





Department of Energy Mark National Nuclear Security Administration Sandia Field Office P.O. Box 5400 Albuquerque, NM 87185

JUN 1 4 2016



Mr. Brian Salem FFCO Project Manager New Mexico Environment Department Hazardous Waste Bureau 2905 Rodeo Park Dr. East, Bldg. 1 Santa Fe, New Mexico 87505

Subject: Proposed Revision No. 15 to the Mixed Waste Site Treatment Plan, Compliance Plan Volume, for Sandia National Laboratories/New Mexico

Dear Mr. Salem:

The Department of Energy/National Nuclear Security Administration (DOE/NNSA) and Sandia Corporation (Sandia) hereby submit proposed Revision No. 15 to the Mixed Waste Site Treatment Plan (STP), Compliance Plan Volume (CPV) for Sandia National Laboratories/New Mexico (SNL/NM). The revision request has been prepared for the New Mexico Environment Department (NMED) in accordance with the requirements of Part X *Revisions* of the Federal Facility Compliance Order (FFCO), as revised and amended.

In accordance with Section X.B of the FFCO, a revision is required to modify a compliance date by more than 90 days (Section X.B.2). Proposed Revision No. 15 would establish new December 31, 2020 compliance dates for all treatment technologies and treatability groups (TGs). Additionally, this proposed revision updates the STP to update the parallel preferred options for management of mixed transuranic (MTRU) wastes that are destined for disposal at the Waste Isolation Pilot Plant (WIPP).

Viable mixed waste treatment and disposal options are available for most mixed wastes, and the DOE/NNSA and Sandia believe that routine mixed wastes can be treated within one year. Establishing new compliance dates for all TGs would provide continuity of the STP CPV requirements, and ensure that valid compliance dates are in place for future wastes that cannot be treated within one year.

The only wastes currently subject to the FFCO at SNL/NM are MTRU wastes that are destined for disposal at WIPP. However, the WIPP facility is currently not accepting MTRU wastes. The DOE/NNSA and Sandia anticipate that the WIPP schedule for future waste shipments and disposal operations will be more certain by December 31, 2020; this updated information will be reflected in proposals for future STP revisions. The MTRU wastes at SNL/NM are and will remain subject to the FFCO during potentially lengthy storage at SNL/NM. Revision No. 15 also updates the volume of MTRU waste to include anticipated future wastes.

The requested changes to the STP compliance dates will not reduce the capacity of DOE/NNSA and Sandia to protect human health and the environment. Additionally, the requested changes will:

- 1. Have a negligible impact on the total quantity of mixed waste stored, treated, or disposed.
- 2. Allow DOE/NNSA and Sandia to realize significant positive impacts on both the overall cost and the operational effectiveness of mixed waste treatment and disposal.
- 3. Ensure continuity of the STP CPV requirements, including the process for reporting mixed waste volumes to NMED.

The proposed revision is detailed in Enclosure A to this letter, including information required by the FFCO, Section X.C. The proposed changes to the CPV are provided in Enclosure B, as redline/strikeout, for NMED's review, comment, and approval. A clean copy of the proposed changes reflecting proposed Revision No. 15 is included as Enclosure C. An electronic copy of the proposed CPV text is also provided in both redline/strikeout and clean formats.

As required by the FFCO, Part XX, *Documents, Information, and Reporting Requirements,* Section D, *Certification Statements,* the appropriate certification is also provided.

The DOE/NNSA and Sandia are available to provide additional information as necessary. If you have questions, please contact David Rast at (505) 845-5349.

Sincerely,

David M. Rast STP Project Manager DOE/NNSA Sandia Field Office

STP Project Manager (Sandia Corporation

Enclosures

cc w/ enclosures: David Cobrain Hazardous Waste Bureau New Mexico Environment Department 2905 Rodeo Park Dr. E., Bldg. 1, Santa Fe, New Mexico 87505

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Proposed Revision No. 15 Sandia National Laboratories Mixed Waste Site Treatment Plan Compliance Plan Volume

Sandia National Laboratories Albuquerque, New Mexico

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. lice **President** Sandia) Corporation Albuquerque, New Mexico Operator

5/23/16 Date Signed

Inll

Jeffrey Harrell, Manager U.S. Department of Energy National Nuclear Security Administration Sandia Field Office Owner

<u>6/10/16</u> Date Signed

ENCLOSURE A

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Proposed Revision No. 15 to the Sandia National Laboratories Mixed Waste Site Treatment Plan, Compliance Plan Volume

Sandia National Laboratories/New Mexico

ENCLOSURE A

Proposed Revision No. 15 to the Sandia National Laboratories Mixed Waste Site Treatment Plan (STP) Compliance Plan Volume (CPV), Sandia National Laboratories/New Mexico (SNL/NM)

The Department of Energy/National Nuclear Security Administration (DOE/NNSA) and Sandia Corporation (Sandia) are requesting revision of the compliance schedules for covered waste, i.e., all treatability groups (TGs) that may become subject to the STP CPV for SNL/NM. The proposed revision request has been prepared for the New Mexico Environment Department (NMED) in accordance with the requirements of Section X.C, *Revisions*, of the Federal Facilities Compliance Order (FFCO), as revised and amended.

Proposed Revision No. 15 is comprised of the following requests:

- Addition of newly discovered covered waste to Mixed Transuranic (MTRU) treatability group (TG) in excess of one cubic meter or greater than 10% of the current waste volume (Proposed Revision 15.a, Enclosure A-1)
- Modification of specific compliance dates associated with TGs currently in the STP CPV (Proposed Revision 15.b, Enclosure A-2)
- Updating the description of parallel preferred options for management of wastes in the MTRU TG to reflect available options for management of remote-handled MTRU wastes.

Table 1 presents a summary of the TGs and the associated volumes reported in the FY15 Annual STP (Enclosure A-3).

For the NMED's information and convenience, the proposed revision text for the CPV is provided as Enclosure B (redline/strikeout) and Enclosure C (clean copy). An electronic copy of Enclosure B and Enclosure C is also provided.

ENCLOSURE A-1

DOE/NNSA and Sandia STP Proposed Revision for Addition of New Covered Waste (Section X. B. 5) Proposed Revision No. 15.a

The following portions of this enclosure follow the requirements of Section VIII (Addition of New Covered Waste) and Section X (Revisions), of the FFCO, as revised and amended.

Detailed description of the proposed revision (X. C. 2. a)

The DOE/NNSA and Sandia request a Revision to the CPV for the addition of covered waste, in accordance with Section VIII.A, Amendment No. 3, of the FFCO. The proposed Revision requests that an additional volume of 1.0 cubic meter (m³) of newly discovered covered waste be added to the MTRU TG inventory. In accordance with Section VIII.B of the FFCO, information required for covered waste addition is provided in Table 1.

Rationale for the proposed revision (X. C. 2. b)

The Proposed Site Treatment Plan (March 30, 1995) presented the volumes of mixed waste in storage as of September 30, 1994, regardless of its time of generation or state of compliance with the Resource Conservation and Recovery Act (RCRA) 3004[j]. The subsequent additions of covered waste to the inventory were reported in the annual SNL/NM STP Updates. In accordance with Section X.B.5 of the FFCO (Amendment No. 3), a revision to the CPV is required to include the addition of covered waste to the reported CPV waste inventory if the increase is in excess of 1 cubic meter or 10% of the treatability group volume (X.B.4), whichever is greater.

A waste volume of 1.0 m³ is requested for addition to the MTRU inventory. Some waste may be generated from the processing of experimental assemblies containing transuranic materials in the Auxiliary Hot Cell Facility. Process knowledge indicates that such waste is likely to be mixed waste due to the potential presence of metals from electronics and solder. The remaining waste would results from collection of unneeded radioactive MTRU sources.

Upon approval of this Revision, the waste volume will be incorporated into the STP and will be subject to the existing CPV activity milestones approved in this Revision No. 15. The DOE and Sandia will store this waste pending the acceptance of MTRU waste at the Waste Isolation Pilot Project (WIPP). Deletion requests for the MTRU waste will be submitted to the NMED in accordance with the requirements of the STP and FFCO.

Waste volume additions that do not meet the definition of a revision to the FFCO, per Section X.B.5; will continue to be reflected in the annual STP Update, in accordance with Section VIII.A.

Anticipated length of delay resulting from the proposed revision including affected compliance dates (X. C. 2. c)

No delays are anticipated.

If delay occurs, implementation of new schedule (X. C. 2. d)

No delays are anticipated.

Description of applicable waste code, waste form, volumes, technology and capacity needs (VIII.B)

Table 1 presents the information required by Section VIII of the FFCO for the addition of new covered waste.

Schedule for treatment (VIII.B)

All covered waste declared in the proposed Revision request will continue to follow the current treatment schedules in accordance with the CPV.

Treatability Group (TG)	Increase in Volume (m ³)	TG Title and Waste Form	Waste Code	Technology and Capacity Needs	Schedules for Treatment
MTRU	1.0	Mixed TRU (MTRU) Waste	D006, D007, D008, D011	Per CPV	Per CPV

Table 1Addition of New Covered Waste

ENCLOSURE A-2

DOE/NNSA and Sandia STP Proposed Revision for Establishment of Compliance Dates for All Treatability Groups (Section X. B. 2) Proposed Revision No. 15.b

The following portions of this enclosure follow the requirements of Section X (Revisions) of the FFCO, as revised and amended.

Detailed description of the proposed revision (X.C.2.a)

The purpose of proposed Revision No. 15.a is to request the modification of remaining compliance activities and dates for all treatment technologies and associated treatability groups (TGs). The following compliance schedules are requested.

Deactivation: The treatment technology of Deactivation applies to TG 1 (Inorganic Debris with Explosive), TG 2 (Inorganic Debris with Water Reactive), and TG 3 (Reactive Metals). Deactivation is discussed in Section 3.1.1.1 of the CPV. There is no covered waste in the current inventory of these TGs.

The requested dates to be established in the Deactivation compliance schedule are reflected in the following proposed schedule:

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Initiate set-up of laboratory operation.	Completed
C. Complete system testing and commence operation and begin treating mixed waste.	Completed
D. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2020
E. Complete shipping of wastes to an off-site treatment/recycling facility, and	December 31, 2020
F. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Deactivation Schedule

Macroencapsulation: The treatment technology of Macroencapsulation applies to TG 4 (Elemental Lead), TG 9 (Inorganic Debris with TCLP Metals), and TG 12 (Organic Debris with TCLP Metals). Macroencapsulation is discussed in Section 3.1.1.2 of the CPV. There is no covered waste in the current inventory of these TGs.

The requested dates to be established in the Macroencapsulation compliance schedule are reflected in the following proposed schedule:

Activity	Compliance Date
A. Submit permit application, amendment, or modification to NMED	Completed
B. Complete recycling/treatment of mixed waste to applicable regulatory standards or,	December 31, 2020
C. Complete shipping of wastes to an off-site treatment/recycling facility, and	December 31, 2020
D. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Macroencapsulation Schedule

Neutralization followed-by Stabilization: The treatment technology of Neutralization followed by Stabilization applies to TG 5 (Aqueous Liquids) and is discussed in Section 3.1.1.3 of the CPV. No waste is currently in inventory.

