2000. During FY2001, D&D activities resulted in the generation of additional TRU aqueous waste.

Mixed waste inventory numbers, RCRA waste codes, treatability groups, volume, and level of confidence associated with RCRA characterization data and treatment characterization data for the above waste stream are presented in Table 4.2.

The High Activity Liquid Waste Stream in Section 3.2.1 waste was reassigned to this section in FY2020. The waste stream was reassigned because the contents are characterized as MTRU waste based on sample analysis performed in 2012.

A. Description of Technology and Capacity Needs

The LDR treatment standard for this corrosive metal-containing waste stream is deactivation/stabilization.

As of September 30, 2025, the volume of packaged TRU liquid waste being stored at the WVDP is 5.64 m³ and the volume of waste in tank 8D-4 is 10.94 m³ for a total volume of 16.58 m³. Corrosion inhibitor and a small volume of additional line flush water was added in FY25 for a total addition of 59 gallons, but this additional volume was evaporated off through the T&VDS resulting in a net reduction (See Summary of FY2025 Activities below).

B. Preferred Options and Other Options

The preferred treatment option for this TRU waste stream is on-site deactivation/stabilization. However, until an ultimate disposal facility/pathway are determined (see discussion in Section 4.1 and 4.2.1), associated disposal facility waste acceptance/treatment criteria cannot be determined.

The Fiscal Year Summary Activities were prepared during the year that the specific version of the Site Treatment Plan was issued. Any speculative statements were made to the best knowledge at the time and may not reflect what has actually happened. For the most current information, please refer to the current FY.

Summary of FY1997 Activities

There was no activity on the waste streams in this category during FY1997.

Summary of FY1998 Activities (including Plan Volume milestone completions)

During FY1998, based upon information ascertained during characterization milestone activities, it was determined that on-site Vitrification is the preferred treatment option for this waste stream; therefore, this waste stream was moved from Section 4.3.2 to 4.2.2 and Plan Volume milestones were developed.

Summary of FY1999 Activities (including Plan Volume milestone completions)

Existing waste inventories were dispositioned to the on-site Vitrification system during the first quarter of FY1999.

Summary of FY2000 Activities

Since no waste was generated during FY2000, nor was additional waste expected to be generated, this waste stream was removed from the active portion of the STP.

Summary of FY2001 Activities

During FY2001, one container (48.6 kg) of TRU aqueous waste was unexpectedly generated during D&D activities (i.e., draining of high-level waste reprocessing pipelines) and has been placed in storage.

Summary of FY2002 Activities

There was no activity on the waste streams in this category during FY2002.

Summary of FY2003 Activities

There was no activity on the treatability group during FY2003.

Summary of FY2004 Activities

Five containers of TRU liquid were added to this section in FY2004. The mixed waste was generated from the Product Purification Cell (PPC) D&D operation late in FY2003 and was characterized as mixed waste in FY2004. The waste is classified as MTRU for corrosivity. No additional activities were conducted this year.

The VCD project generated 1.19 m³ of waste that was added to this section of the STP. The SBS consists of two vessels that are suspected of containing liquid contaminated with mercury. The extremely high dose rate and inaccessibility of the equipment make it difficult to determine the exact quantity and form of the mixed waste. At the point that the waste is removed from the HLWISF for processing or preparation for off-site shipment, a detailed evaluation will be conducted. Once emptied, if the SBS is determined to be hazardous, it will be managed under Section 4.2.1. If the liquid is determined to contain elemental mercury LLW the waste will be managed under Section 3.1.7.

Summary of FY2005 Activities

There was no waste generated under this section and no activities were performed.

Summary of FY2006 Activities

There was no additional waste added to this section during the year. However, three partial drums of XC-2 and PPC tell-tale wastes that were managed in the A&PC laboratory under satellite accumulation are being evaluated for solidification.

Summary of FY2007 Activities

There was no additional waste added to this STP section this year. However, there is an adjustment to the volume of waste in inventory. A volume of 1.55 m³ was reported last year but the actual volume is 1.59 m³.

Summary of FY2008 Activities

There were two containers of waste added to this section during the year. The first was a container of tell-tale liquid that was recharacterized from TRU to MTRU and assigned to this section. The liquid was hazardous for TC metals. The second container was generated this year from draining and tell-tale of a pump niche in the Upper Warm Aisle.

Summary of FY2009 Activities

During FY2009 one container of pump niche liquid was added to this waste stream.

Summary of FY2010 Activities

During FY2010, one new container, containing liquid samples from Tank 5D-15A1, was generated and characterized for waste stream WV-W050.

Summary of FY2011 Activities

During FY2011, 17 new containers were generated and characterized for waste stream WV-W050. The liquid wastes were generated from draining line 6P-57 in the Off Gas Blower Room (OGBR).

The Submerged Bed Scrubber (SBS) is scheduled to be inspected/evaluated for liquids and sampled. The visual evaluation for liquids and analytical data will be reviewed and the SBS reclassified, if appropriate, in the 2012 STP update.

Summary of FY2012 Activities

During FY2012, no new containers were generated for waste stream WV-W050. The SBS was inspected/evaluated for liquids and sampled. The visual evaluation indicated no presence of liquids, thus the SBS (container X-8898) was transferred from the TRU Liquids waste stream WV-W050 to the TRU Lead and Debris waste stream WV-W024 on 10/17/2011.

