SAND2014-1797P

Sandia National Laboratories

Operated for the U.S. Department of Energy's
National Nuclear Security Administration
by **Sandia Corporation**

P.O. Box 5800, MS-0143
Albuquerque, NM 87185-0143

P.O. Box 969
Livermore, CA 94551-0969

Phone: (505) 284-3191
Fax: (505) 284-1790
Internet: mwhazen@sandia.gov

Michael W. Hazen
Vice President
Infrastructure Operations
Chief Security Officer

Mr. James W. Todd
Assistant Manager for Engineering
U. S. Department of Energy
National Nuclear Security Administration
Sandia Site Office, MS-0184
P. O. Box 5400
Albuquerque, NM 87185-0184

Dear Mr. Todd:

Subject: ***Site Treatment Plan Update Fiscal Year 2013 for Sandia National Laboratories, New Mexico***

Sandia Corporation (Sandia) is requesting that your office submit the enclosed information to the New Mexico Environment Department (NMED) by March 31.

The Annual Update to the Site Treatment Plan (STP) for Mixed Waste Report, Fiscal Year 2013 (FY13 Update), for Sandia National Laboratories, New Mexico (SNL/NM) is included in Enclosure A to this letter. Submittal of this document to the NMED satisfies the requirement of Part VII *Annual STP Updates* of the Federal Facility Compliance Order (FFCO) of October 4, 1995, as amended and revised.

The FY13 Update provides updated information for both the Background Volume and the Compliance Plan Volume of the original STP. The Background Volume section includes inventory changes, treatment progress, technology development progress, funding status, and the Waste Isolation Pilot Plant status in fiscal year 2013. The Compliance Plan Volume section provides a status of all formal changes accomplished in fiscal year 2013. As required, the FY13 Update brings the STP current to the end of the previous fiscal year for SNL/NM.

As required by the FFCO, Section XX.D *Certification Statements*, the certification statement with my signature is provided with the original copy of the notification letter. If you agree, please sign the certification statement as the owner, and submit the FY13 Update to Mr. William P. Moats, FFCO Project Manager, at the NMED.

If you have any questions about the document, please contact Fran Nimick, Senior Manager, at (505) 284-2577/fbnimic@sandia.gov or Jeffrey Jarry, Manager, at (505) 284-3080/ jfjarry@sandia.gov.

Sincerely,

Michael W. Hazen
Vice President

Enclosures:
1. Site Treatment Plan for Mixed Waste, Sandia National Laboratories, Fiscal Year 2013 Annual Update, Certification Statement
2. Enclosure A: Site Treatment Plan for Mixed Waste, Fiscal Year 2013 Annual Update

Copy to (w/enclosure):
MS-0184 David Rast, NNSA/SSO
MS-0184 Cynthia Wimberly, NNSA/SSO
MS-0184 SSO Waste Management File, NNSA/SSO

Blind copy to (w/enclosures):
MS-0651 Customer Funded Records Center, 09532
MS-0729 Anita S. Reiser, 04135
MS-1149 Jesse O. Farr, 04144 (Op Record)
MS-1149 Howard W. Seeley, 04144

Blind copy to (w/o enclosures):
MS-0141 Amy J. Blumberg, 11100
MS-0725 Sidney M. Gutierrez, 04100
MS-0729 Francis B. Nimick, 04140
MS-1151 Jeffrey F. Jarry, 04144
MS-0143 Michael W. Hazen, 04000

AR/ja

Site Treatment Plan for Mixed Waste
Sandia National Laboratories
Fiscal Year 2013 Annual Update

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

_____ _____

Michael W. Hazen, Vice-President — Date signed
Sandia Corporation
Albuquerque, New Mexico
Operator

_____ _____

James Todd, Assistant Manager for Engineering — Date signed
U.S. Department of Energy
National Nuclear Security Administration
Sandia Field Office
Owner

Site Treatment Plan for Mixed Waste

Fiscal Year 2013 Update

Sandia National Laboratories / New Mexico

March 31, 2014

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Tables

Acronyms

DOE	Department of Energy
EPA	Environmental Protection Agency
FFCA	Federal Facilities Compliance Act
FFCO	Federal Facility Compliance Order
FY	Fiscal Year
LDR(s)	Land disposal restriction(s)
LWAA	Land Withdrawal Act Amendments of 1996
MTRU	Mixed transuranic
MW	Mixed waste
NMED	New Mexico Environment Department
NNSA	National Nuclear Security Administration
RCRA	Resource Conservation and Recovery Act
SNL/NM	Sandia National Laboratories, New Mexico
STP	Site Treatment Plan
TCLP	Toxicity characteristic leaching procedure
TG	Treatability group
TRU	Transuranic
WIPP	Waste Isolation Pilot Plant

Executive Summary

The Annual Site Treatment Plan Update is submitted, as required by the Federal Facility Compliance Order (FFCO), to make both the Background Volume and the Compliance Volume current to the end of the previous fiscal year (FY) for covered mixed waste (MW) in storage at Sandia National Laboratories/New Mexico (SNL/NM).