The requested dates to be established in the Neutralization followed by Stabilization compliance schedule are reflected in the following proposed schedule:

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Initiate set-up of laboratory operation.	Completed
C. Complete system testing and commence operation and begin treating mixed waste.	Completed
D. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2020
E. Complete shipping of wastes to an off-site treatment/recycling facility	December 31, 2020
F. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Neutralization followed by Stabilization Schedule

Amalgamation: The treatment technology of Amalgamation applies to TG 6 (Elemental Mercury) and is discussed in Section 3.1.1.4 of the CPV. No waste is currently in inventory. 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.

However, compliance dates for treatment or shipment activities are included should the prohibition be clarified, modified or lifted. Additional discussion is provided in the rationale for the proposed Revision.

The requested dates to be established in the Amalgamation compliance schedule are reflected in the following proposed schedule:

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2020
C. Complete shipping of wastes to an off-site treatment/recycling facility	December 31, 2020
D. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Amalgamation Schedule

Incineration: The treatment technology of Incineration applies to TG 7 (Organic Liquids I) and TG 18 (Particulates and Soils with Organic Contaminants). Incineration is discussed in Section 3.1.1.5 of the CPV. No waste is currently in inventory.

The requested dates to be established in the Incineration compliance schedule are reflected in the following proposed schedule:

Incineration Schedule

Activity	Compliance Date
A. Complete shipping of wastes to an off-site treatment/recycling facility.	December 31, 2020
B. Provide documentation to NMED that waste was received at off-site facility	Within 45 working days of receipt of waste at treatment/recycling facility

Thermal Desorption: The treatment technology of Thermal Desorption applies to TG 8 (Organic Debris) and is discussed in Section 3.1.1.6 of the CPV. No waste is currently in inventory.

The requested dates to be established in the Thermal Desorption compliance schedule are reflected in the following proposed schedule:

Thermal Desorption Schedule

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Complete shipping of wastes to an off-site treatment/recycling facility	December 31, 2020
C. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Deactivation followed by Stabilization: The treatment technology of Deactivation followed by Stabilization applies to TG 13 (Oxidizers) and TG 20 (Propellant with TCLP Metals). Deactivation followed by Stabilization is discussed in Section 3.1.1.7 of the CPV. There is no covered waste in the current inventory of these TGs.

The requested dates to be established in the Deactivation followed by Stabilization compliance schedule are reflected in the following proposed schedule:

Activity	Compliance Date
A. Submit permit application,	Completed
amendment or modification to NMED	
B. Initiate set-up of laboratory operation.	Completed
C. Complete system testing and commence operation and begin treating mixed waste.	Completed
D. Complete recycling/treatment to applicable regulatory standards, or shipping of wastes to an off-site treatment/recycling facility	December 31, 2020
E. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Deactivation followed by Stabilization Schedule

Evaporative Oxidation: The treatment technology of Evaporative Oxidation applies to TG 14 (Aqueous Liquids with Organic Contaminants) and is discussed in Section 3.1.1.8 of the CPV. No waste is currently in inventory.

The requested dates to be established in the Evaporative Oxidation compliance schedule are reflected in the following proposed schedule:

Evaporative Oxidation Schedule

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2020
C. Complete shipping of wastes to an off-site treatment/recycling facility	December 31, 2020
D. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Stabilization: The treatment technology of Stabilization applies to TG 15 (Soils <50% Debris & Particulates with TCLP Metals) and TG 19 (Liquids with Metals). Stabilization discussed in Section 3.1.1.9 of the CPV. There is no covered waste in the current inventory of these TGs.

The requested dates to be established in the Stabilization compliance schedule are reflected in the following proposed schedule:

Activity	Compliance Date
A. Initiate set-up of laboratory operation	Obtain new permit or modify or amend existing NMED permit if required
B. Complete systems testing and commence operation and begin treating mixed waste.	Completed
C. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2020
D. Complete shipping of wastes to an off-site treatment/recycling facility	December 31, 2020
E. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Stabilization Schedule

Oxidation: The treatment technology of Oxidation applies to TG 16 (Cyanide Waste) and is discussed in Section 3.1.1.10 of the CPV. No waste is currently in inventory.

The requested dates to be established in the Oxidation compliance schedule are reflected in the following proposed schedule:

Oxidation Schedule

Activity	Compliance Date
A. Submit permit application,	Completed
amendment or modification to NMED	
B. Complete recycling/treatment of	December 31, 2020
mixed wastes to applicable regulatory	
standards or,	
C. Complete shipping of wastes to an	December 31, 2020
off-site treatment/recycling facility	
D. Provide documentation to NMED	Within 45 working days of receipt of
that waste was received at off-site	waste at treatment/recycling facility
treatment/recycling facility	

Incineration followed by Stabilization: The treatment technology of Incineration followed by Stabilization applies to TG 17 (Liquid/Solid with Organic and/or Metal Contaminants) and is discussed in Section 3.1.1.11 of the CPV. No waste is currently in inventory.

The requested dates to be established in the Incineration followed by Stabilization compliance schedule are reflected in the following proposed schedule:

Incineration followed by Stabilization Schedule

Activity	Compliance Date
A. Complete treatment to applicable regulatory standards or shipping of wastes to an off-site treatment/recycling facility	December 31, 2020
B. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Off-Site Shipment / On-Site Macroencapsulation: The treatment technology of Off-Site Shipment / On-Site Macroencapsulation applies to TG 21 (Sealed Sources with TCLP Metals), TG 24 (Spark Gap Tubes with TCLP Metals), and TG 26 (Debris with Reactive Compounds and TCLP Metals). Off-Site Shipment / On-Site Macroencapsulation is discussed in Section 3.1.1.12 of the CPV. There is no covered waste in the current inventory of these TGs. A parallel treatment option is on-site macroencapsulation, which would be followed either by shipment to an off-site facility for disposal, or by storage pending development of further treatment and disposal options. On June 3, 2004, the NMED approved a site-specific treatment variance to allow for macroencapsulation of less than debris sized manufactured items exhibiting the toxicity characteristic for metal(s), containing radioactive material, and potentially externally contaminated with radioactive materials.

The requested dates to be established in the Off-Site Shipment / On-Site Macroencapsulation compliance schedule are reflected in the following proposed schedule:

Activity	Compliance Date
A. Provide progress report of current status and availability of treatment and/or disposal options	Completed
B. Complete on-site macroencapsulation of waste, or	December 31, 2020
C. Complete shipping of wastes to an off-site treatment/recycling facility and	December 31, 2020
D. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Off-Site Shipment / Macroencapsulation Schedule

Size Reduction followed by Stabilization/Deactivation followed by Macroencapsulation: The treatment technology of Size Reduction followed by Stabilization/Deactivation followed by Macroencapsulation applies to TG 23 (Thermal Batteries) and is discussed in Section 3.1.1.13 of the CPV. No waste is currently in inventory. Deactivation followed by macroencapsulation is a parallel preferred option.

The requested dates to be established in the Size Reduction followed by Stabilization/Deactivation followed by Macroencapsulation compliance schedule are reflected in the following proposed schedule:

Activity	Compliance Date
A. Render existing thermal batteries	Completed
non-reactive	
B. Provide progress report of current	Completed
status and availability of treatment	
and/or disposal options	
C. Complete shipping of wastes to an	December 31, 2020
off-site treatment/recycling facility and	
D. Provide documentation to NMED	Within 45 working days of receipt of
that waste was received at off-site	waste at treatment/recycling facility
treatment/recycling facility	

Stabilization Schedule

Hydrothermal Processing: The treatment technology of Hydrothermal Processing applies to TG 11(Organic Liquids II) and is discussed in Section 3.2.1 of the CPV. No waste is currently in inventory.

The requested dates to be established in the Hydrothermal Processing compliance schedule are reflected in the following proposed schedule:

Activity	Compliance Date
A. Complete shipping of wastes to an off-site treatment/recycling facility and	December 31, 2020
B. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Off-Site Shipment Schedule

Stabilization of High Mercury Materials: The treatment technology of Stabilization of High Mercury Materials applies to TG 27 (High Mercury Solids and Liquids) and is discussed in Section 3.2.2 of the CPV. No waste is currently in inventory. The compliance activities and dates associated with this TG may be impacted by the Mercury Export Ban Act (Public Law 110-414) which amended the TSCA in 15 USC 2605(f) restricting Federal agencies from transferring elemental mercury. As long as this prohibition exists, the DOE/NNSA and Sandia will store this waste on-site. However, compliance dates for treatment or shipment activities are included should the prohibition be clarified, modified or lifted. Additional discussion is provided in the rationale for the proposed Revision.

The requested dates to be established in the Stabilization of High Mercury Materials compliance schedule are reflected in the following proposed schedule:

Activity	Compliance Date
A. Provide progress report of current status and availability of treatment and/or disposal options	Completed
B. Complete recycling/treatment of wastes to applicable regulatory standards or,	December 31, 2020
C. Complete shipping of wastes to an off-site treatment/recycling facility	December 31, 2020
D. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

High Mercury Solids and Liquids Schedule

Sorting of Heterogeneous Debris: The treatment technology of Sorting of Heterogeneous Debris applies to TG 10 (Heterogeneous Debris) and TG 25 (Classified Items with TCLP Metals). Sorting of Heterogeneous Debris is discussed in Section 3.3.1 of the CPV. There is no covered waste in the current inventory of these TGs.

The requested dates to be established in the Sorting of Heterogeneous Debris compliance schedule for TG 10 are reflected in the following proposed schedule:

Activity	Compliance Date
A. Complete sorting of wastes or	December 31, 2020
B. Complete shipping of wastes to an off-site treatment/recycling facility and	December 31, 2020
C. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	December 31, 2020

Heterogeneous Debris Schedule

The requested dates to be established in the Classified Items with TCLP Metals compliance schedule for TG 25 is reflected in the following proposed schedule:

Classified Items with TCLP Metals Schedule

Activity	Compliance Date
A. Complete sorting or on-site	December 31, 2020
treatment of wastes or	
B. Complete shipping of wastes to an	December 31, 2020
off-site treatment/recycling facility and	
C. Provide documentation to NMED	December 31, 2020
that waste was received at off-site	
treatment/recycling facility	

Mixed TRU (MTRU) Waste: The treatment and/or shipment of MTRU waste is discussed in Section 4.0 of the CPV. Approximately 1.0 m3 of MTRU is currently in inventory.

The requested dates to be established in the MTRU compliance schedule are reflected in the following proposed schedule:

MTRU Schedule

Activity	Compliance Date
A. Development of treatment technology	Completed
B. Submit permit application amendment, or modification to NMED for treatment of MTRU waste	Completed
C. Complete preparation of existing MTRU wastes for on-site certification or shipment to an off-site certifying facility	 Within three (3) years after a) the applicable state's approval of the certifying facility's revised RCRA permit allowing them to receive SNL/NM waste b) the certifying facility is certified by WIPP for heterogeneous and/or homogeneous MTRU waste, as applicable, and c) the certifying facility's waste acceptance
	criteria are met.
D. Complete shipping of existing MTRU waste to an off-site facility for certification and disposal at the WIPP facility or direct shipment of certified MTRU waste to WIPP	December 31, 2020
E. Provide documentation to NMED that MTRU waste was received at an off-site certifying facility or at WIPP	Within 45 working days of receipt of waste at certifying facility

Rationale for the proposed revision (X. C. 2. b)

The DOE/NNSA and Sandia have developed on-site treatment technologies or identified off-site treatment and/or disposal facilities to address routine mixed waste utilizing the treatment technologies identified for these TGs. While the DOE/NNSA and Sandia fully intend to treat and/or dispose of all newly generated mixed waste within one year, precluding such waste from becoming a covered waste subject to the STP, the DOE/NNSA and Sandia also believe that a long-term compliance date should be established for each treatment technology for the following purposes:

- Characterization and shipment of MTRU waste the DOE/NNSA and Sandia are currently working with WIPP to characterize and ship all existing covered MTRU waste off-site, either to WIPP (for waste that has been certified) or to a certifying facility, e.g., LANL or INL. However, the WIPP facility and certifying facilities are currently not accepting any MTRU waste and may not accept waste for some time. The characterization and off-site shipment of MTRU is a very time-intensive process and the DOE/NNSA and Sandia believe that the current compliance dates should be extended for existing and future MTRU covered waste. This extension would allow for definitive planning and effective management of the MTRU waste
- Address waste discovered during sorting operations that would be immediately subject to the FFCO - Typically, mixed waste that is identified during sorting activities is over one year old and is immediately subject to and protected by the FFCO. If such waste is discovered during

these sorting activities, and such waste would be included in one of these TGs, then an assigned compliance date is needed to provide a process for the DOE/NNSA and Sandia to comply with the FFCO. The compliance date defines the TG, ensures that the DOE/NNSA and Sandia treat and/or dispose of the waste within a specific timeframe, and continues the current notification pathway to the NMED.