Summary of FY2013 Activities

During FY2013, one new container was generated for waste stream WV-W050. The liquid waste is composited sample digestions from the Rad-Chem Lab (RCL).

Summary of FY2014 Activities

During FY2014, no new containers were generated for waste stream WV-W050.

Summary of FY2015 Activities

During FY2015, no new containers were generated for waste stream WV-W050.

Summary of FY2016 Activities

During FY2016, no new containers were generated for waste stream WV-W050. One container was recharacterized as MLLW and shipped off site to a treatment/disposal facility.

Contaminated liquid was discovered in the Head End Vent (HEV) cell while performing facility disposition deactivation preparations. A single grab sample of the liquid identified detectable levels of RCRA Metals with lead and chromium being above the RCRA limits of TCLP characteristics and TRU isotopes exceeding the TRU limit of 100 nCi/g. The contaminated liquid will remain in place in the cell until further evaluation activities are performed.

Summary of FY2017 Activities

During FY2017, 38 containers were generated for waste stream WV-W050. Of the 38 containers, 29 were generated from draining and cleaning Tanks 5D-15A1 and 5D-15A2, and 1 was generated from water removal inside the HEV filter room.

Summary of FY2018 Activities

During FY2018, no new containers were generated. Neutralization and stabilization work resulted in a reduction in volume of 76 ft³ (2.15 m³) and a reduction in overall weight of 2,383 lbs. (1,083 kg). Note that some of the waste inventory formerly in waste stream WV-W050 that was stabilized is now included in waste stream WV-W024 due to that stabilization work.

There is no liquid MTRU expected to be generated in FY2019. Main Plant deactivation is expected to be completed by end of first quarter FY2019 and therefore no additional waste from that operation.

Currently there are no TSDFs available for the treatment and disposal of TRU Mixed Wastes. WVDP will continue to research disposal options and continue to look at opportunities for volume reduction. Progress on the effort to locate an alternative disposal option for GTCC/GTCC-Like waste will continue to be monitored.

Summary of FY2019 Activities

During FY2019, no new containers were generated.

There is no liquid MTRU expected to be generated in FY2020. Main Plant deactivation is expected to be completed by end of second quarter FY2020 and therefore no additional waste from that operation.

Currently there are no TSDFs available for the disposal of TRU/ GTCC-Like Mixed Wastes. WVDP will pursue opportunities to treat and/or dispose of this waste stream at WIPP or an offsite commercial disposal facility such as WCS. Progress on the effort to locate an alternative disposal option for GTCC/GTCC-Like waste will continue to be monitored and reported in the STP.

Summary of FY2020 Activities

The 8D-4 liquid waste stream was reassigned from Section 3.2.1, High Activity Liquid Waste to this section in FY2021. The reassignment was a result of sample analysis that indicated that the contents as a whole is MTRU waste. The volume of waste reassigned to this section is 15.55 m³.

The T&VDS evaporated 266 gallons of liquids from Tank 8D-4 from the September 30, 2019 inventory of 4,372 gallons, for an overall 6.1% volume reduction. The evaporation rate was higher than in FY2019 and the rate of evaporation in Tank 8D-4 continued to be purposefully limited to allow for retrieval of the solids before all the liquid above the solids is evaporated, making solids retrieval and treatment and disposal more difficult. The desiccant wheel in the dryer unit failed in early April 2020 and necessitated shutting down the system. Due to COVID-19 impacts and other priorities, system repairs were delayed but are fully expected to be restored to service in October 2020. No sampling or corrosion inhibitor additions to Tank 8D-4 were performed this year.

There was no liquid waste added to 8D-4 and there is none expected to be added in the next five years. The volume will continue to decrease slightly with the T&VDS as discussed above.

During FY2020, no new containers were generated.

There is no liquid MTRU expected to be generated in FY2021. Main Plant deactivation is expected to be completed by end of second quarter FY2021 and therefore no additional waste from that operation.

Currently there are no TSDFs available for the disposal of TRU/ GTCC-Like Mixed Wastes. WVDP will pursue opportunities to treat and/or dispose of this waste stream at WIPP or an off-site commercial disposal facility such as WCS. Progress on the effort to locate an alternative disposal option for GTCC/GTCC-Like waste will continue to be monitored and reported in the STP.

Summary of FY2021 Activities

The T&VDS evaporated 144 gallons of liquids from Tank 8D-4 from the September 30, 2020 inventory of 4,106 gallons, for an overall 3.5% volume reduction. The evaporation rate was lower than in FY2020. The rate of evaporation in Tank 8D-4 is purposefully limited to allow for retrieval of the solids before all the liquid above the solids is evaporated, making solids retrieval, treatment and disposal more difficult. The desiccant wheel in the dryer unit was replaced and the unit returned to service in October 2020. The drying system has been operational until July 21, 2021 when the system was shut down to replace desiccant wheel rollers. After repairs, the main electrical disconnect found to be irreparably broken. This specialty part is no longer available. A substitute disconnect was identified by the manufacturer and ordered with delivery expected by the end of November 2021. No sampling or corrosion inhibitor addition to Tank 8D-4 was performed this year.

There was no liquid waste added to 8D-4. Corrosion inhibitor and a small volume of additional line flush water is expected to be added in FY22 for a total expected addition of up to 130 gallons. The volume will continue to decrease slightly with the T&VDS as discussed above.

