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Date: **FEB 10 2014**
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FEB 10 2014

Mr. Timothy Hall, STP Project Manager
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New Mexico Environment Department
2905 Rodeo Park Drive East Building 1
Santa Fe, New Mexico 87505-6303

NMED
Hazardous Waste Bureau

Dear Mr. Hall:

Subject: Response to the December 9, 2013 Notice of Disapproval of the Los Alamos National Laboratory's Federal Facility Compliance Order Annual Site Treatment Plan Update for Fiscal Year 2012 Revision 23.0

In a December 9, 2013, letter, Mr. John Keiling, Hazardous Waste Bureau Chief of the New Mexico Environment Department (NMED-HWB), notified the U.S. Department of Energy (DOE) and Los Alamos National Security, LLC (LANS) (DOE/LANS: collectively "the Respondents") of deficiencies required for the Fiscal Year (FY) 2012 Site Treatment Plan (STP) Annual Update (March 30, 2013) submitted by the Los Alamos National Laboratory (LANL).

This letter responds to NMED-HWB's findings of the deficiencies and encloses the revised FY12 Annual Update in both hardcopy (Enclosure 1) and electronic form (Enclosure 2). Enclosure 1 contains the final copy of the FY12 Annual Update and Proposed Revision 23.0. Enclosure 2 is a compact disk with a final copy and a redlined version of the FY12 Annual Update in Microsoft Word. For ease of reference, each of NMED's comments is included with DOE/LANS' response. All changes being proposed in response to NMED's comments, and any other changes made since DOE/LANS' submittal on March 30, 2013, are in the redlined copy of the Update.

Comment #1

Introduction, page 1:

The Respondents state: "Part III incorporates the changes in Part II into the proposed CP revision (Revision 22.0)". This should read: "Part III incorporates the changes in Part II into the proposed CP revision (Revisions 23.0)." Correct the typographical error.



Response:

DOE/LANS' has corrected the typographical error.

Comment #2

Part I, Section 2.1, Background Update, page 2:

The Respondents state: "[b]ecause higher risk wastes were given shipment priority, less 10-100 nCi/g Waste was shipped in FY11 and FY12 than in previous years." It continues: "LANL intends to resume shipments of 10-100 nCi/g Waste when some of the higher risk waste shipments are completed in order to meet the established Site Treatment Plan (STP) milestone (12/31/2013) for the current 10-100 nCi/g Waste." Discuss the following:

- a. Identify the "higher risk waste" that interfered with shipping 10-100 nCi/g Waste.*
- b. Explain how shipping the "higher risk waste" interferes with shipping 10-100 nCi/g Waste.*
- c. Explain whether the budget has been augmented to increase shipments of 10-100 nCi/g Waste.*

Response:

- a. The "higher risk waste" is the transuranic waste stored at Technical Area 54, Area G covered by the Framework Agreement. In 2011 the Las Conchas Fire came within 3.5 miles of Area G. The Framework Agreement was formed between NMED and the DOE/NNSA that realigned environmental priorities at the Lab based on risk.
- b. The Framework Agreement states that "in order to achieve the most rapid progress feasible in completing the highest priority activities at the Laboratory, planning, characterization and implementation activities for all remediation action must be carried out in a cost effective and efficient way that provides full protection of human health and the environment." Based on the above statement, LANS utilized their boxline facilities for processing the Framework Agreement higher risk waste rather than the 10-100 nCi/g waste during the same time frame. Thus resulting in a delay in processing the 10-100 nCi/g waste. There are competing priorities for the facilities between the Framework Agreement waste and the 10-100 nCi/g waste that needs to be processed. However, with NMED's advisement, the Framework Agreement waste has been deemed higher priority.
- c. The fiscal year (FY) 13 budget was augmented to increase shipments of 10-100 nCi/g Waste. During FY13, DOE/LANS worked off 553 out of 602 containers of 10-100 nCi/g waste.

The annual report has been revised to address these points.

Comment #3

Part I, Table 2.1-1: FY12 MLLW Inventory Summary, page 3:

Correct the sentence "Estimated MLLW Inventory Reported in FY11 Annual Update" to read "Estimated MLLW Inventory Reported in FY12 Annual Update."

Response:

LANL has corrected the sentence.