The FY13 Site Treatment Plan (STP) **Background Volume Update** makes the inventory of mixed waste covered by the FFCO current through FY13. The Background Volume Update also presents a status of the treatment progress through FY13 and the current status of treatment technology development, as summarized in Table ES-1.

Included in the Background Volume Update is a status report of funding issues that affect the STP-related activities. Sufficient funding has been requested and granted to meet FY14 performance objectives for management and disposal of mixed waste. If budget reductions cause impacts to the mixed waste treatment activities, this information will be provided to the New Mexico Environment Department (NMED) as it becomes available.

The Department of Energy/National Nuclear Security Administration (DOE/NNSA) and Sandia Corporation (Sandia) continue to evaluate options that could be viable alternatives to the preferred treatment options identified in the STP. These options include mixed waste treatment capacity that has become available since the STP was submitted, or that is expected to become available in the near future at off-site commercial or off-site DOE/NNSA facilities.

The Background Volume Update to the STP also presents the status of the DOE/NNSA's Waste Isolation Pilot Plant (WIPP) for permanent disposal of transuranic and mixed transuranic waste (MTRU).

The FY13 STP Update also makes the STP **Compliance Plan Volume** current through FY13. The Update provides the summary and status of changes, proposed or approved revisions and amendments, and additions or deletions of covered waste occurring since the previous Annual Update.

All compliance dates associated with the treatability groups identified in the STP expired on or before March 31, 2011. The FY11 STP Update reflected that all covered mixed waste volumes were addressed prior to the applicable compliance date and that no covered waste remained in inventory. There are no compliance dates currently in effect and therefore mixed waste can no longer become covered waste subject to the STP. Proposed Revision No. 14 to the STP was submitted to the NMED on June 27, 2013, and is awaiting action.

Table ES-1 Summary of Treatment Progress and Status

TG and Volume	TG Description	Preferred Treatment Option	Progress or Status
TG 1 0 m^3	Inorganic Debris with Explosive Component	Deactivation	There is currently no covered waste in TG 1.
TG 2 0 m^3	Inorganic Debris with a Water Reactive Component	Deactivation	There is currently no covered waste in TG 2.
TG 3 0 m^3	Reactive Metals	Deactivation	There is currently no covered waste in TG 3.
TG 4 0 m^3	Elemental Lead	Macroencapsulation	There is currently no covered waste in TG 4.
TG 5 0 m^3	Aqueous Liquids (Corrosive)	Neutralization followed by Stabilization	There is currently no covered waste in TG 5.
TG 6 0 m^3	Elemental mercury	Amalgamation	There is currently no covered waste in TG 6.
TG 7 0 m^3	Organic Liquids I	Incineration	There is currently no covered waste in TG 7.
TG 8 0 m^3	Organic Debris with Organic Contaminants	Thermal Desorption	There is currently no covered waste in TG 8.
TG 9 0 m^3	Inorganic Debris with TCLP Metals	Macroencapsulation	There is currently no covered waste in TG 9.
TG 10 0 m^3	Heterogeneous Debris	Sort followed by Reclassification	There is currently no covered waste in TG 10.

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Table ES-1 Summary of Treatment Progress and Status (continued)

TG and Volume	TG Description	Preferred Treatment Option	Progress or Status
TG 11 0 m^3	Organic Liquids II	Hydrothermal Processing	There is currently no covered waste in TG 11.
TG 12 0 m^3	Organic Debris with TCLP Metals	Macroencapsulation	There is currently no covered waste in TG 12.
TG 13 0 m^3	Oxidizers	Deactivation followed by Stabilization	There is currently no covered waste in TG 13.
TG 14 0 m^3	Aqueous Liquids with Organic Contaminants	Evaporative Oxidation	There is currently no covered waste in TG 14.
TG 15 0 m^3	Soils <50% Debris & Particulates with TCLP Metals	Stabilization	There is currently no covered waste in TG 15.
TG 16 0 m^3	Cyanide Waste	Oxidation	There is currently no covered waste in TG 16.
TG 17 0 m^3	Liquid/Solid with Organic and/or Metal Contaminants	Incineration followed by Stabilization	There is currently no covered waste in TG 17.
TG 18 0 m^3	Particulates with Organic Contaminants	Incineration	There is currently no covered waste in TG 18.
TG 19 0 m^3	Liquids with Metals	Stabilization	There is currently no covered waste in TG 19.
TG 20 0 m^3	Propellant with TCLP Metals	Deactivation followed by Stabilization	There is currently no covered waste in TG 20.