WVDP is planning to better characterize the contents of Tank 8D-4 in FY22 and FY23.

The characterization activities being considered include:

- Removal of abandoned steam jet in existing tank riser to make more room for equipment
- Development of SAP with DQOs
- Proposed replacement of 8-inch tank riser with a 16-inch riser

- Design, fabrication, testing and deployment of sludge depth mapping and sampling equipment
- Visual inspection inside tank
- Sludge depth mapping
- Liquid sampling and analysis
- Sludge sampling and analysis
- Updated characterization report documenting inventory of Rad constituents, RCRA hazardous constituents and General chemistry compositions

During FY2021, no new containers were generated.

There is no liquid MTRU expected to be generated in FY2022. Main Plant deactivation is expected to be completed by end of second quarter FY2022 and therefore no additional waste from that operation.

Currently there are no TSDFs available for the disposal of TRU/ GTCC-Like Mixed Wastes. WVDP will pursue opportunities to treat and/or dispose of this waste stream at WIPP or an off-site commercial disposal facility such as WCS. Progress on the effort to locate an alternative disposal option for GTCC/GTCC-Like waste will continue to be monitored and reported in the STP.

Summary of FY2022 Activities

The T&VDS evaporated 159 gallons of liquids from Tank 8D-4 from the September 30, 2021 inventory of 3,962 gallons, for an overall 4.0% waste volume reduction; 5.5% reduction in the liquid portion of the waste. The evaporation rate was increased over that in FY2021 to lower the liquid level more rapidly so that the internal video inspection planned in FY23 has a better chance of establishing the solids depth/profile under the liquid. The drying system has been operational since mid-April 2022 after the main electrical specialty disconnect was replaced in January and special efforts were implemented to remove a condensate blockage in the underground ventilation outlet line that apparently formed with the T&VDS down for an extended period. No sampling or corrosion inhibitor addition to Tank 8D-4 was performed this year.

There was no liquid waste added to 8D-4. Corrosion inhibitor and a small volume of addition line flush water are expected to be added early in FY23 for a total expected addition of 25-60 gallons. Liquid and sludge sampling are also planned later in FY23. Up to an additional 100 gallons of water may be added to decontaminate out of service equipment in the tank that will be removed to facilitate sludge mapping and sampling. The volume will continue to decrease slowly with the T&VDS operating as discussed above.

WVDP is planning to better characterize the contents of Tank 8D-4 in FY23 and FY24.

The characterization activities being considered include:

- Removal of abandoned steam jet in existing tank riser to make more room for equipment
- Development of SAP with DQOs
- Design, fabrication, testing and deployment of sludge depth mapping and sampling equipment
- Visual inspection inside tank
- Sludge depth mapping
- Liquid sampling and analysis
- Sludge sampling and analysis

- Updated characterization report documenting inventory of Rad constituents, RCRA hazardous constituents and General chemistry compositions

During FY2022, no new containers were generated.

There is no liquid MTRU expected to be generated in FY2023. Main Plant deactivation has been completed, and Main Plant demolition is not expected to generate MTRU wastes.

Currently there are no TSDFs available for the disposal of TRU/ GTCC-Like Mixed Wastes. WVDP will continue to pursue opportunities to treat and/or dispose of this waste stream at WIPP or an off-site commercial disposal facility such as WCS. Progress on the effort to locate an alternative disposal option for GTCC/GTCC-Like waste will continue to be monitored and reported in the STP.

Summary of FY2023 Activities

The Tank 8D-4 volume decreased 455 gallons from the September 30, 2022 inventory of 3,803 gallons, for an overall 12.0% waste volume reduction and 16.8% reduction in the liquid portion of the waste. Included in these numbers is T&VDS evaporation of 271 gallons and a reduction of 184 gallons resulting from using an updated liquid specific gravity based on analyses of the May 9, 2023 tank liquid sample. The evaporation rate was increased over that in FY2022 to lower the liquid level more rapidly so that the internal video inspection now planned in FY24 has a better chance of establishing the solids depth/profile under the liquid. The drying system has been operational most of the year with a 5-week outage to replace the desiccant wheel drive motor and it has been out of service for 3 weeks at the end of FY23 due to failure of the reactivation air fan motor. Preparations are underway to replace this motor early in FY24. Sampling of the liquid took place on May 9, 2023, but no corrosion inhibitor addition to Tank 8D-4 was performed this year.

There was no liquid waste added to 8D-4. Corrosion inhibitor and a small volume of addition line flush water are expected to be added early in FY24 for a total expected addition of 25-60 gallons. Liquid and sludge sampling are also planned later in FY24. Up to an additional 100 gallons of water may be added to decontaminate out of service equipment in the tank that will be removed to facilitate sludge mapping and sampling. The volume will continue to decrease slowly with the T&VDS operating as discussed above.

WVDP is planning to better characterize the contents of Tank 8D-4 in FY24 and FY25.

The characterization activities being considered include:

- Removal of abandoned steam jet in existing tank riser to make more room for equipment
- Development of SAP with DQOs
- Design, fabrication, testing and deployment of sludge depth mapping and sampling equipment
- Visual inspection inside tank
- Sludge depth mapping
- Liquid sampling and analysis
- Sludge sampling and analysis
- Updated characterization report documenting inventory of Rad constituents, RCRA hazardous constituents and General chemistry compositions

During FY2023, no new containers were generated.