In addition, LANL has

- corrected the statement in Appendix E, Table E-1, TA-54 MTRU Covered Inventory (by Treatability Group) "Total FY10: 3074.244" to read "Total FY11: 3074.244"

Comment #4

Part I, Section 2.2, Background Update, page 4:

- a. Provide a discussion of the volume of the STP-covered waste that is part of the 3,706 cubic meters of "non-cemented above-ground EM Legacy TRU" waste that is discussed in Paragraph 1.b of the Framework Agreement, summarized by treatability group. Also*

- include a discussion in Part III, Section 4.0 of the Compliance Plan and include volumes for this waste, summarized by treatability group, in Appendix E.*
- b. Provide a discussion of the volume of the STP-covered Mixed Transuranic (MTRU) waste that is part of the "above-ground cemented EM Legacy TRU" as discussed in paragraph 1.e of the Framework Agreement, summarized by treatability group. Also include a discussion in Part III, Section 4.0 of the Compliance Plan and include volumes for this waste, summarized by treatability group, in Appendix E.*
 - c. Provide the rationale for the delays in shipment of 44.73 cubic meters of STP-covered MTRU waste to the Waste Isolation Pilot Plant (WIPP) from storage at Technical Area 55. Also, include a discussion in Part III, Section 4.0 of the Compliance Plan.*

Response:

- a. As stated in the "Los Alamos National Laboratory Framework Agreement: Realignment of Environmental Priorities," "DOE/NNSA commits to continue to accelerate the rate of removal of above-ground transuranic waste (TRU) at TA-54, Area G and to focus their efforts to achieve disposition of this TRU waste at the earliest feasible time." The volume of STP-covered Mixed Transuranic (MTRU) waste that is part of the "non-cemented above-ground EM Legacy TRU" (MTRU waste only) has been summarized in Appendix E-1 and is discussed in Part III, Section 4.0 of the Compliance Plan Volume.
- b. LANL's response for STP-covered MTRU waste that is part of the "above-ground cemented EM Legacy TRU" (MTRU waste only) is provided in response letter #a above.
- c. Please note the FY11 reported waste volume of 44.713 m³ referenced in Table 2.2-1 and Table E-2. The FY12 reported waste volume for STP-covered MTRU inventory at TA-55 and CMR is 42.004 m³. In FY12 approximately 31 cubic meters of TA-55's STP waste is associated with the Bolas Grande Project, which is scheduled to begin in the summer of FY14. This project is scheduled to last two years with an anticipated ending date of September 20, 2016. The remainder of the TA-55 STP waste consists of 1) radioactive free liquids, requiring management at the Waste Characterization, Reduction, and Repackaging Facility (WCRRF), and 2) MTRU waste containers that are not DOT-certified. The management of this waste involves the transfer of waste from these not DOT-certified drums into DOT-certified containers. However, this waste transfer will need to be conducted inside a glovebox, because past experience with these not DOT-certified containers revealed internal radioactive contamination. TA-55 has no gloveboxes in its permitted waste storage units. A Temporary Authorization was pursued in FY12 involving a glovebox waste management strategy, but it was never approved. A less desirable and costly solution for these not DOT-certified containers was to place them into Standard Waste Boxes (SWBs) and shipped to TA-54, Area G, there they will undergo real time radiography. If prohibited items are observed then the offending SWBs will be shipped to WCRRF for material inspection and drum repackaging. After the waste is removed and repackaged into DOT-certified containers, they would be shipped back to TA-54 and scheduled for disposal at the Waste Isolation Pilot Plant (WIPP). This process has begun in FY13 and will affect volumes reported in the STP Compliance Plan Volume which will involve increased administrative adjustments to be made in order to reflect the repackaging of these not DOT-certified containers into SWBs and repackaging of SWBs into DOT-certified containers.

The text of the annual report has been updated to address this issue.

Comment #5

Part III, Section 3.3.4, Compliance Plan, page 29:

The Respondents state: "LANL intends to complete shipment of the remaining inventory from FY11 as well as additional 10-100 nCi/g Waste generated from continued remediation of legacy TRU waste in FY12 – a total of 201.4007 m³] before the milestone of December 31, 2013. As much waste as possible that is reclassified in FY13 will also be shipped offsite prior to December 31, 2013. However, some waste produced in the latter part of 2013 may not be able to be shipped prior

to December 31, 2013 if there are scheduling conflicts or restrictions at the receiving facilities. In that case, LANL would seek an additional milestone for those particular wastes.” Appendix A, Table A-1, projects that 460 m³] of 10-100 nCi/g Waste will be added to the STP inventory between FY13 and FY17, which is after the current compliance date. If Respondents believe this much additional waste will be added to the STP inventory after the current compliance date, discuss why the December 31, 2013 compliance date is applicable and how Respondents will meet that date. Alternatively, propose a realistic and achievable compliance date for this treatability group.

Response:

The projected volume of covered waste for the next five FYs is estimated at a volume of 10 m³ per FY.. This estimated waste volume will be subtracted from the MTRU STP inventory and added to MLLW STP inventory as the waste is reclassified as MLLW. Overall the STP inventory will have a zero net change. However, because of the repacking process the apparent volume of waste will reflect the number of additional containers needed to repackage the waste into compliant configurations for transportation and disposal.

Comment #6

Part III, Section 4.0, Compliance Plan, page 30:

Add compliance activities and a compliance date for STP-covered MTRU waste that is part of the 3,706 m³ of “non-cemented above-ground EM Legacy TRU” waste discussed in Paragraph 1.b of the Framework Agreement. In accordance with the Framework Agreement, the compliance date for shipping this waste to WIPP should be June 30, 2014. Also include a discussion in Sections 5.0 and 6.5 of Part II, Compliance Plan Update.