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Table ES-1 Summary of Treatment Progress and Status (concluded)

TG and Volume	TG Description	Preferred Treatment Option	Progress or Status
TG 21 0 m^3	Sealed Sources with TCLP Metals	Off-Site Shipment / Macroencapsulation	There is currently no covered waste in TG 21.
TG 22 0 m^3	Reserved	Not Applicable	Not Applicable
TG 23 0 m^3	Thermal Batteries	Off-Site Shipment / Size Reduction followed by Stabilization	There is currently no covered waste in TG 23.
TG 24 0 m^3	Spark Gap Tubes with TCLP Metals	Off-Site Shipment / Macroencapsulation	There is currently no covered waste in TG 24.
TG 25 0 m^3	Classified Items with TCLP Metals	Sort followed by Reclassification	There is currently no covered waste in TG 25.
TG 26 0 m^3	Debris Items with Reactive Compounds & TCLP Metals	Off-Site Shipment / Deactivation followed by Macroencapsulation	There is currently no covered waste in TG 26.
TG 27 0 m^3	High Mercury Solids & Liquids	Stabilization	There is currently no covered waste in TG 27.
MTRU 0.02 m^3	MTRU	To be determined	Pending disposal at WIPP

1.0 Introduction

The Department of Energy (DOE) was required by Section 3021 (b) of the Resource Conservation and Recovery Act (RCRA), as amended by the Federal Facilities Compliance Act (FFCA), to prepare Site Treatment Plans (STPs) describing the development of treatment capacities and technologies for treating mixed waste. STPs were required for facilities at which the DOE generates or stores mixed waste, defined in the FFCA as waste containing both a hazardous waste subject to the RCRA and a source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954. A Proposed Site Treatment Plan was submitted for the Sandia National Laboratories/New Mexico (SNL/NM) on March 31, 1995. That STP was revised by the New Mexico Environment Department (NMED), and the final STP was attached to a Federal Facility Compliance Order (FFCO) issued jointly to the DOE and Sandia Corporation (Sandia) on October 4, 1995.

The FFCA of October 6, 1992 established a waiver of sovereign immunity for federal facilities storing mixed waste in compliance with all RCRA requirements except for those of RCRA 3004(j). The RCRA 3004 (j) allows one year for storage of waste for purposes of treatment to meet the RCRA Land Disposal Restrictions (LDRs). Although the sovereign immunity waiver took effect with the signing of the FFCA (i.e., October 6, 1992), the FFCA allowed federal facilities three years of grace to come under a state or Environmental Protection Agency (EPA) Compliance Order. The waiver allowed federal facilities to be subject to fines and penalties for mixed waste that is non-compliant with RCRA 3004(j) unless the waste is covered under a state-approved plan. The NMED approved the SNL/NM STP with modification and attached it to a Compliance Order (the FFCO). The FFCO issued to the DOE and Sandia defines *covered waste* as,

> *. . . all mixed waste at SNL/NM, regardless of time generated, which is being stored in violation of the land disposal requirements of Section 3004(j) of RCRA, including mixed waste that is newly discovered, identified, generated, or received from off-site; mixed waste that is generated through environmental restoration and decontamination and decommissioning activities; and legacy material that has been evaluated and determined to be mixed waste.*

The DOE/NNSA and Sandia have worked in compliance with the FFCO and met all required STP compliance activities and dates. Per the last approved revision and amendment to the STP (Revision No. 12 and Amendment No. 5), all compliance dates associated with the treatability groups identified in the STP expired on or before March 31, 2011. The FY11 STP Update reflected that all covered mixed waste volumes were addressed prior to the applicable compliance date and that no covered waste remained in inventory. There are no compliance dates currently in effect and therefore mixed waste that is subject to the FFCO can no longer become covered waste subject to the STP. However, the FFCO issued by the NMED is still in effect and requires an Annual Site Treatment Plan Update (FFCO Section VII) be submitted to the NMED each year on or before March 31.