There is no liquid MTRU expected to be generated in FY2024. Main Plant demolition is not expected to generate MTRU wastes.

Currently there are no TSDFs available for the disposal of TRU/ GTCC-Like Mixed Wastes. WVDP will continue to pursue opportunities to treat and/or dispose of this waste stream at WIPP or an off-site commercial disposal facility such as WCS. Progress on the effort to locate an alternative disposal option for GTCC/GTCC-Like waste will continue to be monitored and reported in the STP.

Summary of FY2024 Activities

The Tank 8D-4 volume decreased 161 gallons from the September 30, 2023 inventory of 3,348 gallons, for an overall 4.8% waste volume reduction. Included in these numbers is T&VDS evaporation of 144 gallons and a reduction of 27 gallons resulting from using an updated liquid specific gravity based on analyses of the November 7, 2023 tank liquid samples and approximately 10 gallons of water added during decontamination of equipment removed from the tank and flushing the liquid sampling system.

The evaporation rate was maintained at approximately the same rate as in FY22 and FY2023 to lower the liquid level more rapidly so that the internal video inspection performed on February 7, 2024 had a better chance of viewing the solids depth/profile under the liquid. The drying system has been operational most of the year with resumption of operation on October 25, 2023 after replacement of the drying system reactivation fan motor and several short outages to deploy and operate characterization equipment inside this tank. Sampling of the liquid for better characterization took place on November 7, 2023. No corrosion inhibitor addition to Tank 8D-4 was performed this year but is planned for early-FY2025 following sludge sampling. The volume of sludge was reduced from the past years' estimates based on sludge depth mapping performed in September 2024. The present sludge volume is estimated at 943 gallons which is a 13% reduction from the previous 1,088-gallon estimate.

Tank waste heel characterization activities performed in FY2024 include:

- Liquid sampling, laboratory analysis and validation of results
- Removal of abandoned steam jet in existing tank riser to make more room for characterization equipment
- Update of SAP with DQOs for sludge sampling
- Design, fabrication, testing and deployment of sludge depth mapping and sampling equipment
- Visual inspection inside tank
- Deployment of the remote arm within the tank
- Sludge depth mapping
- Extensive testing of the sludge sampling system and personnel training

As stated above, approximately 10 gallons of water was added during decontamination of equipment removed from the tank and flushing the liquid sampling system. Up to 55 gallons of corrosion inhibitor and up to 100 gallons of flush water may be added early in FY25 with a total anticipated addition of 40-60 gallons, which includes flushing sludge sampling equipment and equipment decontamination prior to removal from the tank. The tank volume will continue to decrease slowly with the T&VDS operating as discussed above.

WVDP is continuing to better characterize the contents of Tank 8D-4 in FY25 and provide an updated inventory report.

The characterization activities planned in FY25 include:

- Sludge sampling, analysis and validation of results
- Update characterization report documenting inventory of Rad constituents, RCRA hazardous constituents and General Chemistry compositions

During FY2024, no new containers were generated.

There is no liquid MTRU expected to be generated in FY2025. Main Plant demolition is not expected to generate MTRU wastes.

Currently there are no TSDFs available for the disposal of TRU/ GTCC-Like Mixed Wastes. WVDP will continue to pursue opportunities to treat and/or dispose of this waste stream at WIPP or an off-site commercial disposal facility such as WCS. Progress on the effort to locate an alternative disposal option for GTCC/GTCC-Like waste will continue to be monitored and reported in the STP.

Summary of FY2025 Activities

The Tank 8D-4 volume decreased 296 gallons (1.12 cubic meters) from the September 30, 2024 inventory of 3,186 gallons (12.06 cubic meters), for an overall 9.3% waste volume reduction. Included in these numbers is T&VDS evaporation of 355 gallons (1.34 cubic meters), approximately 30 gallons (0.11 cubic meter) of flush water added in conjunction with sludge sampling, 28 gallons (0.11 cubic meter) of 50 wt% NaOH added on May 22, 2025 for corrosion control and one gallon (0.004 cubic meter) of NaOH addition line flush water.

The evaporation rate was maintained at approximately the same rate as in FY22, FY23 and FY24 to lower the liquid level more rapidly so that the internal video inspections had a better chance of viewing the solids depth/profile under the liquid. The drying system has been operational most of the year with short outages for sludge sampling activities and a longer outage due to ventilation condensate occluding a portion of the tank ventilation exhaust line.

Sampling of the sludge for better characterization took place from October 15 to December 4, 2024. As stated above, approximately 30 gallons (0.11 cubic meter) of water was added during flushing of sludge sampling equipment. 28 gallons (0.11 cubic meter) of 50 wt% NaOH corrosion inhibitor and one gallon (0.004 cubic meter) of flush water were added on May 22, 2025. The tank volume will continue to decrease slowly with the T&VDS operating as discussed above.

WVDP continued to better characterize the contents of Tank 8D-4 in FY25 by obtaining 11 sludge samples, analyzing five of these and providing an updated inventory report covering both liquid and sludge regions.

During FY2025, no new containers were generated.

There is no liquid MTRU expected to be generated in FY2025.

Currently there are no TSDFs available for the disposal of TRU/ GTCC-Like Mixed Wastes. WVDP will continue to pursue opportunities to treat and/or dispose of this waste stream. Progress on the effort to locate an alternative disposal option for GTCC/GTCC-Like waste will continue to be monitored and reported in the STP.