Response:

LANL respectfully disagrees with NMED’s statement that STP-covered MTRU waste must have compliance deadlines under the FFCO, and that “[i]n accordance with the Framework Agreement, the compliance date for shipping this waste to WIPP should be June 30, 2014.” The FFCO addresses compliance deadlines for treatment of waste and does not require MTRU waste to be shipped off-site by a date-certain. Further, the “Framework Agreement” is a “non-binding agreement in principle entered into voluntarily by both parties” (i.e., DOE and the NMED). For these reasons, compliance activities and dates for STP-covered MTRU waste were not added. However, we remain committed to meeting our milestones under the Framework Agreement.

Comment #7

Part III, Section 4.0, Compliance Plan, page 30:

Add compliance activities and a compliance date for all newly generated MTRU waste that became STP-covered waste in FY 2012. In accordance with Paragraph 1.c of the Framework Agreement, the compliance date for shipping this waste to WIPP should be December 31, 2014. Also include a discussion in Sections 5.0 and 6.5 of Part II, Compliance Plan Update.

Response:

LANL’s response is provided in response #6 above.

Comment #8

Part III, Section 4.0, Compliance Plan, page 30:

Propose reasonable and achievable compliance activities and dates for STP-covered MTRU waste that is part of the “above-ground cemented EM Legacy TRU” waste discussed in Paragraph 1.e of the Framework Agreement. Also include a discussion in Sections 5.0 and 6.5 of Part II, Compliance Plan Update.

Response:

LANL's response is provided in response #6 above.

Comment #9

Part III, Section 4.0, Compliance Plan, page 30:

Propose reasonable and achievable compliance activities and [dates] for the 44.713 m³ of STP-covered MTRU waste in storage at TA-55/Chemistry and Metallurgy Research (CMR). Also include a discussion in Sections 5.0 and 6.5 of Part II, Compliance Plan Update.

Response:

Please note that the reported FY12 covered MTRU inventory is 42.004 m³ and not 44.713 m³ as cited above. (The volume of 44.713 m³ STP-covered MTRU waste was reported in storage as of FY11.) Approximately 31 m³ of the 42.004 m³ of MTRU waste in storage at TA-55 consists of metallic waste will be removed from the STP inventory when the Confinement Vessel Disposition (CVD) project begins to retrieve valuable non-waste materials from the vessels in FY14. Completion is anticipated in FY17. The remaining 11 m³ of MTRU in storage at TA-55/CMR has issues with the drum pedigree, nuclear material assay, or accountability. If these issues are resolved, the containers will be transferred to TA54 in FY15. The annual report text has been updated to include this information.

Comment #10

Part III, Section 4.0, Compliance Plan, page 30:

Delete the following statement "The schedule for characterization and subsequent offsite shipment to WIPP will be dependent on the annual DOE budget allocation specific to this activity."

Response:

LANL/DOE has removed the statement to comply with Section XIV.D of the Federal Facility Compliance Order.

Comment #11

Part III, Section 4.0, Compliance Plan, page 30:

Discuss the reasons for adding 0.0282 m³ of new covered Mixed Low Level Waste and 17.391 m³ of new covered MTRU waste (11.488 m³ at TA-54 and 5.903 m³ at TA-55/CMR) to the STP inventory.

Response:

Please note that the reported FY12 new covered MLLW inventory is 0.2082 m³ and not 0.0282 m³ as cited above. The 0.208 of new covered MTRU waste at CMR was a data entry error. This waste was packaged in a container already on the STP MTRU CMR inventory and transferred to TA-54. The addition of 5.695 m³ of new covered MTRU waste at TA-55 was a result of radioactive assay problems. LANL has now identified the problems with the assays and implemented a solution. The addition of 11.488 m³ of new covered MTRU waste at TA-54 was due to 1) a change in personnel and the container was an oversight and 2) confirmation of re-assay to determine TRU or LLW concentration for containers to continue on a path for disposition. The addition of 0.2082 m³ of new covered MLLW at TA-54 is waste being accumulated in order to meet the offsite facility WAC for treatment. A footnote was added to the appropriate new covered waste tables to explain the addition.

Comment #12

Appendix A, Table A-1, Footnote 3:

The footnote appears to be a mistake. The footnote is referenced in the row for Section 3.3.4, LA-W935, but the footnote discusses MTRU waste that is reclassified as LA-W917 waste. Revise or remove the footnote accordingly.

Response:

LANL has removed the footnote reference for Section 3.2, LA-W934 and 3.3.4, LA-W935. The footnote 3 has been inserted for Section 3.1.8, LA-W917. Items prohibited from shipment to WIPP are removed from containers and consolidated; some are managed as MLLW, and others are managed as MTRU waste.