The Annual Site Treatment Plan Update is submitted to make both the Background Volume and the Compliance Volume current to the end of the previous federal fiscal year (FY). The Background Volume addresses (1) the inventory of covered waste in storage and projections of the inventory of covered waste expected to be placed into storage for the next five fiscal years,

(2) progress reports on treatment and treatment technology development, (3) a report on the funding of STP-related activities, (4) the status of any treatment variances being applied for, and (5) plans for treatment of mixed transuranic waste at the DOE Waste Isolation Pilot Plant (WIPP) near Carlsbad, New Mexico. The Compliance Plan Volume (CPV) describes (1) any revisions or amendments requested or granted in that fiscal year that change the compliance dates, (2) additions or deletions of waste, treatability groups, or treatment technologies, or (3) any other changes to the schedules of the STP.

2.0 Background Volume Update

The FY13 Update to the STP Background Volume provides information about changes to the inventory of covered waste at SNL/NM and reports on progress or changes in the plan for mixed waste treatment that occurred in FY13.

2.1 Inventory Report

The FY13 Update to the STP Background Volume describes the changes to the inventory of covered waste in storage at SNL/NM and makes the inventory information current to the end of FY13. The FY13 Inventory Update Summary Table (Table 2-1), presents a detailed inventory indicating the increase or decrease in volume to each treatability group (TG). There are no current compliance dates in the STP and therefore no current covered waste inventory. At the request of the NMED, MW volumes greater than one year old are reflected in the Inventory Update Summary Table.

2.1.1 MW Inventory Summary

Table 2-1, FY13 Inventory Update Summary, indicates, by treatability group, the volume of covered waste reported in the FY12 Site Treatment Plan Update and the changes that occurred to that volume to make the reported volume of covered waste current to the end of FY13. The reasons for increases and decreases of reported volume of a treatability group are briefly noted in the comments column.

The FY13 Inventory Update Summary also contains estimates of the volume of covered waste anticipated in the next five fiscal years, i.e., covered waste to be placed in the inventory under the FFCO in FY14 through FY18; however, no compliance dates are currently in effect. It is anticipated that additional mixed waste may be generated or discovered through low-level radioactive waste sorting activities, decontamination and decommissioning activities, and necessary research activities.

2.1.2 MTRU Inventory Summary

There are approximately 0.02 cubic meters (m^3) of mixed transuranic (MTRU) waste in inventory pending disposition.

Table 2-1 FY13 Inventory Update Summary

Treatability Groups (TG) and Preferred Treatment Options	Reported *Covered Waste* Volume (m^3) in Storage (End FY12)	FY13 Changes (m^3)	Comments	Estimate of *Covered Waste* Volume (m^3) in Storage (End FY13)	Five-Year Projection for Volume of *Covered Waste* FY14-FY18 (m^3)
TG 1 Inorganic Debris with Explosive Component **Deactivation**	0	Increases: 0 Decreases: 0		0	<1
TG 2 Inorganic Debris with a Water Reactive Constituent **Deactivation**	0	Increases: 0 Decreases: 0		0	<1
TG 3 Reactive Metals **Deactivation**	0	Increases: 0 Decreases: 0		0	<1
TG 4 Elemental Lead **Macro-encapsulation**	0	Increases: 0 Decreases: 0		0	<1
TG 5 Aqueous Liquids (Corrosive) **Neutralization followed by Stabilization**	0	Increases: 0 Decreases: 0		0	<1

Table 2-1 FY13 Inventory Update Summary (continued)

Treatability Groups (TG) and Preferred Treatment Options	Reported *Covered Waste* Volume (m^3) in Storage (End FY12)	FY13 Changes (m^3)	Comments	Estimate of *Covered Waste* Volume (m^3) in Storage (End FY13)	Five-Year Projection for Volume of *Covered Waste* FY14-FY18 (m^3)
TG 6 Elemental Mercury **Amalgamation**	0	Increases: 0 Decreases: 0		0	<1
TG 7 Organic Liquids I **Incineration**	0	Increases: 0 Decreases: 0		0	<1
TG 8 Organic Debris with Organic Contaminants **Thermal Desorption**	0	Increases: 0 Decreases: 0		0	<1
TG 9 Inorganic Debris with TCLP metals **Macro-encapsulation**	0	Increases: 0 Decreases: 0		0	<1
TG 10 Heterogeneous Debris **Sort followed by Reclassification**	0	Increases: 0 Decreases: 0		0	<1

Table 2-1 FY13 Inventory Update Summary (continued)