- 3) Support the effective waste management of newly generated or identified mixed wastes The establishment of a specific compliance milestone for each TG allows for more definitive planning and more effective waste management for both newly generated and newly discovered covered mixed waste. An example would be grouping small quantities of waste for specific treatment and disposal options into one larger quantity, thereby making more effective and efficient use of personnel and resources to characterize, treat, and/or dispose of such wastes.
- 4) Maintain and ensure compliance with the STP The assignment of a compliance date serves the interest of the STP and the NMED by ensuring that the DOE/NNSA and Sandia treat or dispose of covered waste in a timely and compliant manner. An assigned compliance date for these TGs also allows the current documentation process to continue in accordance with the CPV.

The DOE/NNSA and Sandia are requesting that December 31, 2020 be established as a long-term compliance activity date, as reflected in the treatment technology schedules defined in the above section. By assigning this compliance date to all TGs now, the DOE and Sandia seek to avoid the submission of multiple revision requests to establish such dates in the near future.

The Mercury Export Ban Act (Public Law 110-414) amended the TSCA and restricts the movement of elemental mercury stating that "...no Federal agency shall convey, sell, or distribute to any other federal agency, any State of local government agency, or any private individual or entity any elemental mercury under the control or jurisdiction of the Federal agency". The intent is to ship all elemental mercury to a designated DOE facility for long term storage. Until a designated facility is identified and operational, the DOE/NNSA and Sandia will store any elemental mercury pending shipment. The Mercury Export Ban Act applies to TGs 6 and 11, and is discussed in Sections 3.1.1.4 and 3.2.2 of the CPV.

Anticipated length of delay resulting from the proposed revision including affected compliance dates

(X. C. 2. c)

No delays are anticipated other than potential delays associated with WIPP waste acceptance.

If delay occurs, implementation of new schedule (X. C. 2. d)

New schedules have been specified for most treatment technologies and will be implemented upon approval of Revision No. 15. Otherwise, no delays are anticipated.

ENCLOSURE A-3

TG and Description	Proposed Revision No. 15 Volume
TG 1 Inorganic Debris with Explosive Component	0 m³
TG 2 Inorganic Debris with a Water Reactive Component	0 m ³
TG 3 Reactive Metals	0 m ³
TG 4 Elemental Lead	0 m ³
TG 5 Aqueous Liquids (Corrosive)	0 m³
TG 6 Elemental Mercury	0 m³
TG 7 Organic Liquids I	0 m ³
TG 8 Organic Debris with Organic Contaminants	0 m³
TG 9 Inorganic Debris with TCLP Metals	0 m³
TG 10 Heterogeneous Debris	0 m ³
TG 11 Organic Liquids II	0 m ³
TG 12 Organic Debris with TCLP Metals	0 m ³
TG 13 Oxidizers	0 m ³

Table 1 Summary of Treatability Groups and Associated Volumes

Continued next page

TG and Description	Proposed Revision No. 15 Volume
TG 14 Aqueous Liquids with Organic Contaminants	0 m ³
TG 15 Soils <50% Debris & Particulates with TCLP Metals	0 m ³
TG 16 Cyanide Waste	0 m ³
TG 17 Liquid/Solid with Organic and/or Metal Contaminants	0 m³
TG 18 Soils <50% Debris & Particulates with Organic Contaminants	0 m ³
TG 19 Liquids with Metals	0 m ³
TG 20 Propellant with TCLP Metals	0 m³
TG 21 Sealed Sources with TCLP Metals	0 m³
TG 22 Reserved	Not Applicable
TG 23 Thermal Batteries	0 m ³
TG 24 Spark Gap Tubes with TCLP Metals	0 m ³
TG 25 Classified Items with TCLP Metals	0 m³
TG 26 Debris Items with Reactive Compounds and TCLP Metals	0 m ³
TG 27 High Mercury Solids and Liquids	0 m ³
MTRU Mixed Transuranic Waste	2.0 m ³

Table 1 Summary of Treatability Groups and Associated Volumes (concluded)

EXHIBIT A

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SANDIA NATIONAL LABORATORIES

MIXED WASTE SITE TREATMENT PLAN

COMPLIANCE PLAN VOLUME (CPV)

BACKGROUND VOLUME

REVISION 1415

June 2013 May 2016

ENCLOSURE B

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Proposed Revision No. 14-15 to the Sandia National Laboratories Mixed Waste Site Treatment Plan Compliance Plan Volume

Sandia National Laboratories/New Mexico

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EXHIBIT A

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SANDIA NATIONAL LABORATORIES

MIXED WASTE SITE TREATMENT PLAN

COMPLIANCE PLAN VOLUME (CPV)

BACKGROUND VOLUME

REVISION 1415

June 2013 May 2016

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1.0 PURPOSE AND SCOPE OF THE COMPLIANCE PLAN VOLUME

1.1 INTRODUCTION

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On October 6, 1992, Congress passed the Federal Facility Compliance Act (FFC Act) to address compliance by the United States Department of Energy (DOE) with the land disposal restrictions (LDR) for the storage of mixed waste set forth in Section 3004(j) of the Resource Conservation and Recovery Act (RCRA). The FFC Act required the DOE to submit a Site Treatment Plan (STP) for developing treatment capacities and technologies to treat all of the facility's mixed waste, regardless of the time generated, to the standards promulgated pursuant to Section 3004 (m) of RCRA. The FFC Act provided that the appropriate regulatory authority, the New Mexico Environment Department (NMED), may approve, approve with modifications or disapprove the STP. Prior to making such a determination, NMED is required by the FFC Act to provide public notice, consider public comments, and consult with the Environmental Protection Agency (EPA) and any other state in which a facility affected by the STP is located.

On March 31, 1995, DOE submitted its proposed STP to NMED for mixed waste at Sandia National Laboratories (SNL/NM). On April 17, 1995, the public was given notice of and an opportunity to comment to NMED on the draft STP submitted by DOE. After considering public comment and otherwise complying with the FFC Act, the NMED determined to approve the draft STP with modifications as provided in this document. The STP was fully implemented by a Federal Facility Compliance Order (FFCO) issued by NMED on October 4, 1995.

The STP is intended to fulfill the requirements of the FFC Act and establish an enforceable framework to allow the DOE/National Nuclear Security Administration (NNSA) and Sandia Corporation (Sandia), collectively termed Respondents, to achieve full compliance with LDR requirements under the New Mexico Hazardous Waste Act (HWA) and RCRA. The compliance dates set forth herein are enforceable time periods in which Respondents will be required to develop treatment capacities and technologies; and treat or otherwise meet the requirements set forth for LDR under the HWA and RCRA. Wastes that are subject to the FFCO and STP are defined in Section V.A *Covered Waste* of the FFCO.

1.2 CONTENTS

The STP contains two volumes and is intended to bring Respondents into compliance with LDR storage prohibitions under the HWA and RCRA. The Compliance Plan Volume (CPV) of the STP provides overall schedules, including compliance dates for achieving compliance with LDR storage and treatment requirements for mixed waste at SNL/NM. The CPV includes a schedule for the submittal of applications for permits, construction of treatment facilities, technology development, off-site transportation for treatment, and the treatment of mixed wastes in full compliance with the HWA and the implementing regulation at 20 NMAC 4.1, which incorporates by reference 40 CFR Parts 260 through 270. The Background Volume of the STP contains progress reports as required in the FFCO. Respondents shall carry out the activities described in the STP, including the CPV of the STP, in accordance with the schedules and requirements set forth in the STP and the FFCO.

2.0 COMPLIANCE SCHEDULE

The STP provides overall schedules for achieving compliance with LDR requirements for mixed waste at SNL/NM. The schedules include those activities required to bring existing waste treatment technologies into operation, process backlogged and currently generated waste, and overall time frames for achieving compliance with the LDR requirements under the HWA and 20 NMAC 4.1.

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2.1 CATEGORIES OF ACTIVITIES FOR COMPLIANCE DATES

The categories of activities for which compliance dates will be provided for different types of treatment approaches in the STP are listed in the Tables 2-1 through 2-6 below. The categories of activities are based on section 3021(b)(1)(B)(I), (ii) and (iii) of RCRA, to the extent appropriate.

2.1.1 Plans Where Treatment Technology Exists

For most of the mixed waste, treatment technologies have been identified and developed. For the waste that will be treated on-site, the categories of compliance dates identified in Table 2-1, "Schedule For Mixed Waste With Existing Treatment Technologies," shall apply. Compliance dates for the activities identified in Table 2-1 may be found in Section 3.1.

Table 2-1 Categories of Activities for Compliance Dates for Mixed Waste With Existing Treatment Technologies

		-
Α	Submit permit applications to NMED.	-
B.	Initiate construction as specified in the NMED permit.	
C.	Complete Systems testing and commence operation.	
D.	Begin treating mixed waste.	
E.	Complete treatment of existing wastes to applicable regulatory standards.	

2.1.2 Plans Where Treatment Technology Must Be Developed

For some mixed waste, no treatment technologies have been identified and developed, or treatment technology must be modified or adapted to be made applicable for mixed waste. For this waste which will be treated on-site, the categories of compliance dates identified in Table 2-2, "Schedule for Mixed Waste Without Existing Treatment Technologies," shall apply. Compliance dates for the activities identified in Table 2-2 may be found in Section 3.2.

Table 2-2 Categories of Activities for Compliance Dates for Mixed Waste Without Existing Treatment Technologies

Α.	Identify and develop technology.
B .	Submit permit application to NMED; or
C.	Submit a Notification of Intent to perform treatability study to the NMED a minimum of 45 days prior to commencement of the study.
D.	Initiate construction as specified in the NMED permit.
E.	Commence systems testing.
F.	Begin treating mixed wastes.
G.	Complete treatment of existing wastes to applicable regulatory standards.

2.1.3 Requirements Pertaining to Radionuclide Separation

The FFC Act sets additional requirements in cases where the DOE/NNSA intends to conduct radionuclide separation of mixed waste. Should the DOE/NNSA determine to conduct radionuclide separation of such mixed waste, the DOE/NNSA will schedule specific compliance dates based on category activities identified in Table 2-3, Schedule for Radionuclide Separation of Mixed Waste. "Radionuclide separation" shall mean the segregation of the radioactive portion of the mixed waste from the hazardous portion of the mixed waste. Compliance activities identified in Table 2-3 have been completed and therefore compliance dates are no longer applicable.