In addition, LANL has

- corrected the following sentence in Part III, Section 3.3, last paragraph, page 29, "Therefore, a substantial inventory of LA-W934 waste that resulted from reclassifying MTRU waste between FY07 and FY12 remains to be shipped offsite". It now reads: "Therefore, a substantial inventory of LA-W935 waste that resulted from reclassifying MTRU waste between FY07 and FY12 remains to be shipped offsite."

Comment #13

Table F-1 FY 12 MTRU Waste Shipments to WIPP, page 43:

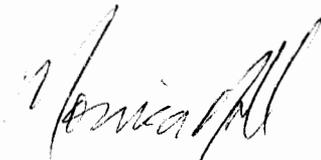
NMED noted the Grand Total reported for volumes FY11 inventory, and New Covered Volume is inconsistent with Grand Total calculated from shipment data provided by the Respondents. Revise the Grand Total in the Table F-1 to correctly reflect the listed volumes.

Response:

LANL has corrected the volume in Table F-1 to correctly reflect the listed volumes.

In accordance with the requirements of Section XX of the FFCO, "*Documents, Information, and Reporting Requirements*," we certify, as the project managers responsible for overseeing the implementation of the Site Treatment Plan for the Los Alamos National Laboratory and for Los Alamos Site Office/National Nuclear Security Administration, that, to the best of our knowledge and belief, the information in this document and its enclosures is true, accurate, and complete. If you have any questions, please contact Monica Noll at (505) 667-5999, or by email at mdn@lanl.gov, or Andrew Worker at (505) 606-0787, or by email at andrew.worker@nnsa.doe.gov.

Sincerely,



Monica Noll
STP Project Manager
Waste Management Programs (WM-PROG)
Los Alamos National Security, LLC

Sincerely,



Andrew Worker
STP Project Manager
Los Alamos Field Office
U.S. Department of Energy
National Nuclear Security Administration

MN:AW/lm

Enclosure:

1. FY12 Annual Update
2. Compact disk

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Enclosure 1

Los Alamos National Laboratory Federal Facility Compliance Order Annual Site Treatment Plan Update for Fiscal Year 2012

WM-DO-14-017

LAUR-14-20768

Date: FEB 10 2014

Enclosure 2

Title Compact Disk

WM-DO-14-017

LAUR-14-20768

Date: **FEB 10 2014**

Los Alamos National Laboratory

Federal Facility Compliance Order

*Annual Site Treatment Plan Update
for Fiscal Year 2012*

LA-UR- 14-20768

February 10, 2014



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ACRONYMS

AK	Acceptable Knowledge
CCA	Compliance Certification Application
CCP	Central Characterization Project
40 CFR	Title 40 of the Code of Federal Regulations
CMR	Chemistry and Metallurgy Research
CP	Compliance Plan
DOE	U.S. Department of Energy
DSSI	Diversified Scientific Services, Inc.
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
FFCA	Federal Facility Compliance Act
FFCO	Federal Facility Compliance Order
FR	Federal Register
FY	Fiscal Year
HWA	Hazardous Waste Act
INL	Idaho National Laboratory
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security, LLC
LDR	Land Disposal Restrictions (RCRA)
LLNL	Lawrence Livermore National Laboratory
LWAA	Land Withdrawal Act Amendments
M&EC	Materials and Energy Corporation
MLLW	Mixed Low-Level Waste
MTRU	Mixed Transuranic (Waste)
MWIR	Mixed Waste Inventory Report
NMED	New Mexico Environment Department
ORR	Oak Ridge Reservation
PCB	Polychlorinated Biphenyl
RCRA	Resource Conservation and Recovery Act
STP	Site Treatment Plan
TA	Technical Area
TBD	To be determined
TBV	To be verified
TRU	Transuranic
UC	University of California
WIPP	Waste Isolation Pilot Plant

INTRODUCTION

On October 6, 1992, Congress passed the Federal Facility Compliance Act (FFCA) to address compliance by the U.S. 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 FFCA requires 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 FFCA provides 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, the FFCA requires NMED to provide public notice, consider public comments, and consult with the U.S. Environmental Protection Agency (EPA) and any other state in which a facility affected by the STP is located.

On October 4, 1995, the NMED issued a Federal Facility Compliance Order (FFCO) to DOE and its then management and operating contractor, the University of California (UC) Regents. On June 1, 2006, Los Alamos National Security, LLC (LANS) replaced UC as operating contractor of Los Alamos National Laboratory (LANL) at which time LANS assumed responsibility for compliance with the FFCO.

The FFCO required LANL to implement an STP for the treatment of mixed waste at LANL. The STP is intended to fulfill the requirements of the FFCA and establish an enforceable framework to allow DOE and LANS (Respondents) to achieve full compliance with LDR requirements under the New Mexico Hazardous Waste Act (HWA) and RCRA. The compliance dates set forth in the STP are enforceable time periods in which Respondents are required to treat or otherwise meet the requirements set forth for LDR under the HWA and RCRA.