Treatability Groups (TG) and Preferred Treatment Options	Reported *Covered Waste* Volume (m^3) in Storage (End FY12)	FY13 Changes (m^3)	Comments	Estimate of *Covered Waste* Volume (m^3) in Storage (End FY13)	Five-Year Projection for Volume of *Covered Waste* FY14-FY18 (m^3)
TG 11 Organic Liquids II **Hydro-thermal Processing**	0	Increases: 0 Decreases: 0		0	<1
TG 12 Organic Debris with TCLP metals **Macro-encapsulation**	0	Increases: 0 Decreases: 0		0	<1
TG 13 Oxidizers **Deactivation followed by Stabilization**	0	Increases: 0 Decreases: 0		0	<1
TG 14 Aqueous Liquids with Organic Contaminants **Evaporative Oxidation**	0	Increases: 0 Decreases: 0		0	<1

Table 2-1 FY13 Inventory Update Summary (continued)

Treatability Groups (TG) and Preferred Treatment Options	Reported *Covered Waste* Volume (m^3) in Storage (End FY12)	FY13 Changes (m^3)	Comments	Estimate of *Covered Waste* Volume (m^3) in Storage (End FY13)	Five-Year Projection for Volume of *Covered Waste* FY14-FY18 (m^3)
TG 15 Soils <50% Debris & Particulates with TCLP metals **Stabilization**	0	Increases: 0 Decreases: 0		0	<1
TG 16 Cyanide Waste **Oxidation**	0	Increases: 0 Decreases: 0		0	<1
TG 17 Liquid/Solid with Organic and/or Metal Contaminants **Incineration followed by Stabilization**	0	Increases: 0 Decreases: 0		0	<1
TG 18 Particulates with Organic Contaminants **Incineration**	0	Increases: 0 Decreases: 0		0	<1

Table 2-1 FY13 Inventory Update Summary (continued)

Treatability Groups (TG) and Preferred Treatment Options	Reported *Covered Waste* Volume (m^3) in Storage (End FY12)	FY13 Changes (m^3)	Comments	Estimate of *Covered Waste* Volume (m^3) in Storage (End FY13)	Five-Year Projection for Volume of *Covered Waste* FY14-FY18 (m^3)
TG 19 Liquids with Metals **Stabilization**	0	Increases: 0 Decreases: 0		0	<1
TG 20 Propellant w/ TCLP Metals **Deactivation followed by Stabilization**	0	Increases: 0 Decreases: 0		0	<1
TG 21 Sealed Sources w/ TCLP Metals **Off-site Shipment / Macro-encapsulation**	0	Increases: 0 Decreases: 0		0	<1
TG 22 Reserved	NA	Increases: 0 Decreases: 0		NA	NA

Table 2-1 FY13 Inventory Update Summary (continued)

Treatability Groups (TG) and Preferred Treatment Options	Reported *Covered Waste* Volume (m^3) in Storage (End FY12)	FY13 Changes (m^3)	Comments	Estimate of *Covered Waste* Volume (m^3) in Storage (End FY13)	Five-Year Projection for Volume of *Covered Waste* FY14-FY18 (m^3)
TG 23 Thermal Batteries	0	Increases: 0		0	<1
Off-site Shipment / Size Reduction followed by Stabilization		Decreases: 0			
TG 24 Spark Gap Tubes w/ TCLP Metals	0	Increases: 0		0	<1
Off-site Shipment / Macro-encapsulation		Decreases: 0			
TG 25 Classified Items w/ TCLP Metals	0	Increases: 0		0	<1
Sort followed by Reclassification		Decreases: 0			
TG 26 Debris Items w/ Reactive Compounds & TCLP Metals	0	Increases: 0		0	<1
Off-site Shipment / Macro-encapsulation		Decreases: 0			

Table 2-1 FY13 Inventory Update Summary (concluded)

Treatability Groups (TG) and Preferred Treatment Options	Reported *Covered Waste* Volume (m^3) in Storage (End FY12)	FY13 Changes (m^3)	Comments	Estimate of *Covered Waste* Volume (m^3) in Storage (End FY13)	Five-Year Projection for Volume of *Covered Waste* FY14-FY18 (m^3)
TG 27 High Mercury Solids & Liquids	0	Increases: 0		0	<1
Stabilization		Decreases: 0			
Mixed Transuranic Waste	0	Increases: 0.02	Waste awaiting disposal at WIPP	0.02	<1
Treatment or Off-site Disposal		Decreases: 0			

2.2 Progress Report on Treatment and Technology Development

This section reports on the current treatment progress and development of treatment technologies needed by SNL/NM.

2.2.1 Treatment During FY13

On-Site Treatment

No covered waste was treated during FY13.

Off-Site Treatment

No covered waste was shipped off-site for treatment during FY13.

Treatability Studies

No new treatability studies were initiated in FY13.

2.2.2 Current Treatment Technologies

The following table describes the current treatment options being utilized or developed for mixed waste at SNL/NM. These technologies include the preferred or alternate treatment technologies specified in the STP.