TABLE 4.2: STP – SUMMARY OF MIXED WASTE TREATMENT NEEDS
AT THE WVDP FOR VITRIFICATION/DEACTIVATION AND STABILIZATION

TREATABILITY GROUP(S) 4.2.2	WASTE STREAM(S)				QUANTITY OF WASTES			
	ID# MWIR	WASTE CODES	CONFIDENCE LEVEL IN HAZARDOUS WASTE DETERMINATION	CONFIDENCE LEVEL IN WASTE CHARACTERIZATION FOR TREATMENT	INVENTORY AS OF SEPTEMBER 30, 2025		PROJECTED 5-YR GENERATION (2026-2030)	
					m ³	Kg	m ³	kg
MTRU CH/RH, TRU Liquids	WV-W050	D002 D005 D006 D007 D008 D009 D010	Med	Med	16.58	12,544	0	0

5.0 FUTURE GENERATION OF MIXED WASTE STREAMS

The FSFCA specified terms and conditions under which the DOE, NYSERDA, and the Site Contractor were to identify, store, treat, and minimize the generation of radioactive mixed wastes prohibited from land disposal and come into compliance with the requirements for RCRA interim status treatment and storage facilities. As mixed waste streams were better characterized and/or identified in accordance with the conditions of the FSFCA, they were incorporated into annual updates of the STP. These waste streams will continue to undergo an assessment to identify technology needs, treatment capabilities, existing and planned treatment systems, and treatment options.

Waste minimization activities have already been initiated in an attempt to minimize the amount of future mixed waste generated. These activities include the use of new laboratory procedures that greatly reduce the amount of organics generated and/or the use of non-hazardous reagents, elimination of waste streams by attrition, reuse (contaminated lead), and good operating practices.

5.1 Environmental Restoration and D&D Waste

Environmental restoration activities are dependent, in part, upon the site EISs for waste management and decommissioning and/or long-term stewardship (see Section 1.5). It is expected that mixed waste will continue to be generated from routine D&D activities. Mixed wastes generated are likely to be similar to those already identified in the Plan (e.g., oils from cranes and equipment, lead used as shielding, heels in HLW tanks). It is unlikely, however, that any new low-level wastes that cannot be treated and disposed of within one year will be generated. D&D activities will continue to generate some TRU wastes for which treatment and/or disposal options are not available.

5.1.1 Description of Technology and Capacity Needs

Not applicable at this time.

5.1.2 Anticipated Schedule for Incorporating New Waste Streams into the Plan

If additional waste streams are identified as a result of these ongoing activities, they will be incorporated into the annual STP updates.

6.0 STORAGE REPORT

The DOE is currently storing High Activity Residual Liquid and TRU mixed waste in compliance with RCRA interim storage requirements, pending the development of treatment and disposal capacity as described in this STP.

7.0 FUNDING REPORT

Based upon information obtained to date, the DOE/WVDP anticipates receiving a final FY2026 appropriation consistent with the budgeted appropriation. This level of funding will fully support regulatory compliance. FY2026 funding is sufficient to support the activities proposed for FY2026. DOE-WVDP will provide NYSDEC with available information regarding current and anticipated out-year funding profiles by March 31, 2026.

SITE TREATMENT PLAN PLAN VOLUME

SITE TREATMENT PLAN VOLUME

1.0 PURPOSE OF PLAN VOLUME

This updated volume of the STP contains the schedules for treating RMW at the WVDP to meet LDR requirements.

2.0 IMPLEMENTATION OF THE SCHEDULES IN THE PLAN VOLUME

This annual FY2025 update to the Plan Volume provides overall schedules for achieving compliance with LDR requirements for mixed wastes at the WVDP that are covered by the FFCAct Consent Order.

This Plan update contains a description of the activities and proposed schedules for treatment of wastes identified in the update of the Background Volume.

WVDP site specific NEPA coverage for the shipment, treatment, and disposal of MLLW to both commercial and DOE facilities is provided by the WVDP WM EIS ROD that was issued on June 16, 2005. The DOE coordinated the WM PEIS ROD for treating and storing TRU waste with the ROD it issued for the, "Waste Isolation Pilot Plant Disposal Final Phase Supplemental Environmental Impact Statement (SEIS)," (WIPP SEIS-II, September 1997). However, the ROD limits disposal to defense-generated waste, and the WVDP's TRU mixed waste is considered non-defense, which is precluded from disposal at the WIPP.

It is assumed that the ROD for the Final EIS for disposal of GTCC and GTCC-Like wastes will provide the NEPA coverage needed to ship these wastes to the disposal facility designated in this ROD.

3.0 LOW-LEVEL MIXED WASTE TREATMENT PLAN AND SCHEDULES

3.1 Mixed Waste Stream for Which Technology Exists

There is currently no waste in inventory for this STP section, and it is anticipated that no more waste will be added to this section.

3.2 Mixed Waste Streams Requiring Further Characterization or for Which Technology Assessment Has Not Been Done

3.2.1 High Activity Residual Liquid Waste Stream

This waste stream was added to the FY2005 STP Update in anticipation of the isolation of waste liquids and residual solids in the process and storage tank system.

The following is a list of activities required to characterize and confirm the applicable treatment technologies required to meet the Universal Treatment Standards.