On March 31, 1995, DOE submitted its proposed STP, which addressed treatment capacities and technologies to treat all of LANL's mixed waste, regardless of the time it was generated, to NMED. On April 17, 1995, the public was provided an opportunity to comment to NMED on DOE's draft STP. After considering public comment and otherwise complying with the FFCA, NMED approved the draft STP with modifications.

Section VII of the FFCO requires LANL to submit an Annual STP Update to the NMED each year on or before March 31. The FFCO requires that the Annual Update bring the information in both the Background and the Compliance Plan (CP) current to the end of the previous federal fiscal year (FY). Part I of this Annual Update constitutes the update to the Background. Part II contains the changes that have occurred since the last Annual Update and also identifies proposed revisions and amendments to the CP. Part III incorporates the changes in Part II into the proposed CP revision (Revision 23.0).

PART I. BACKGROUND UPDATE

1.0 INTRODUCTION

The Background (Part I) provides the following information:

- The estimated volume of covered waste in storage at the end of the previous FY and anticipated to be placed in storage for the next five FYs;
- A progress report from the end of the previous federal FY describing treatment progress and treatment technology development for each treatment facility and activity scheduled in the STP;
- A description, if applicable, of current or anticipated alternative treatment technology that is being evaluated for use instead of treatment technologies or capacities identified in the STP;
- A description of DOE's funding for STP-related activities and any funding issues that may affect the schedule;
- The status of the "No-Migration Variance Petition" or any treatability variances; and
- A progress report on characterization and/or treatment capabilities or plans for mixed transuranic (MTRU) waste related to the waste treatment standards, if any, for the DOE Waste Isolation Pilot Plant (WIPP) facility near Carlsbad, New Mexico.

The STP-covered waste inventory is verified during quality control activities. Inconsistencies in treatability group or volume between the original inventory and the current inventory may exist. These inconsistencies are reconciled annually with the STP update.

2.0 AMOUNT OF EACH COVERED WASTE STORED AT LANL

2.1 Mixed Low-Level Waste (MLLW) Inventory

During FY12, STP-covered MLLW inventories increased from approximately 176 m³ to 204 m³. The increase was mainly due to reclassifying more mixed transuranic (MTRU) waste to mixed low-level waste (MLLW) (LA-W935) than could be shipped offsite for treatment. The waste was reclassified because it no longer satisfied DOE criteria for TRU waste (activity more than 100 nCi/g). In 2011 the Las Conchas Fire came within 3.5 miles of Technical Area 54, Area G where transuranic waste (higher risk waste) is stored. The Framework Agreement was formed between the State of New Mexico Environment Department (NMED) and the Department of Energy's National Nuclear Security Administration (DOE/NNSA) that realigned environmental priorities at the Lab based on risk. Because higher risk wastes covered by the Framework Agreement were given shipment priority, less *10-100 nCi/g Waste* was shipped in FY11 and FY12 than in previous years. There are competing priorities for the facilities between the Framework Agreement waste and the 10-100 nCi/g waste that needs to be processed. However, with NMED's advisement, the Framework Agreement waste has been deemed higher priority. LANL shipped approximately 10 m³ of the existing FY11 inventory and a portion of the FY12 newly reclassified *10-100 nCi/g Waste* (approximately 52 m³) in FY12. The rest of the FY12 reclassified waste (approximately 38 m³) was readied for shipment and placed in storage. LANL intends to resume shipments of *10-100nCi/g Waste* when some of the higher risk waste shipments are completed

in order to meet the established STP milestone (12/31/2013) for the current *10–100 nCi/g Waste*. The fiscal year (FY) 2013 budget was augmented to increase shipments of 10-100 nCi/g Waste. During FY13, DOE/LANS worked off 553 out of 602 containers of 10-100 nCi/g Waste. Table 2.1-1 summarizes changes to the estimated STP-covered MLLW inventory for FY12. Approximately 62 m³ of covered MLLW was treated, recycled, disposed of, or otherwise deleted during FY12.

Appendix A provides the detailed changes to the FY12 covered MLLW inventory by treatability group, including the inventory at Technical Area (TA)-55 and the Chemistry and Metallurgy Research Building (CMR).¹ Appendix B (Table B-1) lists the MLLW shipments in FY12. Table B-2 identifies other deleted waste. If any, administrative adjustments to the MLLW inventory are shown in Appendix C (Table C-1). Detailed information about the administrative adjustments in Table C-1 are shown in Table C-2. The MLLW inventory reported in the FY11 Annual Update is included as Appendix D.

Table 2.1-1: FY12 MLLW Inventory Summary

Contribution	Volume (m³)¹
Estimated MLLW Inventory Reported in FY11 Annual Update	175.8610
Proposed Revision 23.0	
New Covered Waste	0.2082
Administrative Adjustments ²	90.2360
Offsite Treatment	-62.3556
Offsite Recycle	NA ³
Onsite Decontamination	NA
Treatability Study Use	NA
Estimated MLLW Inventory Reported in FY12 Annual Update	203.9496

¹ MLLW volumes are calculated using the conversion: 55-gallon container = 0.2082 m³; 85-gallon container = 0.3218

² Includes transfers of MTRU and other wastes into MLLW categories

³ NA = No Activity

2.2 Mixed Transuranic (MTRU) Inventory Summary

During FY12, STP-covered MTRU inventories decreased from approximately 3119 m³ to 2763 m³.