Table 2-3 Categories of Activities for Radionuclide Separation of Mixed Waste

Α.	Complete an estimate of the volume of waste generated by each case of radionuclide separation.
В.	Complete an estimate of the volume of waste that would exist or be generated without radionuclide separation.
C.	Complete an estimate of the costs of waste treatment and disposal if radionuclide separation is used compared to the estimated costs if it is not used.
D.	Provide the assumptions underlying such waste volume and cost estimates.
E.	Provide characterization methodologies for determining waste types.
F.	Submit a plan for treatment or management of hazardous waste residues
	accompanied by NMED permit application.

2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment

In lieu of plans to treat mixed-waste on-site, DOE/NNSA may send waste to an off-site facility for treatment at either a commercial or non-commercial mixed waste treatment facility. Any and all requirements imposed by the off-site facility and state regulatory, federal regulatory or other regulatory requirements applicable to Respondents at the treatment site shall be met by the Respondents.

2.1.4.1 Requirements for Commercial Treatment Facilities

Should DOE/NNSA decide to send waste to a commercial off-site facility for treatment, DOE/NNSA will notify the NMED Project Manager in writing as soon as possible and in any event within forty-five (45) working days of receipt of waste at the treatment facility.

Activities for mixed waste to be shipped off-site for treatment at a commercial facility are identified in Table 2-4.

Table 2-4. Activities for Mixed Waste to be Shipped Off-Site for Treatment at a Commercial Facility

Α.	Meet all regulatory requirements for off-site shipment.	
B.	Provide documentation to NMED that each waste shipment has been received at an	
	off-site facility for treatment within 45 working days of receipt of waste at the	
	treatment facility.	

2.1.4.2 Requirements for Non-commercial Treatment Facilities

DOE/NNSA shall notify the NMED Project Manager in writing as soon as possible if mixed waste is planned to be sent to a non-commercial facility. Notification should be made if possible when DOE/NNSA is first considering such an option to allow NMED and the state to address any state issues or concerns with other states. Documentation shall be provided to NMED of confirmation of shipment date within fourteen (14) working days prior to sending waste to an off-site facility for treatment, disposal or storage pending treatment or disposal. The NMED Project Manager shall approve in writing the offsite non-commercial treatment option proposed by DOE/NNSA for each treatability group prior to any shipment by DOE/NNSA. DOE/NNSA will notify the NMED Project Manager in writing as soon as possible and in any event within forty-five (45) working days of receipt of waste at the treatment facility.

Activities for mixed waste to be shipped off-site for treatment at a non-commercial facility are identified in Table 2-5.

Prior to shipment, the non-commercial treatment facility and their appropriate regulatory agency shall be notified of any pending waste shipments should DOE/NNSA ship mixed waste. Proper procedures including additional approvals (if necessary) and documentation shall be completed prior to the shipment of wastes. Management of post-treatment waste residuals or newly generated waste streams considered hazardous will be in accordance with all applicable local, state, and federal requirements. The RCRA permit for SNL/NM must provide for the return of wastes and/or residuals to SNL/NM prior to any such return of wastes and/or residuals to SNL/NM. If a permit modification is required, such modification must be approved by NMED prior to shipment of covered wastes to the off-site facility. DOE/NNSA will notify the NMED Project Manager in writing as soon as possible, and in any event within thirty (30) working days after receipt of shipment of treatment residuals or newly generated waste streams.

Table 2-5. Activities for Mixed Waste to be Shipped Off-Site for Treatment at a Non-commercial Facility

Request necessary approval from NMED for shipment of mixed waste by treatment Α. group before shipping. Meet all regulatory requirements for off-site shipment. Β. С. Provide documentation to NMED of confirmation of shipment date within 14 working days prior to sending mixed waste to an off-site facility for treatment, disposal or storage pending treatment or disposal. Provide documentation to NMED that mixed waste has been received at an off-site D. facility for treatment within 45 working days of receipt of waste at the treatment facility. E. Meet all regulatory requirements to include RCRA Permit modifications for receipt of residual or newly generated mixed waste streams after treatment that meet the definition of a hazardous waste. Provide documentation to NMED within 30 working days after receipt of residual or F. newly generated waste streams upon return to SNL/NM.

2.1.5 Plans for Recycling

Recycling is a parallel preferred option for each preferred treatment technology. Should the DOE/NNSA decide to recycle covered waste, DOE/NNSA will notify the NMED Project Manager in writing as soon as possible and in any event within forty-five (45) working days of receipt of the waste at the recycling facility or by the recycler. Activities for mixed waste recycling are identified in Table 2-6. Once a covered waste volume has been recycled or re-used, the DOE/NNSA and Sandia will request a deletion for the covered waste volume.

Table 2-6. Activities for Mixed Waste Recycling

A. Meet all regulatory requirements for off-site shipment, if applicable.
B. Provide documentation to NMED that each waste shipment has been received for recycling within 45 working days of receipt of waste by the recycler.

Should the DOE/NNSA decide to re-use material included in the covered waste inventory, the DOE/NNSA and Sandia will request a deletion for the covered waste volume.

2.1.6 Plans Related to Other Mixed Waste Activities

Activities other than the types of activities specifically called out in the FFC Act as requiring schedules are described in the STP. Some of these activities may be associated with schedules that may contain information related to treatment of the DOE/NNSA's mixed waste, such as:

For mixed waste which is not sufficiently characterized to allow identification of appropriate treatment, notification of the characterization of such waste shall be in accordance with the annual update process as pursuant to the FFCO. If such characterization results in the addition or deletion of a treatability group or an increase in volume in a treatability group, a revision would be required pursuant to Section X (Revisions) of the FFCO.

3.0 MIXED WASTE TREATMENT PLAN AND SCHEDULES

3.1 MIXED WASTE FOR WHICH TECHNOLOGY EXISTS

It is expected that the preferred treatment technology identified in this section as an on-site treatment will be implemented at the SNL/NM Radioactive and Mixed Waste Management Unit or other appropriate onsite RCRA permitted units. All on-site treatment of covered wastes will be performed in accordance with applicable regulations and applicable requirements of any RCRA permit for treatment of hazardous or mixed wastes at SNL/NM. On-site mixed waste treatment capabilities do not currently adequately address the preferred treatment technologies for some of SNL/NM's specific waste types; off-site treatment is the preferred option for such wastes

3.1.1 Compliance Dates for Treatability Groups

The activities that require schedules are shown in Tables 2-1 through 2-5. Below are listed each SNL/NM treatability group and the schedule for these activities. Treatability groups with the same treatment and schedule are presented together.

- The schedules for the activities appropriate to SNL/NM from those listed in Table 2-1 for "Categories of Activities for Compliance Dates for Mixed Waste With Existing Treatment Technology, are presented for TGs 1, 2, 3, 4, 5, 6, 8, 9, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 26, and 27;
- The schedules for the activities appropriate to SNL/NM from those listed in Table 2-2 for "Categories of Activities for Compliance Dates for Mixed Waste Without Existing Treatment Technology" are presented for TG 11;
- The schedules for the activities appropriate to SNL/NM from those listed in Table 2-3 for "Categories of Activities for Compliance Dates for Radionuclide Separation of Mixed Waste" are presented for neutron generators in TG 1;
- The schedules for the activities appropriate to SNL/NM from those listed in Table 2-4 and 2-5 for "Activities for Mixed Waste To Be Shipped Off-Site For Treatment" are presented for TGs 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, and 27.
- The schedules for the activities appropriate to SNL/NM from those listed in Table 2-6 for "Activities for Mixed Waste Recycling" are presented for TGs 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, and 26.
- Other activities are presented with planning schedules for informational purposes for management of TG 10 and Suspect TRU Mixed Waste.

3.1.1.1 Deactivation (On-Site by SNL/NM/Off-Site Treatment/Recycling)

TG 1 - Inorganic Debris with Explosive (0 m³)

TG 2- Inorganic Debris with Water Reactive (0 m³)

TG 3- Reactive Metals (0 m³)

The preferred treatment technology for these treatability groups is Deactivation. The neutron generator portion of Treatability Group 1 was disassembled to remove the explosive, which was managed as hazardous waste. The remaining portion was managed as radioactive waste or as mixed waste. Planning schedules for activities related to the neutron generators are presented in Section 3.3. Shipment off-site for treatment is a parallel preferred option for Deactivation. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Initiate set-up of laboratory operation.	Completed
C. Complete system testing and commence operation and begin treating mixed waste.	Completed
D. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2016 2020
E. Complete shipping of wastes to an off-site treatment/recycling facility and	December 31, 2016 2020
F. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Deactivation Schedule

3.1.1.2 Macroencapsulation (On-site by SNL/NM/Off-Site Treatment/Recycling)

TG 4 - Elemental Lead (0 m3)

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TG 9 - Inorganic Debris with TCLP Metals (0 m3)

TG 12 - Organic Debris with TCLP Metals (0 m3)

The preferred treatment technology for each of these treatability groups is Macroencapsulation. Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste at an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Macroencapsulation Schedule

Activity	Compliance Date
A. Submit permit application, amendment, or modification to NMED	Completed
B. Complete recycling/treatment of mixed waste to applicable regulatory standards or,	December 31, 2016 2020
C. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2016 2020
D. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.1.1.3 Neutralization followed-by Stabilization (On-Site by SNL/NM/Off-Site Treatment/Recycling)

TG 5 - Aqueous Liquids (0 m³)

The preferred treatment technology for this treatability group is Neutralization followed by Stabilization. Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Initiate set-up of laboratory operation.	Completed
C. Complete system testing and commence operation and begin treating mixed waste.	Completed
D. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2016 2020
E. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2016 2020
F. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Neutralization followed by Stabilization Schedule

3.1.1.4 Amalgamation (On-Site by SNL/NM/Off-Site Treatment/Recycling)

TG 6 - Elemental Mercury (0 m³)

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. However, compliance dates for treatment or shipment activities are included should the prohibition be clarified, modified, or lifted. The preferred treatment technology for this treatability group is Amalgamation. Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with **Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment.**

Amalgamation Schedule

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2016 2020
C. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2016 2020
D. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.1.1.5 Incineration (Off-Site by Treatment Facility/Recycling)

TG 7 - Organic Liquids I (0 m³)

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TG 18 - Particulates and Soils with Organic Contaminants (0 m³)

The preferred treatment technology for these treatability groups is Incineration at an off-site facility. Should DOE/NNSA decide to send waste to an off-site facility for treatment, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Incineration Schedule

Activity	Compliance Date
A. Complete shipping of wastes to an off- site treatment/recycling facility.	December 31, 2016 2020
B. Provide documentation to NMED that waste was received at off-site facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.1.1.6 Thermal Desorption (Off-Site Treatment/Recycling)

TG 8 - Organic Debris (0 m³)

The preferred treatment technology for this treatability group is Thermal Desorption. Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance

with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Complete shipping of wastes to an off- site treatment/recycling facility	December 31, 2016 2020
C. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Thermal Desorption Schedule

3.1.1.7 Deactivation followed by Stabilization (On-Site by SNL/NM/Off-Site Treatment/Recycling)

TG 13 - Oxidizers (0 m³)

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TG 20 - Propellant with TCLP Metals (0 m³)

The preferred treatment technology for this treatability group is Deactivation followed by Stabilization. Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Deactivation followed by Stabilization Schedule

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Initiate set-up of laboratory operation.	Completed
C. Complete system testing and commence operation and begin treating mixed waste.	Completed
D. Complete recycling/treatment to applicable regulatory standards, or shipping of wastes to an off-site treatment/recycling facility	December 31, 2016 2020
E. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.1.1.8 Evaporative Oxidation (Off-Site Treatment/Recycling)

TG 14 - Aqueous Liquids with Organic Contaminants (0 m³)

The preferred treatment technology for this treatability group is Evaporative Oxidation. Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste to an off-site

facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2016 2020
C. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2016 2020
D. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Evaporative Oxidation Schedule

3.1.1.9 Stabilization (On-Site by SNL/NM/Off-Site Treatment/Recycling)

TG 15 - Soils <50% Debris & Particulates with TCLP Metals (0 m³)

TG 19 - Liquids with Metals (0 m³)

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The preferred treatment technology for this treatability group is Stabilization. Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the shipments shall be managed in accordance with Section 2.1.4, Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Stabilization Schedule

Activity	Compliance Date
A. Initiate set-up of laboratory operation	Obtain new permit or modify or amend existing NMED permit if required
B. Complete systems testing and commence operation and begin treating mixed waste.	Completed
C. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2016 2020
D. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2016 2020
E. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.1.1.10 Oxidation (On-Site by SNL/NM/Off-Site Treatment/Recycling)

TG 16 - Cyanide Waste (0 m³)

The preferred treatment technology for this treatability group is Oxidation. Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with **Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment**. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with **Section 2.1.5 Plans for Recycling**.