- A. Characterization – This activity involves characterizing the waste to determine the applicable toxicity characteristics which are associated with the waste. A WIR determination may also be required to determine if the waste is to be managed as HLW or LLW/TRU waste. Radiological characterization will determine the proper classification of the waste.
- B. Treatment Technology – This activity involves a review of the characterization data in order to determine the appropriate treatment technology for this waste stream. Treatability studies may be required to determine or confirm the appropriate technology.

1. Milestones

Submit RCRA Part A Permit Application Modification to NYSDEC for Approval - **Completed**

Receive Approval from NYSDEC – **Completed**

Develop conceptual design for liquid solidification system by the end of 3rd Quarter FY2010 or develop alternate schedule. **Completed – Previously reported in the FY2010 STP update.**

Initiate sampling for Treatability Study by 1st Quarter FY2010 or develop alternate schedule. **Completed – Previously reported in the FY2010 STP update.**

Initiate construction of the Liquid Waste Treatment System by the end of the 3rd Quarter FY2010 or develop alternate schedule. **Completed – Previously reported in the FY2010 STP update.**

Initiate treatment of the 5D-15A1 Liquids by the end 4th Quarter FY2010 or develop alternate schedule. **Completed – Previously reported in the FY2010 STP update.**

Initiate and maintain operations of T&VDS – **Completed – Previously reported in the FY2010 STP update.**

Proposed: Initiate treatment of the 5D-15A1 liquids by the end of 4th Quarter FY2011 or develop alternative schedule. **Completed – Previously reported in the FY2011 STP update.**

Proposed: Re-evaluate treatment options for this liquid (on-site treatment vs. shipment and off-site treatment) by the end of the 1st Quarter FY2012. By the end of the 2nd Quarter FY2012, have the selected path scheduled into the CHBWV baseline submittal to DOE. **Completed – Previously reported in the FY2012 STP update.**

Proposed: Develop a schedule for treatment and disposal of the high activity residual waste stream by the 4th quarter FY2014. **Completed – Previously reported in the FY2014 STP update.**

Proposed: Treat and dispose of the high activity residual waste stream in Tanks 5D-15A1, 5D-15A2, and 5D-15B by the end of the 4th quarter FY2017 or develop an alternate schedule. **Completed – see below**

The liquid in Tank 5D-15B was determined to be non-hazardous waste and the associated volume of waste was removed from the STP inventory. The liquids in Tanks 5D-15A1 and 5D-15A2 were identified as hazardous waste for toxicity characteristics. Based on the analyses, the liquids in Tanks 5D-15A1 and 5D-15A2 were re-assigned to the Mixed Aqueous Liquids and Low-Concentration Organic Liquid Waste Streams category and given WVDP waste profile designator WV-W030.

The Tank 8D-4 liquid waste stream that was originally in Section 3.2.1 has been reassigned to section 4.1.2 of the Plan Volume.

2. Planning Schedule Activities

Not applicable. There is no waste currently in this section.

4.0 TRU WASTE STREAMS

4.1 WVDP TRU Waste

As stated in Section 4.1 of the Background Volume, WVDP TRU waste is currently not eligible for disposal at the WIPP. If, in the future, it is determined that non-defense waste can be disposed at the WIPP, or that WVDP waste qualifies as defense waste, the WVDP may pursue the strategy for TRU mixed wastes described in Section 4.1 of the Background Volume. This strategy includes segregating MTRU wastes from MLLW; to maintain the MTRU wastes in safe interim storage; to characterize, certify, process (if necessary), and package the wastes to meet the WAC of the WIPP; and to permanently dispose of applicable MTRU waste in the WIPP.

If the WVDP can obtain access to the WIPP facility, treatment for LDR compliance will not be required. The WIPP is exempt from the LDR requirements under the National Defense Authorization Act of 1997. However, it is expected that the characterization requirements to certify that the WVDP waste meets the WIPP WAC will be significant. This is the preferred treatment option for this waste stream at this time.

TRU elemental lead waste streams that can be decontaminated and reused would not subject to LDR treatment requirements. For those elemental lead waste streams which cannot be successfully decontaminated on site or off site and will require LDR treatment, the preferred treatment option would likely be macroencapsulation at an off-site commercial facility. For debris, the alternative treatment standards for hazardous debris may be applicable treatment options (e.g., incineration or immobilization).

The following is a list of activities which may be necessary to treat the wastes identified in this treatability group:

4.1.1 TRU Lead and Debris Waste Stream

- A. Decontamination – This activity involved the on-site decontamination of the lead. The decontamination effort was completed in FY1997. Lead generated by future decontamination activities which cannot be decontaminated on site will be decontaminated or macro encapsulated at an off-site facility.
- B. Prepare NEPA Documentation – The WVDP WM EIS ROD discussed in Section 1.5 does not provide NEPA coverage for TRU or TRU Mixed Wastes for off-site shipment to commercial facilities. However, NEPA coverage should be provided for disposal of WVDP Mixed TRU wastes at WIPP or WCS in the DOE FEIS for GTCC-Like waste and in the DOE EA for WCS once those documents are finalized.
- C. Waste Characterization – Fixed contaminated TRU elemental lead which cannot be successfully decontaminated on site and lead/mercury- or other metal/organic-containing debris will need to be further evaluated to determine whether it complies with all the requirements of a commercial facility WAC. Analytical data will also be reviewed to evaluate whether the waste can be reclassified as LLW. Additional sampling and analysis will need to be performed, as required. If these waste streams do not meet the waste acceptance requirements, other treatment options will be evaluated and developed.
- D. Contracts and Shipping – This activity involves establishing a contract with facilities to decontaminate and/or macroencapsulate the fixed contaminated TRU lead wastes and incinerate and/or immobilize the debris wastes. Formal approval of the waste profile sheets, packaging the waste for shipment, and off-site transport will also be required.