Table 2.2-1 summarizes changes to the estimated MTRU covered waste inventory for FY12. The total volume of MTRU waste in Table 2.2-1 includes the CMR and TA-55 MTRU volumes, which are maintained in a separate inventory from the MTRU inventory at TA-54. DOE/NNSA commits to accelerating the rate of removal of above-ground transuranic waste (TRU) at TA-54, Area G as stated in the “Los Alamos National Laboratory Framework Agreement: Realignment of Environmental Priorities.” Appendix E contains additional detail for the MTRU inventory; Table E-1 covers the TA-54 inventory, and Table E-2 covers the inventory at CMR and TA-55. The volume of STP-covered MTRU waste that is part of the “non-cemented above-ground EM Legacy TRU” (MTRU waste only) has been

¹ No MLLW was stored at CMR or TA-55 in FY12.

summarized in Appendix E-1 and Section 4.0 of the Compliance Plan Volume. Appendix F (Table F-1) provides a summary of FY12 MTRU shipments to WIPP. In Appendix G, Tables G-1 and G-2 describe the administrative adjustments that were made to resolve differences in the TA-54 and the CMR/TA-55 MTRU inventory data, respectively.

Administrative adjustments typically represent the following types of activities:

- LANL may correct database entries so that waste items that previously were not listed as STP waste are now identified as STP waste.
- LANL may correct waste data, such as volume or EPA codes, through quality control activities. Waste that was formerly classified as MTRU because it had radioactivity greater than 10 nCi/g has been reclassified to MLLW (LA-W935) if its activity is less than 100 nCi/g under DOE standards.
- New analytical data may also require that waste streams previously managed as TRU waste should, as a prudent measure, be reclassified and managed as MTRU waste.
- During repacking or other quality control activities, TRU waste may be recharacterized as MTRU waste when previously unidentified hazardous contents, such as lead, are determined to be present.
- During repacking, treatability groups are frequently reassigned to be consistent with current management and shipping criteria.
- Containers of waste are occasionally determined not to belong to mixed waste streams and are reclassified as TRU waste; removal of WIPP-prohibited items, if they are the only hazardous constituent, will result in the remaining waste being classified as nonmixed.
- Addition or removal of 85-gallon overpacks changes the volume of waste in the inventory; rounding container volumes to three decimal places also changes the inventory volume.

Appendix G includes changes to the MTRU waste inventory that resulted from repacking activities. MTRU waste volumes in the STP inventory reflect the volume of the container rather than the volume of the contents. When containers are repacked, the STP inventory volume of any given treatability group may either increase or decrease. When a container is repacked, the contents are sometimes split into two or more new containers to meet shipping and waste acceptance criteria or to meet characterization criteria (e.g., nondestructive analysis calibration limits). In addition, the new containers may be assigned to different treatability groups depending on the contents of each drum. Therefore, the volume of a single drum may 'multiply' into more volume than the original container. For example, repacking one container of *Cemented Sludge* (0.2080 m³) may result in one drum of *Combined Combustible-Noncombustible Waste* (0.2080 m³) and one drum of *Noncombustible Waste* (0.2080 m³). In addition, changes in the waste volume in the STP inventory occur when an 85-gallon 'overpack' is removed from, or added to, a 55-gallon drum during repackaging. Removal of overpacks decreases the volume of waste in the STP inventory. Adding an overpack to a 55-gallon drum increases the volume of waste shown in the STP inventory.

Table 2.2-1: Covered MTRU Inventory Summary

Description	Volume (m³)
Covered MTRU Inventory Reported in FY11 (44.713 m ³ at CMR/TA-55 and 3074.244 m ³ at TA-54)	3118.957
New Covered MTRU Waste at TA-54	11.488
New Covered MTRU Waste at TA-55	5.695
Covered MTRU Waste Shipped to WIPP in FY12	-476.020
Net Administrative Adjustments for TA-54 in FY12	111.656
Net Administrative Adjustments for CMR/TA-55 in FY12	-8.612
Covered MTRU Inventory at End of FY12	2763.164

3.0 TREATMENT PROGRESS

3.1 Offsite Treatment

During FY12, covered MLLW streams were shipped for treatment to the following offsite commercial treatment facilities: Perma-Fix in Gainesville, Florida; Perma-Fix/Material and Energy Corporation (M&EC) in Oak Ridge, Tennessee; and Perma-Fix Northwest in the State of Washington.