Oxidation Schedule

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2016 2020
C. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2016 2020
D. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.1.1.11 Incineration followed by Stabilization (Off-Site Treatment/Recycling)

TG 17 - Liquid/Solid with Organic and/or Metal Contaminants (0 m³)

The preferred treatment technology for this treatability group is Incineration followed by Stabilization, as required, at an off-site treatment facility. Stabilization is required for the treatment of waste that contains metals contamination. Prior to sending waste to an off-site facility for treatment, the DOE/NNSA shall act in compliance with Section 2.1.4, Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Incineration/Stabilization Schedule

Activity	Compliance Date
A. Complete treatment to applicable regulatory standards or shipping of wastes to an off-site treatment/recycling facility	December 31, 2016 2020
B. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.1.1.12 Off-Site Shipment / On-Site Macroencapsulation

TG 21 - Sealed Sources with TCLP Metals (0 m³)

TG 24 - Spark Gap Tubes with TCLP Metals (0 m³)

TG 26 - Debris Items with Reactive Compounds and TCLP Metals (0 m³)

The preferred treatment technology for this treatability group is shipment to an off-site facility for treatment and disposal. Prior to sending waste to an off-site facility for treatment, the DOE/NNSA shall act in compliance with Section 2.1.4, Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

A parallel treatment option is on-site macroencapsulation followed either by shipment to an off-site facility for disposal, or by storage pending development of further treatment and disposal options. On June 3, 2004, the NMED approved a site-specific treatment variance to allow for macroencapsulation of less than debris sized manufactured items exhibiting the toxicity characteristic for metal(s), containing radioactive material, and potentially externally contaminated with radioactive materials. These items include radioactive sources (TG 21) and radioactive materials such as various gap tubes (TG 24).

Activity	Compliance Date
A. Provide progress report of current	Completed
status and availability of treatment and/or	
disposal options	
B. Complete on-site macroencapsulation	December 31, 2016 2020
of waste, or	· ·
C. Complete shipping of wastes to an off-	December 31, 2016 2020
site treatment/recycling facility and	
D. Provide documentation to NMED that	Within 45 working days of receipt of
waste was received at off-site	waste at treatment/recycling facility
treatment/recycling facility	

Off-site Shipment / Macroencapsulation Schedule

3.1.1.13 Size Reduction followed by Stabilization/Deactivation followed by Macroencapsulation

TG 23 - Thermal Batteries (0 m³)

The preferred treatment technology for this treatability group is stabilization at an off-site treatment facility. Deactivation followed by macroencapsulation is a parallel preferred option. Prior to sending waste to an off-site facility for treatment, the DOE/NNSA shall act in compliance with Section 2.1.4, Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Stabilization Schedule

Activity	Compliance Date
A. Render existing thermal batteries non- reactive	Completed
B. Provide progress report of current status and availability of treatment and/or disposal options	Completed
C. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2016 2020
D. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.2 MIXED WASTE FOR WHICH TECHNOLOGY MUST BE DEVELOPED

SNL/NM has treatability groups for which the preferred treatment option is a treatment technology that requires adaptation in order to treat hazardous waste that is radioactive and may contain PCBs or high levels of mercury.

3.2.1 Hydrothermal Processing (On-Site by SNL/NM/Off-Site Treatment/Recycling)

TG 11 - Organic Liquids II (0 m³)

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Hydrothermal processing was identified in the STP as the preferred treatment technology for TG 11 Organic Liquids II. Development of this treatment technology is on indefinite hold. As required by the CPV, respondents submitted treatment schedules and options for the NMED's approval prior to the compliance date of November 30, 1998. The treatment schedule submitted reflected the approval by the NMED for off-site shipment (Revision No. 1) and the approval of February 28, 2001, as an initial compliance date for shipments (Revision No. 2).

Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Activity	Compliance Date
A. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2016 2020
B. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Off-Site Shipment Schedule

3.2.2 Stabilization of High Mercury Materials (On-site/Off-Site Treatment)

TG 27 - High Mercury Solids and Liquids (0 m³)

The technology-based treatment standard for high mercury solids and oils is incineration (IMERC) or retorting and recovery (RMERC). These technologies have not been available for mixed waste. The compliance activities and dates associated with this TG may be impacted by the Mercury Export Ban Act (Public Law 110-414) which amended the TSCA in 15 USC 2605(f) restricting Federal agencies from transferring elemental mercury. As long as this prohibition exists, the DOE/NNSA and Sandia will store this waste on-site. However, compliance dates for treatment or shipment activities are included should the prohibition be clarified, modified, or lifted. The preferred treatment technology for this treatability group is shipment to an off-site treatment facility. Prior to sending waste to an off-site facility for treatment, the DOE/NNSA shall act in compliance with Section 2.1.4, Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Activity	Compliance Date
A. Provide progress report of current	Completed
status and availability of treatment and/or	
disposal options	
B. Complete recycling/treatment of wastes	December 31, 2016 2020
to applicable regulatory standards or,	
C. Complete shipping of wastes to an off-	December 31, 2016 2020
site treatment/recycling facility and	
D. Provide documentation to NMED that	Within 45 working days of receipt of waste
waste was received at off-site	at treatment/recycling facility
treatment/recycling facility	

High Mercury Solids and Liquids Schedule

3.3 OTHER TYPES OF MIXED WASTE ACTIVITIES

This section describes activities that will be performed to reduce the mixed waste in inventory at SNL/NM.

3.3.1 Sorting of Heterogeneous Debris

TG 10 - Heterogeneous Debris (0 m³)

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This treatability group contains a heterogeneous assortment of debris. Therefore, the treatability group requires sorting the waste into, for example, organic and inorganic debris treatability groups (TG8 and TG9), or other treatability groups as appropriate for which preferred treatment options have been selected. The sorting process began on June 30, 1995.

Shipment off-site for treatment is a preferred option. Treatment on-site according to the appropriate treatability group is an alternate preferred option. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Heterogeneous Debris Schedule

Activity	Compliance Date
A. Complete sorting of wastes or	December 31, 2016 2020
B. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2016 2020
C. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	December 31, 2016 2020

TG 25 - Classified Items with TCLP Metals (0 m³)

This treatability group contains a heterogeneous assortment of classified items and debris. As such, this treatability group requires sorting the waste into other treatability groups as appropriate for which preferred treatment options have been selected. The sorting process may include, but not be limited to, physical sorting, separation, disassembly, and/or de-classification.

Shipment off-site for treatment and/or disposal is the preferred option. The parallel preferred treatment option is on-site treatment by macroencapsulation followed either by shipment to an off-site facility for disposal, or by storage pending the development of further treatment and disposal options. Sorting and/or de-classification activities may be necessary to process the classified mixed waste into items suitable for further treatment on-site or shipment off-site to treatment and/or disposal facilities. Should DOE/NNSA send waste to an off-site facility for treatment, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Activity	Compliance Date
A. Complete sorting or on-site treatment of wastes or	December 31, 2016 2020
B. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2016 2020
C. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	December 31, 2016 2020

Classified Items with TCLP Metals Schedule

3.3.2 Mixed Waste For Which Radionuclide Separation is Planned

Treatability Group 1, Inorganic Debris with Explosive Component neutron generators. These items will be disassembled to yield an explosive waste stream that is not mixed, and a radioactive portion that may be mixed. The radioactive portion of the assembled items will be physically separated from the explosive portion.

Activity	Compliance Date
A. Complete an estimate of the volume of waste generated by each case of radionuclide separation.	Completed
B. Complete an estimate of the volume of waste that would exist or be generated without radionuclide separation.	Completed
C. Complete an estimate of the costs of waste treatment and disposal if radionuclide separation is used compared to the estimated costs if it is not used.	Completed
D. Provide the assumptions underlying such waste volume and cost estimates.	Completed
E. Provide characterization methodologies for determining waste types	Completed
F. Submit a plan for treatment or management of hazardous waste residues as appropriate.	Completed

Radionuclide Separation Schedule (On-Site by SNL)

4.0 3.4 MIXED TRU WASTE (2.01.1E-5 m3)

Treatment Group(s):

Assorted Mixed Transuranic Waste

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Treatment Technology:

Respondents are required to manage mixed transuranic (MTRU) waste at SNL/NM according to the schedule set forth below:

Activity	Compliance Date
A. Development of treatment	Completed
technology	
B. Submit permit application	Completed
amendment, or modification to NMED	
for treatment of MTRU waste	
C. Complete preparation of existing	Within three (3) years after
MTRU wastes for on-site certification	
or shipment to an off-site certifying	a) the applicable state's approval of the
facility	certifying facility's revised RCRA permit allowing them to receive SNL/NM waste
	b) the certifying facility is certified by WIPP for heterogeneous and/or homogeneous MTRU waste, as applicable, and
	c) the certifying facility's waste acceptance criteria are met.

Activity	Compliance Date
D. Complete shipping of existing MTRU waste to an off-site facility for certification and disposal at the WIPP facility or direct shipment of certified MTRU waste to WIPP	December 31, 2016 2020
E. Provide documentation to NMED that MTRU waste was received at <u>an</u> off-site certifying facility or at WIPP	Within 45 working days of receipt of waste at certifying facility

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The above schedule was developed based on the assumption that WIPP would be a disposal option. DOE/NNSA received a variance from treatment standards for land disposal of MTRU waste to be disposed at WIPP (Waste Isolation Pilot Plant Land Withdrawal Act Amendments, Public Law 104-201, Sept. 1996); therefore MTRU wastes to be shipped to WIPP for disposal will be prepared in accordance with the WIPP waste acceptance criteria.

All revisions to compliance dates shall be in accordance with the procedures set forth in the FFCO.