1. Milestones

Decontaminate the lead by the fourth quarter of FY1997.

Completed – Previously reported in the FY1997 STP update.

Complete characterization of the TRU elemental lead which contains fixed contamination to meet the commercial facility's WAC by the 3rd quarter of FY1998. **Completed – Previously reported in the FY1998 STP update.**

Complete characterization of the lead debris wastes to meet the off-site facility's WAC by the 1st quarter of FY1999. **Completed – Previously reported in the FY1999 STP update.**

Assuming that NEPA requirements have been satisfied by this date (by the 3rd quarter of FY1999), issue an RFP for decontamination/ immobilization (macroencapsulation) or prepare necessary paperwork to obtain treatment at INEEL by the 3rd quarter of FY1999. If NEPA requirements have not been completed by this date, this activity will commence six months after NEPA approval is received.

Completed – Previously reported in the FY1999 STP update.

If the facility's WAC cannot be met, or if no facility responds to the RFP, an alternate schedule identifying milestones and planning schedule activities for treating this waste will need to be prepared by the 4th quarter of FY1999. **Completed – Previously reported in the FY1999 STP update.**

Award contract or obtain waste stream acceptance/treatment approval for shipment off site by the 4th quarter of FY1999.

Completed – Previously reported in the 1999 STP update.

If the Stipulation of Compromise is settled via completion of an EIS ROD, NEPA documentation is in place, off-site treatment capacity exists, and the waste meets the off-site facility(s) WAC, initiate shipment of waste for treatment by the 4th quarter of FY2000. **Completed – Previously reported in the FY2000 STP update.** If waste cannot be shipped, prepare an alternate treatment schedule by the 1st quarter of FY2001. **Completed – Previously reported in the FY2001 STP update.**

2. Planning Schedule Activities

The WVDP will continue to evaluate treatment and disposal options with a goal of having a definitive treatment/disposal plan and schedule in place within six to twelve months of operation of a disposal facility capable of accepting WVDP MTRU waste.

4.1.2 TRU Liquids

Deactivation of the main plant process building was completed in the fourth quarter of FY2022, and demolition was completed in the third quarter FY2025. No TRU waste liquids were generated as a result of those operations or other activities throughout the site. The following activity was required to treat waste streams in this treatability group:

- A. Treatment - This activity involved the identification of the preferred physical pathway to transfer the wastes from their current containers to the Vitrification system. With the completion of the Vitrification campaign at the WVDP in September 2002, a new preferred treatment option must be developed for this waste stream.

1. Milestones

Initiate treatment of waste stream by the 4th quarter of FY1999.
Completed – Previously reported in the FY2000 STP update.

2. Planning Schedule Activities

Develop a schedule for the removal, processing, packaging, transportation, and disposal of the contents of Tank 8D-4 within one year of a record of decision to the U.S. Department of Energy Final Environmental Impact Statement for Disposal of Greater Than Class C and Greater Than Class C-Like Waste (DOE/EIS-0375) and licensing and operation of the designated facility to accept these wastes.

4.2 TRU Waste Streams Requiring Further Characterization or for Which Technology Assessment Has Not Been Done

All waste streams have been deleted from this section of the STP due to availability of treatment/disposal options or since no further wastes in these categories are anticipated to be generated.

5.0 HIGH-LEVEL MIXED WASTE STREAMS

All waste streams have been deleted from this section of the STP due to availability of treatment/disposal options or since no further wastes in these categories are anticipated to be generated.

APPENDIX A – FY2025 MILESTONE STATUS

FY2025 PROPOSED MILESTONE

There were no milestones scheduled for completion in FY2025.

WVDP RECORD OF REVISION

Rev. No.	Description of Changes	Revision On Page	Dated
0	Original Issue	All	02/11/98
1	General Revision - 1998 annual update	All	02/04/99
2	General Revision - 1999 annual update	All	02/01/00
3	General Revision - 2000 annual update Changes made throughout document to identify work activities conducted during FY2000.	All	10/25/00
4	General Revision - 2001 annual update Changes made throughout document to identify work activities conducted during FY2001.	All	02/06/02
5	General Revision - 2002 annual update Changes made throughout document to identify work activities conducted during FY2002. Waste Management and Environmental Affairs are affected by these changes	All	02/13/03
6	General Revision - 2003 annual update Changes made throughout document to identify work activities conducted during FY2003. Waste Management and Environmental Affairs are affected by these changes	All	02/05/04
7	General Revision – 2004 annual update. Changes made throughout document to identify Work activities conducted during FY2004. Waste Shipping & Disposal and Environmental Affairs are affected by these changes	All	02/10/05
8	General Revision – 2005 annual update. Changes made throughout the document to identify work activities conducted and changes to the waste volumes during FY2005. Waste Shipping and Disposal and Environmental Affairs are affected by these changes	All	02/07/06
9	Revision to incorporate DOE comments. Waste Shipping and Disposal and Environmental Affairs are affected by these changes.	All	02/13/06
10	Revised to incorporate proposed FY2006 and FY2007 milestones for WVDP MLLW. Waste Shipping and Disposal and Environmental Affairs are affected by these changes.	All	03/08/06
	Reissue for minor wording clarification.	All	03/10/06
11	Reissue to incorporate DOE comments. WSD and EA are affected by these changes.	All	04/04/06