Perma-Fix/Florida

Perma-Fix in Gainesville, Florida, is a RCRA-permitted facility with a Radioactive Materials License for processing scintillation cocktail vials and other mixed waste fluids for blending and shipment to an energy recovery facility. Perma-Fix services include the decommissioning of labpacks, thermal treatment of organics, stabilization and solidification of inorganics, and distillation of halogenated organics. The facility also performs chemical treatments such as solvent extraction, demulsification/precipitation/flocculation, chelation, oxidation-reduction, ion exchange, absorption/adsorption, amalgamation, and chemical decontamination.

Perma-Fix/Material and Energy Corporation (M&EC)

M&EC, located in the East Tennessee Technology Park in Oak Ridge, Tennessee, is a permitted treatment facility for low-level radioactive and mixed waste. The facility installed six treatment processes and has the capability for treating organic and inorganic mixed waste to meet the LDR criteria. These processes include stabilization/solidification, chemical extraction, chemical fixation, metals precipitation, neutralization, and debris treatment.

Perma-Fix Northwest

Perma-Fix Northwest, located in Richland, Washington, is a permitted treatment facility for the treatment of low-level radioactive and low-level mixed waste. The site houses both a low-level radioactive waste treatment facility and a low-level mixed waste treatment facility, which are licensed under Nuclear Regulatory Commission regulations (State of Washington licenses WN-I00393-1 and WN-I00508-1) and permitted under RCRA regulations through the State of Washington. The facility can perform thermal treatment, compaction, macroencapsulation, neutralization, and stabilization.

Appendix B summarizes LANL's offsite shipments for treatment and/or disposal of covered MLLW in FY12. Approximately 62 m³ of STP-covered MLLW was shipped offsite for treatment and/or disposal.

3.2 Offsite Recycling

LANL did not recycle any STP-covered MLLW offsite in FY12.

3.3 Onsite Treatment and Recycling

LANL did not treat or recycle any STP-covered MLLW onsite in FY12.

3.4 Onsite Lead Decontamination

No LANL STP-covered MLLW was decontaminated onsite during FY12.

3.5 Treatability Studies

LANL conducted no treatability studies in FY12.

3.6 Administrative Adjustments and Corrections

Administrative adjustments and corrections are due to discrepancies found during quality control activities related to preparing waste for treatment, inventory, and disposal or when preparing the STP Annual Update. A data quality review is conducted annually to compare shipment notifications and shipping manifests with database updates.

3.6.1 Adjustments to MLLW Inventory

Appendix C (Table C-1) details the administrative adjustments to the MLLW inventory. The principal adjustment reflects the transfer of MTRU waste to MLLW (LA-W935, 10–100 nCi/g). A substantial volume of LANL's STP-covered MTRU waste has been determined to no longer meet the criteria for TRU waste and has thus been reclassified as MLLW (Appendices C and G).

3.6.2 Adjustments to MTRU Inventory

During the preparation of the FY12 STP Annual Update, LANL identified a number of adjustments to the MTRU inventory volume (Appendix G, Tables G-1 and G-2), including additions of newly identified STP-covered waste, recharacterization of waste, and reclassification of MTRU waste to MLLW. Other adjustments were needed to account for volume changes due to repacking of waste and transfers of waste from one treatability group to another or to correct database entries.

4.0 TREATMENT TECHNOLOGY DEVELOPMENT

During FY12, the availability of commercial and federal facility offsite treatment and disposal capacity for MLLW remained stable. As a result of DOE's increasing reliance on commercial treatment/disposal for mixed wastes, nearly all funding for onsite technology development has been prioritized to support offsite treatment and disposal of mixed wastes. DOE treatment technology development initiatives are generally limited to specific technologies or technology adaptations in response to specific needs that cannot be addressed through commercial facilities.

4.1 Treatment Technologies Being Evaluated

LANL continues to monitor the development of other potential treatment technologies that may become available in the future. Some of these technologies are being developed at LANL and at other DOE sites. Numerous other commercially developed treatment processes exist which have not been demonstrated on mixed wastes.

4.1.1 Offsite Commercial Treatment Facilities

LANL continues to monitor the availability and capabilities of offsite commercial facilities for treatment technologies and permitting that are appropriate to LANL waste. These facilities are listed in Appendix H (Table H-1).

4.1.2 Offsite DOE Treatment Facilities

In the past, LANL staff considered Lawrence Livermore National Laboratory (LLNL) for treatability studies for MLLW gas cylinders. LANL has successfully shipped these wastes offsite for treatment, storage, and disposal. LLNL does not have treatment capabilities for treatment, storage, or disposal appropriate to any of LANL's remaining MLLW.

5.0 DOE FUNDING FOR STP-RELATED ACTIVITIES

Funding to implement the LANL STP for mixed waste during FY12 was sufficient to meet all compliance dates as required by the STP issued on October 4, 1995. As stated in previous updates to the STP, funding is no longer available for development of mobile treatment units at LANL, but funding was provided in all years between FY98 and FY05 and between FY07 and FY12 for shipment of mixed waste offsite for treatment and disposal at DOE and commercial facilities. Funding during FY13 may be sufficient to meet all compliance dates established in the STP; however, FY13 federal budget restrictions may impact LANL shipping schedules. Furthermore, Congress has not yet taken action on an FY14 budget. When the federal funding for FY14 becomes clearer, LANL will reevaluate the available funding. Should funding reductions occur that would affect STP compliance dates, the DOE and LANS will so notify the NMED to address compliance schedules and activities.