TG and Description	<u>FY15 Annual STP Update</u> <u>Volume*</u>	Proposed Revision 15 FY12 Annual STP Update-Volume*
TG 1 Inorganic Debris with Explosive Component	<u>0 m³</u>	0 m ³
TG 2 Inorganic Debris with a Water Reactive Component	<u>0 m³</u>	0 m ³
TG 3 Reactive Metals	<u>0 m³</u>	0 m ³
TG 4 Elemental Lead	<u>0 m³</u>	0 m ³
TG 5 Aqueous Liquids (Corrosive)	<u>0 m³</u>	0 m ³
TG 6 Elemental Mercury	<u>0 m³</u>	0 m ³
TG 7 Organic Liquids I	<u>0 m³</u>	0 m ³
TG 8 Organic Debris with Organic Contaminants	<u>0 m³</u>	0 m ³
TG 9 Inorganic Debris with TCLP Metals	<u>0 m³</u>	0 m ³
TG 10 Heterogeneous Debris	<u>0 m³</u>	0 m ³
TG 11 Organic Liquids II	<u>0 m</u> ³	0 m ³
TG 12 Organic Debris with TCLP Metals	<u>0 m</u> ³	0 m ³
TG 13 Oxidizers	<u>0 m³</u>	0 m ³

Proposed Revision 14<u>15</u> Table 1-Summary of Treatability Groups and Associated Volumes

Volumes indicated are those in the most recent annual update.

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Continued next page

TG and Description	<u>FY15 Annual STP Update</u> <u>Volume</u> *	Proposed Revision No. 15FY12 Annual STP Update-Volume*
TG 14 Aqueous Liquids with Organic Contaminants .	<u>0 m³</u>	0 m ³
TG 15 Soils <50% Debris & Particulates with TCLP Metals	<u>0 m³</u>	0 m ³
TG 16 Cyanide Waste	<u>0 m³</u>	0 m ³
TG 17 Liquid/Solid with Organic and/or Metal Contaminants	<u>0 m³</u>	0 m ³
TG 18 Soils <50% Debris & Particulates with Organic Contaminants	<u>0 m³</u>	0 m ³
TG 19 Liquids with Metals	<u>0 m³</u>	0 m ³
TG 20 Propellant with TCLP Metals	<u>0 m³</u>	0 m ³
TG 21 Sealed Sources with TCLP Metals	<u>0 m³</u>	0 m ³
TG 22 Reserved	Not Applicable	Not Applicable
TG 23 Thermal Batteries	<u>0 m³</u>	0 m ³
TG 24 Spark Gap Tubes with TCLP Metals	<u>0 m³</u>	0 m ³
TG 25 Classified Items with TCLP Metals	<u>0 m³</u>	0 m ³
TG 26 Debris Items with Reactive Compounds and TCLP Metals	<u>0 m³</u>	0 m ³
TG 27 High Mercury Solids and Liquids	<u>0 m³</u>	0 m ³
MTRU Mixed Transuranic Waste	<u>1.0 m³</u>	- 1.1E-05<u>2.0</u> m³

Table 1 Summary of Treatability Groups and Associated Volumes (concluded)

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^a Volumes indicated are those in the most recent annual update.

ENCLOSURE C

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Proposed Revision No. 15 to the Sandia National Laboratories Mixed Waste Site Treatment Plan Compliance Plan Volume

Sandia National Laboratories/New Mexico

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EXHIBIT A

SANDIA NATIONAL LABORATORIES

MIXED WASTE SITE TREATMENT PLAN

COMPLIANCE PLAN VOLUME (CPV)

BACKGROUND VOLUME

REVISION 15

May 2016

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1.0 PURPOSE AND SCOPE OF THE COMPLIANCE PLAN VOLUME

1.1 INTRODUCTION

On October 6, 1992, Congress passed the Federal Facility Compliance Act (FFC Act) to address compliance by the United States Department of Energy (DOE) with the land disposal restrictions (LDR) for the storage of mixed waste set forth in Section 3004(j) of the Resource Conservation and Recovery Act (RCRA). The FFC Act required the DOE to submit a Site Treatment Plan (STP) for developing treatment capacities and technologies to treat all of the facility's mixed waste, regardless of the time generated, to the standards promulgated pursuant to Section 3004 (m) of RCRA. The FFC Act provided that the appropriate regulatory authority, the New Mexico Environment Department (NMED), may approve, approve with modifications or disapprove the STP. Prior to making such a determination, NMED is required by the FFC Act to provide public notice, consider public comments, and consult with the Environmental Protection Agency (EPA) and any other state in which a facility affected by the STP is located.

On March 31, 1995, DOE submitted its proposed STP to NMED for mixed waste at Sandia National Laboratories (SNL/NM). On April 17, 1995, the public was given notice of and an opportunity to comment to NMED on the draft STP submitted by DOE. After considering public comment and otherwise complying with the FFC Act, the NMED determined to approve the draft STP with modifications as provided in this document. The STP was fully implemented by a Federal Facility Compliance Order (FFCO) issued by NMED on October 4, 1995.

The STP is intended to fulfill the requirements of the FFC Act and establish an enforceable framework to allow the DOE/National Nuclear Security Administration (NNSA) and Sandia Corporation (Sandia), collectively termed Respondents, to achieve full compliance with LDR requirements under the New Mexico Hazardous Waste Act (HWA) and RCRA. The compliance dates set forth herein are enforceable time periods in which Respondents will be required to develop treatment capacities and technologies; and treat or otherwise meet the requirements set forth for LDR under the HWA and RCRA. Wastes that are subject to the FFCO and STP are defined in Section V.A *Covered Waste* of the FFCO.

1.2 CONTENTS

The STP contains two volumes and is intended to bring Respondents into compliance with LDR storage prohibitions under the HWA and RCRA. The Compliance Plan Volume (CPV) of the STP provides overall schedules, including compliance dates for achieving compliance with LDR storage and treatment requirements for mixed waste at SNL/NM. The CPV includes a schedule for the submittal of applications for permits, construction of treatment facilities, technology development, off-site transportation for treatment, and the treatment of mixed wastes in full compliance with the HWA and the implementing regulation at 20 NMAC 4.1, which incorporates by reference 40 CFR Parts 260 through 270. The Background Volume of the STP contains progress reports as required in the FFCO. Respondents shall carry out the activities described in the STP, including the CPV of the STP, in accordance with the schedules and requirements set forth in the STP and the FFCO.

2.0 COMPLIANCE SCHEDULE

The STP provides overall schedules for achieving compliance with LDR requirements for mixed waste at SNL/NM. The schedules include those activities required to bring existing waste treatment technologies into operation, process backlogged and currently generated waste, and overall time frames for achieving compliance with the LDR requirements under the HWA and 20 NMAC 4.1.

2.1 CATEGORIES OF ACTIVITIES FOR COMPLIANCE DATES

The categories of activities for which compliance dates will be provided for different types of treatment approaches in the STP are listed in the Tables 2-1 through 2-6 below. The categories of activities are based on section 3021(b)(1)(B)(I), (ii) and (iii) of RCRA, to the extent appropriate.

2.1.1 Plans Where Treatment Technology Exists

For most of the mixed waste, treatment technologies have been identified and developed. For the waste that will be treated on-site, the categories of compliance dates identified in Table 2-1, "Schedule For Mixed Waste With Existing Treatment Technologies," shall apply. Compliance dates for the activities identified in Table 2-1 may be found in Section 3.1.

Table 2-1 Categories of Activities for Compliance Dates for Mixed Waste With Existing Treatment Technologies

А	Submit permit applications to NMED.
B.	Initiate construction as specified in the NMED permit.
C.	Complete Systems testing and commence operation.
D.	Begin treating mixed waste.
E.	Complete treatment of existing wastes to applicable regulatory standards.

2.1.2 Plans Where Treatment Technology Must Be Developed

For some mixed waste, no treatment technologies have been identified and developed, or treatment technology must be modified or adapted to be made applicable for mixed waste. For this waste which will be treated on-site, the categories of compliance dates identified in Table 2-2, "Schedule for Mixed Waste Without Existing Treatment Technologies," shall apply. Compliance dates for the activities identified in Table 2-2 may be found in Section 3.2.

Table 2-2 Categories of Activities for Compliance Dates for Mixed Waste Without Existing Treatment Technologies

Α.	Identify and develop technology.
В.	Submit permit application to NMED; or
C.	Submit a Notification of Intent to perform treatability study to the NMED a
	minimum of 45 days prior to commencement of the study.
D.	Initiate construction as specified in the NMED permit.
Ε.	Commence systems testing.
F.	Begin treating mixed wastes.
G.	Complete treatment of existing wastes to applicable regulatory standards.

2.1.3 Requirements Pertaining to Radionuclide Separation

The FFC Act sets additional requirements in cases where the DOE/NNSA intends to conduct radionuclide separation of mixed waste. Should the DOE/NNSA determine to conduct radionuclide separation of such mixed waste, the DOE/NNSA will schedule specific compliance dates based on category activities identified in Table 2-3, Schedule for Radionuclide Separation of Mixed Waste. "Radionuclide separation" shall mean the segregation of the radioactive portion of the mixed waste from the hazardous portion of the mixed waste. Compliance activities identified in Table 2-3 have been completed and therefore compliance dates are no longer applicable.

Table 2-3 Categories of Activitiesfor Radionuclide Separation of Mixed Waste

А.	Complete an estimate of the volume of waste generated by each case of radionuclide separation.
В.	Complete an estimate of the volume of waste that would exist or be generated without radionuclide separation.
C.	Complete an estimate of the costs of waste treatment and disposal if radionuclide separation is used compared to the estimated costs if it is not used.
D.	Provide the assumptions underlying such waste volume and cost estimates.
E.	Provide characterization methodologies for determining waste types.
F.	Submit a plan for treatment or management of hazardous waste residues accompanied by NMED permit application.

2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment

In lieu of plans to treat mixed-waste on-site, DOE/NNSA may send waste to an off-site facility for treatment at either a commercial or non-commercial mixed waste treatment facility. Any and all requirements imposed by the off-site facility and state regulatory, federal regulatory or other regulatory requirements applicable to Respondents at the treatment site shall be met by the Respondents.

2.1.4.1 Requirements for Commercial Treatment Facilities

Should DOE/NNSA decide to send waste to a commercial off-site facility for treatment, DOE/NNSA will notify the NMED Project Manager in writing as soon as possible and in any event within forty-five (45) working days of receipt of waste at the treatment facility.

Activities for mixed waste to be shipped off-site for treatment at a commercial facility are identified in Table 2-4.

Table 2-4. Activities for Mixed Waste to be Shipped Off-Site for Treatment at a Commercial Facility

A.	Meet all regulatory requirements for off-site shipment.
B.	Provide documentation to NMED that each waste shipment has been received at an
	off-site facility for treatment within 45 working days of receipt of waste at the
	treatment facility.

2.1.4.2 Requirements for Non-commercial Treatment Facilities

DOE/NNSA shall notify the NMED Project Manager in writing as soon as possible if mixed waste is planned to be sent to a non-commercial facility. Notification should be made if possible when DOE/NNSA is first considering such an option to allow NMED and the state to address any state issues or concerns with other states. Documentation shall be provided to NMED of confirmation of shipment date within fourteen (14) working days prior to sending waste to an off-site facility for treatment, disposal or storage pending treatment or disposal. The NMED Project Manager shall approve in writing the offsite non-commercial treatment option proposed by DOE/NNSA for each treatability group prior to any shipment by DOE/NNSA. DOE/NNSA will notify the NMED Project Manager in writing as soon as possible and in any event within forty-five (45) working days of receipt of waste at the treatment facility.

Activities for mixed waste to be shipped off-site for treatment at a non-commercial facility are identified in Table 2-5.