Table 2-2 Current Treatment Technologies

Preferred Treatment Option	Applicable TG and Description	On-site Treatment	Off-site Treatment
Deactivation	TG 1 (Inorganic Debris with Explosive Component) TG 2 (Inorganic Debris with a Water Reactive Component) TG 3 (Reactive Metals)	The DOE/NNSA and Sandia currently have procedures in place to treat most items within these waste inventories, including aerosol cans and small volumes of water-reactive chemicals, reactive metals, and mock explosives.	Off-site treatment facilities have not been utilized to treat mixed waste using deactivation processes.
Macroencapsulation	TG 4 (Elemental Lead) TG 9 (Inorganic Debris with TCLP Metals) TG 12 (Organic Debris with TCLP Metals) TG 25 (Classified Items with TCLP Metals)	Procedures are in place for macroencapsulating wastes on site.	The DOE/NNSA and Sandia may utilize off-site macroencapsulation capabilities at a commercial treatment facility waste that meets the treatment facility's waste acceptance criteria. Off-site treatment facilities are not used for TG 25 wastes.
Neutralization followed by Stabilization	TG 5 (Aqueous Liquids – Corrosive)	Procedures are in place for treating corrosive liquids on-site.	The DOE/NNSA and Sandia do not currently utilize off-site treatment for corrosive liquids.

Table 2-2 Current Treatment Technologies (continued)

Preferred Treatment Option	Applicable TG and Description	On-site Treatment	Off-site Treatment
Amalgamation	TG 6 (Elemental Mercury)	The DOE/NNSA and Sandia typically utilize off-site facilities to treat waste applicable to TG 6, but has developed procedures for the on-site treatment of small volumes of mercury waste.	The Mercury Export Ban Act (Public Law 110-414) amended the Toxic Substances Control Act (TSCA) in 15 United States Code (USC) 2605(f) and prohibits Federal agencies from transferring elemental mercury. As long as this prohibition exists, the DOE/NNSA and Sandia will store this waste on-site pending shipment to a designated DOE facility.
Thermal Desorption	TG 8 (Organic Debris with Organic Contaminants)	The DOE discontinued the design and development of mobile thermal desorption units based on the availability of alternate treatment technologies. Currently, the DOE/NNSA and Sandia utilize off-site treatment facilities for waste applicable to TG 8 and does not anticipate treating TG 8 waste on-site.	The DOE/NNSA and Sandia currently utilize off-site solvent washing capabilities at a commercial treatment facility to treat much of the organic debris in the TG-8 inventory.
Hydrothermal Processing	TG 11 (Organic Liquids II)	The DOE discontinued the development of hydrothermal processing because alternate treatment technologies were available. Currently, the DOE/NNSA and Sandia utilize off-site treatment facilities for waste applicable to TG 11.	As an alternative to hydrothermal processing, the DOE/NNSA and Sandia are utilizing off-site combustion through a commercial energy recovery boiler.

Table 2-2 Current Treatment Technologies (continued)

Preferred Treatment Option	Applicable TG and Description	On-site Treatment	Off-site Treatment
Deactivation followed by Stabilization	TG 13 (Oxidizers) TG 20 (Propellant with TCLP Metals)	Procedures are in place for on-site treatment of oxidizers. The DOE/NNSA and Sandia also developed and implemented on-site treatment procedures for wastes within the TG-20 inventory.	The DOE/NNSA and Sandia have utilized deactivation to treat oxidizers at a commercial treatment facility. The DOE/NNSA and Sandia do not utilize off-site treatment for mock high explosives (TG 20).
Evaporative Oxidation	TG 14 (Aqueous Liquids with Organic Contaminants)	The DOE/NNSA discontinued the development of evaporative oxidation because alternate treatment technologies were available. Currently, the DOE/NNSA and Sandia utilize off-site treatment facilities for waste in TG 14.	As an alternative to evaporative oxidation, the DOE/NNSA and Sandia are utilizing off-site combustion through a commercial energy recovery boiler.
Stabilization TG 15 (Soils <50% Debris & Particulates with TCLP Metals)	TG 19 (Liquids with Metals) TG 27 (High Mercury Solids & Liquids)	The DOE/NNSA and Sandia currently have procedures in place for the treatment of many TG 15 and TG 19 wastes, including soils, particulates, powders, and liquids. Sandia anticipates using off-site facilities for the treatment of high mercury waste (TG 27).	The DOE/NNSA and Sandia have utilized off-site commercial treatment facilities for stabilization treatment. The Mercury Export Ban Act (Public Law 110-414) amended the TSCA and prohibits Federal agencies from transferring elemental mercury. As long as this prohibition exists, the DOE/NNSA and Sandia will store this waste on-site pending shipment to a designated DOE facility.