WVDP RECORD OF REVISION CONTINUATION FORM

Rev. No.	Description of Changes	Revision On Page	Dated
12	General Revision - 2006 Update. Changes made throughout the document to identify work activities conducted and changes to the waste volumes during FY2006. Waste Shipping and Disposal and Environmental Affairs are affected by these changes	All	02/01/07
13	General Revision - 2007 annual update. Changes made throughout the document to identify work activities conducted and changes to the waste volumes during FY2007. Waste Planning, and Disposition and Environmental Affairs are affected by these changes.	All	02/05/08
14	Revision to correct the quantity of waste in Table 4.1 Waste Planning and Shipping is affected by this change	110	02/11/08
	General Revision - FY2008 annual update. Changes are made throughout the document to identify work activities conducted and changes to the waste volumes during FY2008. Waste Planning, and Disposition and Environmental Affairs are affected by these changes.	All	02/04/09
	General Revision - FY2009 annual update. Changes are made throughout the document to identify work activities conducted and changes to the waste volumes during FY2009. Waste Planning, and Disposition and Environmental Affairs are affected by these changes.	All	02/04/10
17	General revisions and editorial comment incorporation Waste Planning, Disposition and Environmental Affairs are affected by these changes	All	02/11/10
18	General Revision - FY2010 annual update. Changes are made throughout the document to identify work activities conducted and changes to the waste volumes during FY2010. Waste Planning and Disposition and Environmental Affairs are affected by these changes.	All	02/07/11
19	General Revision - FY2011 annual update. Changes are made throughout the document to identify work activities conducted and changes to the waste volumes during FY2011. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All	01/12/12
20	General Revision - FY2012 annual update. Changes are made throughout the document to identify work activities conducted and changes to the waste volumes during FY2012. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All	01/10/13
21	General Revision - FY2013 annual update. Changes are made throughout the document to identify work activities conducted and changes to the waste volumes during FY2013. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All	12/12/13

WVDP RECORD OF REVISION CONTINUATION FORM

Rev. No.	Description of Changes	Revision On Page	Dated
22	General Revision - FY2014 annual update. Changes are made throughout the document to identify work activities conducted and changes to the waste volumes during FY2014. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All	01/06/15
23	General Revision: FY2015 annual update. Changes are made throughout the document to identify work activities conducted and changes to the waste volumes during FY2015. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All	01/06/16
24	General Revision: FY2016 annual update. Changes are made throughout the document to identify work activities conducted and changes to the waste volumes during FY2016. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All	01/09/17
25	General Revision: FY2017 annual update. Changes are made throughout the document to identify work activities conducted and changes to the waste volumes during FY2017. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All	01/11/18
26	General Revision Changes made throughout the document in response to DOE-WV review of contract deliverable 119-DLVR-111517, dated 1/17/18. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All	01/31/18
27	General Revision: FY2018 annual update. Changes are made throughout the document to identify work activities conducted and changes to the waste volumes during FY2018. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All	01/09/19
28	General Revision: FY2019 annual update. Changes are made throughout the document to identify work activities conducted and changes to the waste volumes during FY2019. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All	01/22/2020

WVDP RECORD OF REVISION CONTINUATION FORM

Rev. No.	Description of Changes	Revision On Page	Dated
29	General Revision: FY2020 annual update. Changes are made throughout the document to identify work activities conducted and changes to the waste volumes during FY2020. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All	01/20/2021
30	General Revision – Major Changes. FY2021 annual update. Changes are made throughout the document to identify work activities conducted and changes to the waste volumes during FY2021. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All	01/06/2022
31	General Revision – Major Changes. FY2022 annual update. Changes are made throughout the document to identify work activities conducted and changes to the waste volumes during FY2022. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All	01/02/2023
32	General Revision – Major Changes. FY2023 annual update. Changes are made throughout the document to identify work activities conducted and changes to the waste volumes during FY2023. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All	01/11/2024
33	General Revision – Major Changes. FY2024 annual update. Changes were made throughout the document to identify work activities conducted and changes to the waste volumes during FY2024. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All	12/09/2024
34	General Revision – Major Changes. FY2025 annual update. Changes were made throughout the document to identify work activities conducted and changes to the waste volumes during FY2025. Removed references to moratorium on recycling of contaminated scrap metal. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All	12/17/2025
35	General Revision – Major Changes. Changes were made to replace language in the text. Updated 4.1 title. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All 31-32 29	01/13/2026

WVDP RECORD OF REVISION CONTINUATION FORM

Rev. No.	Description of Changes	Revision On Page	Dated
36	General Revision – Minor Changes. Spelled out TSDF and added to List of Acronyms. 1.1 Updated web address for DOE online Public Reading Room. Waste Planning and Disposition and Regulatory Strategy are affected by these changes.	All 5 & 37 12	02/10/2026