Prior to shipment, the non-commercial treatment facility and their appropriate regulatory agency shall be notified of any pending waste shipments should DOE/NNSA ship mixed waste. Proper procedures including additional approvals (if necessary) and documentation shall be completed prior to the shipment of wastes. Management of post-treatment waste residuals or newly generated waste streams considered hazardous will be in accordance with all applicable local, state, and federal requirements. The RCRA permit for SNL/NM must provide for the return of wastes and/or residuals to SNL/NM prior to any such return of wastes and/or residuals to SNL/NM. If a permit modification is required, such modification must be approved by NMED prior to shipment of covered wastes to the off-site facility. DOE/NNSA will notify the NMED Project Manager in writing as soon as possible, and in any event within thirty (30) working days after receipt of shipment of treatment residuals or newly generated waste streams.

Table 2-5. Activities for Mixed Waste to be Shipped Off-Site for Treatment at a Non-commercial Facility

A.	Request necessary approval from NMED for shipment of mixed waste by treatment group before shipping.
В.	Meet <u>all</u> regulatory requirements for off-site shipment.
С.	Provide documentation to NMED of confirmation of shipment date within 14
	working days prior to sending mixed waste to an off-site facility for treatment,
	disposal or storage pending treatment or disposal.
D.	Provide documentation to NMED that mixed waste has been received at an off-site
	facility for treatment within 45 working days of receipt of waste at the treatment
	facility.
Е.	Meet all regulatory requirements to include RCRA Permit modifications for receipt
	of residual or newly generated mixed waste streams after treatment that meet the
	definition of a hazardous waste.
F.	Provide documentation to NMED within 30 working days after receipt of residual or
	newly generated waste streams upon return to SNL/NM.

2.1.5 Plans for Recycling

Recycling is a parallel preferred option for each preferred treatment technology. Should the DOE/NNSA decide to recycle covered waste, DOE/NNSA will notify the NMED Project Manager in writing as soon as possible and in any event within forty-five (45) working days of receipt of the waste at the recycling facility or by the recycler. Activities for mixed waste recycling are identified in Table 2-6. Once a covered waste volume has been recycled or re-used, the DOE/NNSA and Sandia will request a deletion for the covered waste volume.

Table 2-6. Activities for Mixed Waste Recycling

A. Meet all regulatory requirements for off-site shipment, if applicable.
B. Provide documentation to NMED that each waste shipment has been received for recycling within 45 working days of receipt of waste by the recycler.

Should the DOE/NNSA decide to re-use material included in the covered waste inventory, the DOE/NNSA and Sandia will request a deletion for the covered waste volume.

2.1.6 Plans Related to Other Mixed Waste Activities

Activities other than the types of activities specifically called out in the FFC Act as requiring schedules are described in the STP. Some of these activities may be associated with schedules that may contain information related to treatment of the DOE/NNSA's mixed waste, such as:

For mixed waste which is not sufficiently characterized to allow identification of appropriate treatment, notification of the characterization of such waste shall be in accordance with the annual update process as pursuant to the FFCO. If such characterization results in the addition or deletion of a treatability group or an increase in volume in a treatability group, a revision would be required pursuant to Section X (Revisions) of the FFCO.

3.0 MIXED WASTE TREATMENT PLAN AND SCHEDULES

3.1 MIXED WASTE FOR WHICH TECHNOLOGY EXISTS

It is expected that the preferred treatment technology identified in this section as an on-site treatment will be implemented at the SNL/NM Radioactive and Mixed Waste Management Unit or other appropriate onsite RCRA permitted units. All on-site treatment of covered wastes will be performed in accordance with applicable regulations and applicable requirements of any RCRA permit for treatment of hazardous or mixed wastes at SNL/NM. On-site mixed waste treatment capabilities do not currently adequately address the preferred treatment technologies for some of SNL/NM's specific waste types; off-site treatment is the preferred option for such wastes

3.1.1 Compliance Dates for Treatability Groups

The activities that require schedules are shown in Tables 2-1 through 2-5. Below are listed each SNL/NM treatability group and the schedule for these activities. Treatability groups with the same treatment and schedule are presented together.

- The schedules for the activities appropriate to SNL/NM from those listed in Table 2-1 for "Categories of Activities for Compliance Dates for Mixed Waste With Existing Treatment Technology, are presented for TGs 1, 2, 3, 4, 5, 6, 8, 9, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 26, and 27;
- The schedules for the activities appropriate to SNL/NM from those listed in Table 2-2 for "Categories of Activities for Compliance Dates for Mixed Waste Without Existing Treatment Technology" are presented for TG 11;
- The schedules for the activities appropriate to SNL/NM from those listed in Table 2-3 for "Categories of Activities for Compliance Dates for Radionuclide Separation of Mixed Waste" are presented for neutron generators in TG 1;
- The schedules for the activities appropriate to SNL/NM from those listed in Table 2-4 and 2-5 for "Activities for Mixed Waste To Be Shipped Off-Site For Treatment" are presented for TGs 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, and 27.
- The schedules for the activities appropriate to SNL/NM from those listed in Table 2-6 for "Activities for Mixed Waste Recycling" are presented for TGs 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, and 26.
- Other activities are presented with planning schedules for informational purposes for management of TG 10 and Suspect TRU Mixed Waste.

3.1.1.1 Deactivation (On-Site by SNL/NM/Off-Site Treatment/Recycling)

TG 1 - Inorganic Debris with Explosive (0 m³)

TG 2- Inorganic Debris with Water Reactive (0 m³)

TG 3- Reactive Metals (0 m³)

The preferred treatment technology for these treatability groups is Deactivation. The neutron generator portion of Treatability Group 1 was disassembled to remove the explosive, which was managed as hazardous waste. The remaining portion was managed as radioactive waste or as mixed waste. Planning schedules for activities related to the neutron generators are presented in Section 3.3. Shipment off-site for treatment is a parallel preferred option for Deactivation. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Initiate set-up of laboratory operation.	Completed
C. Complete system testing and commence operation and begin treating mixed waste.	Completed
D. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2020
E. Complete shipping of wastes to an off-site treatment/recycling facility and	December 31, 2020
F. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Deactivation Schedule

3.1.1.2 Macroencapsulation (On-site by SNL/NM/Off-Site Treatment/Recycling)

TG 4 - Elemental Lead (0 m3)

TG 9 - Inorganic Debris with TCLP Metals (0 m3)

TG 12 - Organic Debris with TCLP Metals (0 m3)

The preferred treatment technology for each of these treatability groups is Macroencapsulation. Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste at an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Macroencapsulation Schedule

Activity	Compliance Date
A. Submit permit application, amendment, or modification to NMED	Completed
B. Complete recycling/treatment of mixed waste to applicable regulatory standards or,	December 31, 2020
C. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2020
D. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.1.1.3 Neutralization followed-by Stabilization (On-Site by SNL/NM/Off-Site Treatment/Recycling)

TG 5 - Aqueous Liquids (0 m³)

The preferred treatment technology for this treatability group is Neutralization followed by Stabilization. Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Initiate set-up of laboratory operation.	Completed
C. Complete system testing and commence operation and begin treating mixed waste.	Completed
D. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2020
E. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2020
F. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Neutralization followed by Stabilization Schedule

3.1.1.4 Amalgamation (On-Site by SNL/NM/Off-Site Treatment/Recycling)

TG 6 - Elemental Mercury (0 m³)

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. However, compliance dates for treatment or shipment activities are included should the prohibition be clarified, modified, or lifted. The preferred treatment technology for this treatability group is Amalgamation. Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment.

Amalgamation	Schedule
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Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2020
C. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2020
D. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.1.1.5 Incineration (Off-Site by Treatment Facility/Recycling)

TG 7 - Organic Liquids I (0 m³)

TG 18 - Particulates and Soils with Organic Contaminants (0 m³)

The preferred treatment technology for these treatability groups is Incineration at an off-site facility. Should DOE/NNSA decide to send waste to an off-site facility for treatment, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Incineration Schedule

Activity	Compliance Date
A. Complete shipping of wastes to an off- site treatment/recycling facility.	December 31, 2020
B. Provide documentation to NMED that waste was received at off-site facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.1.1.6 Thermal Desorption (Off-Site Treatment/Recycling)

TG 8 - Organic Debris (0 m³)

The preferred treatment technology for this treatability group is Thermal Desorption. Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance

with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Thermal Desorption Schedule

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Complete shipping of wastes to an off- site treatment/recycling facility	December 31, 2020
C. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.1.1.7 Deactivation followed by Stabilization (On-Site by SNL/NM/Off-Site Treatment/Recycling)

TG 13 - Oxidizers (0 m³)

TG 20 - Propellant with TCLP Metals (0 m³)

The preferred treatment technology for this treatability group is Deactivation followed by Stabilization. Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Deactivation followed by Stabilization Schedule

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Initiate set-up of laboratory operation.	Completed
C. Complete system testing and commence operation and begin treating mixed waste.	Completed
D. Complete recycling/treatment to applicable regulatory standards, or shipping of wastes to an off-site treatment/recycling facility	December 31, 2020
E. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.1.1.8 Evaporative Oxidation (Off-Site Treatment/Recycling)

TG 14 - Aqueous Liquids with Organic Contaminants (0 m³)

The preferred treatment technology for this treatability group is Evaporative Oxidation. Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste to an off-site

facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2020
C. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2020
D. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Evaporative Oxidation Schedule

3.1.1.9 Stabilization (On-Site by SNL/NM/Off-Site Treatment/Recycling)

TG 15 - Soils <50% Debris & Particulates with TCLP Metals (0 m³)

TG 19 - Liquids with Metals (0 m³)

The preferred treatment technology for this treatability group is Stabilization. Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the shipments shall be managed in accordance with Section 2.1.4, Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Stabilization Schedule

Activity	Compliance Date
A. Initiate set-up of laboratory operation	Obtain new permit or modify or amend existing NMED permit if required
B. Complete systems testing and commence operation and begin treating mixed waste.	Completed
C. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2020
D. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2020
E. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.1.1.10 Oxidation (On-Site by SNL/NM/Off-Site Treatment/Recycling)

TG 16 - Cyanide Waste (0 m³)

The preferred treatment technology for this treatability group is Oxidation. Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with **Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment.** Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with **Section 2.1.5 Plans for Recycling.**

Oxidation Schedule

Activity	Compliance Date
A. Submit permit application, amendment or modification to NMED	Completed
B. Complete recycling/treatment of mixed wastes to applicable regulatory standards or,	December 31, 2020
C. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2020
D. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.1.1.11 Incineration followed by Stabilization (Off-Site Treatment/Recycling)

TG 17 - Liquid/Solid with Organic and/or Metal Contaminants (0 m³)

The preferred treatment technology for this treatability group is Incineration followed by Stabilization, as required, at an off-site treatment facility. Stabilization is required for the treatment of waste that contains metals contamination. Prior to sending waste to an off-site facility for treatment, the DOE/NNSA shall act in compliance with Section 2.1.4, Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Incineration/Stabilization Schedule

Activity	Compliance Date
A. Complete treatment to applicable regulatory standards or shipping of wastes to an off-site treatment/recycling facility	December 31, 2020
B. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.1.1.12 Off-Site Shipment / On-Site Macroencapsulation

TG 21 - Sealed Sources with TCLP Metals (0 m³)

TG 24 - Spark Gap Tubes with TCLP Metals (0 m³)

TG 26 - Debris Items with Reactive Compounds and TCLP Metals (0 m³)

The preferred treatment technology for this treatability group is shipment to an off-site facility for treatment and disposal. Prior to sending waste to an off-site facility for treatment, the DOE/NNSA shall act in compliance with Section 2.1.4, Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

A parallel treatment option is on-site macroencapsulation followed either by shipment to an off-site facility for disposal, or by storage pending development of further treatment and disposal options. On June 3, 2004, the NMED approved a site-specific treatment variance to allow for macroencapsulation of less than debris sized manufactured items exhibiting the toxicity characteristic for metal(s), containing radioactive material, and potentially externally contaminated with radioactive materials. These items include radioactive sources (TG 21) and radioactive materials such as various gap tubes (TG 24).