Table 2-2 Current Treatment Technologies (continued)

Preferred Treatment Option	Applicable TG and Description	On-site Treatment	Off-site Treatment
Oxidation	TG 16 (Cyanide Waste)	The DOE/NNSA and Sandia do not anticipate treating cyanide waste on-site. Currently, the DOE/NNSA and Sandia utilize off-site treatment facilities for waste applicable to TG 16.	The DOE/NNSA and Sandia have utilized a commercial treatment facility for the treatment of cyanide waste.
Incineration followed by Stabilization	TG 17 (Liquid/Solid with Organic and/or Metal Contaminants)	The DOE/NNSA and Sandia currently have procedures in place to treat most liquids or solids contaminated with TCLP metals, including soils, charcoals, and oils. Based on the availability of commercial off-site treatment facilities, the DOE/NNSA and Sandia have not developed on-site treatment procedures for waste contaminated with organic compounds.	The DOE/NNSA and Sandia have utilized off-site commercial treatment facilities, for treatment of waste requiring thermal treatment (i.e., organic contamination) and for the stabilization of some wastes contaminated with metals.
Incineration	TG 18 (Particulates with Organic Contaminants) TG 7 (Organic Liquids I)	On-site incineration capabilities have not been investigated and are not under consideration for development.	The DOE/NNSA and Sandia currently utilize off-site commercial treatment facilities for combustion and solvent washing.

Table 2-2 Current Treatment Technologies (continued)

Preferred Treatment Option	Applicable TG and Description	On-site Treatment	Off-site Treatment
Off-site Shipment / Macroencapsulation Pending Disposal	TG 21 (Sealed Sources with TCLP Metals) TG 24 (Spark Gap Tubes with TCLP Metals) TG 26 (Debris Items with Reactive Compounds & TCLP Metals)	The DOE/NNSA and Sandia have developed routine procedures for macroencapsulation as the alternate treatment technology for waste volumes in TG 21, TG 24, and TG 26. TG 26 waste would be macroencapsulated after treatment for reactivity.	The DOE/NNSA and Sandia have utilized off-site macroencapsulation processes at a commercial treatment facility for TG 24 spark gap tubes. Additionally, the DOE/NNSA and Sandia are investigating off-site commercial and/or DOE facilities that may be able to accept TG 21 and TG 26 wastes for treatment.
Size Reduction followed by Stabilization	TG 23 (Thermal Batteries)	The DOE/NNSA and Sandia currently have procedures in place to treat thermal batteries on-site and render them non-reactive. Once the thermal batteries are deactivated, the DOE/NNSA and Sandia can utilize macroencapsulation to treat the thermal batteries on-site for toxicity characteristic metals.	Following on-site deactivation, the DOE/NNSA and Sandia have utilized off-site macroencapsulation processes at a commercial treatment facility to treat the TG 23 inventory.

Table 2-2 Current Treatment Technologies (concluded)

Preferred Treatment Option	Applicable TG and Description	On-site Treatment	Off-site Treatment
Treatment or Off-Site Disposal	MTRU	On-site treatment capabilities such as macroencapsulation are not considered a preferred path. There is currently no disposal facility that can accept treated MTRU waste.	The DOE/NNSA and Sandia intend to transfer MTRU waste to an off-site certifying facility for final disposition at WIPP. The DOE/NNSA and Sandia also intend to utilize the Off-Site Source Recovery Program (OSRP) at LANL, as applicable, for MTRU sources meeting the OSRP waste acceptance criteria.
Radionuclide Separation	Neutron Generators	The DOE/NNSA and Sandia currently have procedures in place for radionuclide separation by disassembly, as necessary.	The DOE/NNSA and Sandia have not investigated nor identified off-site treatment facilities to treat neutron generators using radionuclide separation.

2.2.3 Developing Treatment Technologies

Off-Site Treatment Facilities

The DOE/NNSA and Sandia continue to investigate new treatment technologies available at off-site treatment facilities.

On-Site Treatment Development

The DOE/NNSA and Sandia continue to evaluate the implementation of on-site treatment technologies.

2.3 Funding

The activities specified in the STP are funded through the Sandia Integrated Enabling Services (IES) Center and sufficient funding has been secured to support the waste management activities and commitments outlined in the STP. If future budget reductions cause impacts to the mixed waste treatment activities, this information will be provided to the NMED as it becomes available.

2.4 Treatment Variances

The RCRA allows certain case-by case variances of LDR standards. Among these variance options is a "No-Migration Variance Petition" that can be issued if there is appropriate evidence to show that no hazardous constituents will be released from a land disposal unit or permanent repository. Other variances that may be sought under the RCRA relate to requests for substitution of an alternative treatment technology in place of the LDR-required treatment technology. Planned or requested treatment variances are described below.

2.4.1 WIPP No-Migration Variance Petition

There are approximately 0.02 m3 of mixed transuranic (MTRU) waste in inventory at SNL/NM. The DOE's long-term management plan for transuranic (TRU) and MTRU waste continues to be disposal at the Waste Isolation Pilot Plant (WIPP). The WIPP is a waste repository facility near Carlsbad, New Mexico, for the disposal of TRU and MTRU waste that was generated by the nation's defense-related activities.

As a deep geologic repository, the WIPP is significantly different from most hazardous waste disposal sites, which are most commonly shallow landfills. The WIPP is wholly sited in a salt bed 2,100 feet below the land surface. Because salt has the advantageous characteristic of slow plastic deformation, it is predicted that the salt will entomb the waste and seal it from the human environment, making potential release of hazardous constituents a low probability event.

The DOE Carlsbad Field Office (DOE-CBFO) submitted a draft No-Migration Variance Petition to the EPA in May 1995. The EPA reviewed the draft and submitted informal comments to the DOE-CBFO on January 23, 1996. The DOE-CBFO submitted the final No-Migration Variance Petition to the EPA in June 1996. As a result of the Land Withdrawal Act

Amendments (LWAA) of 1996, the petition was no longer necessary and EPA terminated its review.

On May 18, 1998, EPA published in the Federal Register (63 FR 27354) its final rule certifying that WIPP will comply with the requirements of Subparts B and C of 40 CFR Part 191 and amending the WIPP compliance criteria in 40 CFR Part 194. The final rule became effective June 17, 1998. The first shipment of non-mixed TRU waste was emplaced at WIPP on March 26, 1999. The DOE applied for, and after public hearings, received a RCRA Part B permit from the State of New Mexico for the disposal of hazardous constituents in MTRU. That permit became effective on November 26, 1999.

2.4.2 Other Treatment Variance(s)

No treatment variances were requested or granted in FY13.

2.5 WIPP Facility Capabilities

The DOE disposes of defense TRU waste, both mixed and radioactive-only at the WIPP. The facility is a disposal facility without capability of routinely opening waste containers or repackaging waste. This facility is not a generator of TRU waste, and therefore will receive all of the defense TRU waste in shipments from other sites. Described below is the status of the characterization and treatment capabilities at the WIPP facility.

2.5.1 Characterization Capabilities at WIPP

There are currently no capabilities at WIPP for the characterization of TRU waste for hazardous constituents regulated by the RCRA.

2.5.2 MTRU Treatment Capabilities at WIPP

No capabilities for treatment of MTRU to meet the LDR standards have been developed and none are planned for development at the WIPP facility. Section 9(a)(1)(H) of the LWAA exempts the WIPP from the LDR requirements.

3.0 STP Compliance Plan Volume Update

This submittal of the FY13 Update to the Site Treatment Plan Compliance Plan Volume provides information about changes and revisions to the Compliance Plan Volume (CPV) of the SNL/NM STP occurring in FY13. The Update to the CPV is divided into sections that address various types of revisions or amendments. Revisions or amendments, or other changes to the STP requested or anticipated to be requested after FY13, are briefly discussed.

3.1 Amendments and Revisions to Compliance Plan Volume

Proposed Revision No. 14 was submitted to the NMED on June 27, 2013, and is under review. This Revision would establish valid compliance dates for all TGs, update the STP to include treatment technologies that are now available, and remove activities that have been completed and are no longer applicable. No amendments were submitted to the NMED during FY13.

3.2 Description of Waste Deleted in Accordance With the Requirements in Section V, Covered Matters, or Section IX, Deletion of Waste

No deletion requests were submitted to and/or approved by the NMED during FY13.

3.3 Documentation of New Covered and Newly Discovered Covered Waste in Accordance With the Requirements in Section VIII, Addition of New Covered Waste

No new covered waste volume subject to Section VIII.A was added to the inventory of the STP during FY13. However, at the request of the NMED, MW volumes greater than one year old are reflected in the Inventory Update Summary Table.

3.4 Changes to Overall Schedule in the CPV

No scheduled compliance activities are currently required.

3.5 Anticipated Amendments and Revisions

The DOE/NNSA and Sandia await the conclusion of the ongoing NMED review of proposed Revision 14. No additional revisions are anticipated at this time.