Activity	Compliance Date
A. Provide progress report of current status and availability of treatment and/or disposal options	Completed
B. Complete on-site macroencapsulation of waste, or	December 31, 2020
C. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2020
D. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Off-site Shipment / Macroencapsulation Schedule

3.1.1.13 Size Reduction followed by Stabilization/Deactivation followed by Macroencapsulation

TG 23 - Thermal Batteries (0 m³)

The preferred treatment technology for this treatability group is stabilization at an off-site treatment facility. Deactivation followed by macroencapsulation is a parallel preferred option. Prior to sending waste to an off-site facility for treatment, the DOE/NNSA shall act in compliance with Section 2.1.4, Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Stabilization Schedule

Activity	Compliance Date
A. Render existing thermal batteries non- reactive	Completed
B. Provide progress report of current status and availability of treatment and/or disposal options	Completed
C. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2020
D. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

3.2 MIXED WASTE FOR WHICH TECHNOLOGY MUST BE DEVELOPED

SNL/NM has treatability groups for which the preferred treatment option is a treatment technology that requires adaptation in order to treat hazardous waste that is radioactive and may contain PCBs or high levels of mercury.

3.2.1 Hydrothermal Processing (On-Site by SNL/NM/Off-Site Treatment/Recycling)

TG 11 - Organic Liquids II (0 m³)

Hydrothermal processing was identified in the STP as the preferred treatment technology for TG 11 Organic Liquids II. Development of this treatment technology is on indefinite hold. As required by the CPV, respondents submitted treatment schedules and options for the NMED's approval prior to the compliance date of November 30, 1998. The treatment schedule submitted reflected the approval by the NMED for off-site shipment (Revision No. 1) and the approval of February 28, 2001, as an initial compliance date for shipments (Revision No. 2).

Shipment off-site for treatment is a parallel preferred option. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Activity	Compliance Date
A. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2020
B. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	Within 45 working days of receipt of waste at treatment/recycling facility

Off-Site Shipment Schedule

3.2.2 Stabilization of High Mercury Materials (On-site/Off-Site Treatment)

TG 27 - High Mercury Solids and Liquids (0 m³)

The technology-based treatment standard for high mercury solids and oils is incineration (IMERC) or retorting and recovery (RMERC). These technologies have not been available for mixed waste. The compliance activities and dates associated with this TG may be impacted by the Mercury Export Ban Act (Public Law 110-414) which amended the TSCA in 15 USC 2605(f) restricting Federal agencies from transferring elemental mercury. As long as this prohibition exists, the DOE/NNSA and Sandia will store this waste on-site. However, compliance dates for treatment or shipment activities are included should the prohibition be clarified, modified, or lifted. The preferred treatment technology for this treatability group is shipment to an off-site treatment facility. Prior to sending waste to an off-site facility for treatment, the DOE/NNSA shall act in compliance with Section 2.1.4, Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Activity	Compliance Date
A. Provide progress report of current	Completed
status and availability of treatment and/or	
disposal options	
B. Complete recycling/treatment of wastes	December 31, 2020
to applicable regulatory standards or,	
C. Complete shipping of wastes to an off-	December 31, 2020
site treatment/recycling facility and	
D. Provide documentation to NMED that	Within 45 working days of receipt of waste
waste was received at off-site	at treatment/recycling facility
treatment/recycling facility	

High Mercury Solids and Liquids Schedule

3.3 OTHER TYPES OF MIXED WASTE ACTIVITIES

This section describes activities that will be performed to reduce the mixed waste in inventory at SNL/NM.

3.3.1 Sorting of Heterogeneous Debris

TG 10 - Heterogeneous Debris (0 m³)

This treatability group contains a heterogeneous assortment of debris. Therefore, the treatability group requires sorting the waste into, for example, organic and inorganic debris treatability groups (TG8 and TG9), or other treatability groups as appropriate for which preferred treatment options have been selected. The sorting process began on June 30, 1995.

Shipment off-site for treatment is a preferred option. Treatment on-site according to the appropriate treatability group is an alternate preferred option. Should DOE/NNSA decide to send waste to an off-site facility for treatment in lieu of plans to treat such waste on-site, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Heterogeneous Debris Schedule

Activity	Compliance Date
A. Complete sorting of wastes or	December 31, 2020
B. Complete shipping of wastes to an off- site treatment/recycling facility and	December 31, 2020
C. Provide documentation to NMED that waste was received at off-site treatment/recycling facility	December 31, 2020

TG 25 - Classified Items with TCLP Metals (0 m³)

This treatability group contains a heterogeneous assortment of classified items and debris. As such, this treatability group requires sorting the waste into other treatability groups as appropriate for which preferred treatment options have been selected. The sorting process may include, but not be limited to, physical sorting, separation, disassembly, and/or de-classification.

Shipment off-site for treatment and/or disposal is the preferred option. The parallel preferred treatment option is on-site treatment by macroencapsulation followed either by shipment to an off-site facility for disposal, or by storage pending the development of further treatment and disposal options. Sorting and/or de-classification activities may be necessary to process the classified mixed waste into items suitable for further treatment on-site or shipment off-site to treatment and/or disposal facilities. Should DOE/NNSA send waste to an off-site facility for treatment, the DOE/NNSA shall act in accordance with Section 2.1.4 Plans for Mixed Waste to be Shipped Off-site for Treatment. Should DOE/NNSA decide to recycle waste, the DOE/NNSA shall act in accordance with Section 2.1.5 Plans for Recycling.

Activity	Compliance Date
A. Complete sorting or on-site treatment of	December 31, 2020
wastes or	
B. Complete shipping of wastes to an off-	December 31, 2020
site treatment/recycling facility and	
C. Provide documentation to NMED that	December 31, 2020
waste was received at off-site	
treatment/recycling facility	

Classified Items with TCLP Metals Schedule

3.3.2 Mixed Waste For Which Radionuclide Separation is Planned

Treatability Group 1, Inorganic Debris with Explosive Component neutron generators. These items will be disassembled to yield an explosive waste stream that is not mixed, and a radioactive portion that may be mixed. The radioactive portion of the assembled items will be physically separated from the explosive portion.

Radionuclide Separation Schedule (On-Site by SNL)

Activity	Compliance Date
A. Complete an estimate of the volume of waste generated by each case of	Completed
radionuclide separation.	
B. Complete an estimate of the volume of waste that would exist or be generated without radionuclide separation.	Completed
C. Complete an estimate of the costs of waste treatment and disposal if	Completed
radionuclide separation is used compared	
to the estimated costs if it is not used.	
D. Provide the assumptions underlying	Completed
such waste volume and cost estimates.	
E. Provide characterization methodologies	Completed
for determining waste types	
F. Submit a plan for treatment or	Completed
management of hazardous waste residues	
as appropriate.	

4.0 MIXED TRU WASTE (2.0 m3)

Treatment Group(s):

Assorted Mixed Transuranic Waste

-

Treatment Technology:

Respondents are required to manage mixed transuranic (MTRU) waste at SNL/NM according to the schedule set forth below:

Activity	Compliance Date
A. Development of treatment	Completed
technology	
B. Submit permit application	Completed
amendment, or modification to NMED	
for treatment of MTRU waste	
C. Complete preparation of existing	Within three (3) years after
MTRU wastes for on-site certification	
or shipment to an off-site certifying	a) the applicable state's approval of the
facility	certifying facility's revised RCRA permit
	allowing them to receive SNL/NM waste
	b) the certifying facility is certified by WIPP
	for heterogeneous and/or homogeneous
	MTRU waste, as applicable, and
	c) the certifying facility's waste acceptance
	criteria are met.

Activity	Compliance Date		
D. Complete shipping of existing MTRU waste to an off-site facility for certification and disposal at the WIPP facility or direct shipment of certified MTRU waste to WIPP	December 31, 2020		
E. Provide documentation to NMED that MTRU waste was received at an off-site certifying facility or at WIPP	Within 45 working days of receipt of waste at certifying facility		

The above schedule was developed based on the assumption that WIPP would be a disposal option. DOE/NNSA received a variance from treatment standards for land disposal of MTRU waste to be disposed at WIPP (Waste Isolation Pilot Plant Land Withdrawal Act Amendments, Public Law 104-201, Sept. 1996); therefore MTRU wastes to be shipped to WIPP for disposal will be prepared in accordance with the WIPP waste acceptance criteria.

All revisions to compliance dates shall be in accordance with the procedures set forth in the FFCO.

TG and Description	FY15 Annual STP Update Volume ^a	Proposed Revision 15 Volume
TG 1 Inorganic Debris with Explosive Component	0 m ³	0 m ³
TG 2 Inorganic Debris with a Water Reactive Component	0 m ³	0 m ³
TG 3 Reactive Metals	0 m ³	0 m ³
TG 4 Elemental Lead	0 m ³	0 m ³
TG 5 Aqueous Liquids (Corrosive)	0 m ³	0 m ³
TG 6 Elemental Mercury	0 m ³	0 m ³
TG 7 Organic Liquids I	0 m ³	0 m ³
TG 8 Organic Debris with Organic Contaminants	0 m ³	0 m ³
TG 9 Inorganic Debris with TCLP Metals	0 m ³	0 m ³
TG 10 Heterogeneous Debris	0 m ³	0 m ³
TG 11 Organic Liquids II	0 m ³	0 m ³
TG 12 Organic Debris with TCLP Metals	0 m ³	0 m ³
TG I3 Oxidizers	0 m ³	0 m ³

Proposed Revision 15 Summary of Treatability Groups and Associated Volumes

^a Volumes indicated are those in the most recent annual update.

Continued next page

TG and Description	FY15 Annual STP Update Volume ^a	Proposed Revision No. 15Volume
TG 14 Aqueous Liquids with Organic Contaminants	0 m ³	0 m ³
TG 15 Soils <50% Debris & Particulates with TCLP Metals	0 m ³	0 m ³
TG 16 Cyanide Waste	0 m ³	0 m ³
TG 17 Liquid/Solid with Organic and/or Metal Contaminants	0 m ³	0 m ³
TG 18 Soils <50% Debris & Particulates with Organic Contaminants	0 m ³	0 m ³
TG 19 Liquids with Metals	0 m ³	0 m ³
TG 20 Propellant with TCLP Metals	0 m ³	0 m ³
TG 21 Sealed Sources with TCLP Metals	0 m ³	0 m ³
TG 22 Reserved	Not Applicable	Not Applicable
TG 23 Thermal Batteries	0 m ³	0 m ³
TG 24 Spark Gap Tubes with TCLP Metals	0 m ³	0 m ³
TG 25 Classified Items with TCLP Metals	0 m ³	0 m ³
TG 26 Debris Items with Reactive Compounds and TCLP Metals	0 m ³	0 m ³
TG 27 High Mercury Solids and Liquids	0 m ³	0 m ³
MTRU Mixed Transuranic Waste	1.0 m ³	2.0 m ³

Summary of Treatability Groups and Associated Volumes (concluded)

^a Volumes indicated are those in the most recent annual update.