The DOE Assistant Secretary for Environmental Management initiated a long-range plan for DOE's cleanup and waste management activities, with a goal of accelerating cleanup progress as much as possible before 2006. The plan, *Accelerating Cleanup: Paths to Closure*, includes sections for the LANL site that address MLLW and TRU wastes that are currently in storage (legacy waste). Funding targets for waste management in the draft *LANL Accelerating Cleanup: Paths to Closure* plan should allow LANS staff at LANL to continue to meet all compliance dates in the STP; the plan assumes that MTRU waste is not required to be treated to meet LDR before shipment to WIPP for disposal, as provided for in the WIPP Land Withdrawal Act Amendments of 1996 (LWAA).

Beginning in FY99, all newly generated MLLW with a disposal path was planned to be treated and disposed of within one year if a treatment/disposal capability and capacity was available for the waste. MLLW placed into storage before FY99 was treated and disposed of before the end of FY09.

6.0 TREATMENT VARIANCES

RCRA allows certain case-by-case variances from LDR standards. Variances that may be sought under RCRA relate to requests for substitution of an alternative treatment technology in place of the LDR-required treatment technology. This section discusses any potential treatment variances related to LANL's covered waste, as described below.

6.1 WIPP No-Migration Variance Petition/Land Withdrawal Act Amendments

WIPP, located near Carlsbad, New Mexico, is a DOE repository for the TRU waste that was generated by the nation's defense-related activities. Some of the TRU waste contains hazardous waste constituents regulated under the RCRA.

The WIPP repository is considered to be a deep geologic repository rather than a shallow landfill. It is wholly sited 2,100 ft below the land surface in a salt bed. Because salt has the advantageous characteristic of slow plastic deformation, it is predicted that the salt will entomb the waste and seal it from the human environment, making potential release of hazardous constituents a low-probability event.

The LWAA (PL 104-201, Section 3188) exempts waste designated by the Secretary of Energy for disposal at WIPP from RCRA's LDRs. Following passage of the LWAA, the EPA terminated its review of the No-Migration Variance Petition, submitted by DOE to EPA in May 1995. EPA formalized its withdrawal by letter to George Dials, DOE/Carlsbad Area Office manager, dated December 29, 1997.

On October 29, 1996, DOE submitted its Compliance Certification Application (CCA) to EPA. The CCA is intended to demonstrate to EPA that WIPP meets the requirements of Title 40 of the Code of Federal Regulations (40 CFR) Part 191 and 40 CFR Part 194. On October 23, 1997, EPA announced its proposed decision to issue a certification of compliance, subject to a number of specified conditions and to a public comment period of 120 days. On May 18, 1998, EPA published in the Federal Register (63 FR 27354) its final rule certifying that WIPP will comply with the requirements of Subparts B and C of 40 CFR Part 191 and amending the WIPP compliance criteria in 40 CFR Part 194. The final rule became effective June 17, 1998. On March 25, 1999, WIPP received its first shipment of non-mixed (radioactive only) TRU waste from Los Alamos. Other facilities have also shipped non-mixed TRU waste to WIPP. The NMED issued a hazardous waste permit for WIPP on October 27, 1999, authorizing the DOE to manage, store, and dispose of contact-handled MTRU waste at the facility.

6.2 Other Treatment Variance(s)

No treatment variances were requested or granted in FY12.

7.0 WIPP FACILITY CAPABILITIES

As discussed above, the DOE is disposing of its defense TRU waste, both mixed and nonhazardous, in its deep geologic repository at the WIPP near Carlsbad, New Mexico. This facility is a receiving and disposal facility, without the capability of routinely opening and repackaging waste. TRU waste will already be containerized when received at the WIPP facility. The WIPP facility is not a generator of TRU waste, and, therefore, will receive all of the waste in shipments from offsite.

7.1 Characterization Capabilities at WIPP

Wastes proposed for shipment to WIPP are characterized and certified at LANL by the Central Characterization Project (CCP), a contractor to DOE's Carlsbad Field Office.

7.2 MTRU Treatment Capabilities and Plans

WIPP is not required to treat MTRU waste to meet the LDR standards. As described above, the LWAA exempted wastes designated by the Secretary of Energy for disposal at the WIPP from this requirement.

PART II. COMPLIANCE PLAN UPDATE

1.0 INTRODUCTION

This update to the CP contains

- Changes to the CP occurring since the previous Annual Update, including
 - milestones completed in FY12;
 - correspondence, including notices of shipments; and
 - new covered and deleted waste;
- Proposed revisions and amendments, including
 - compliance date changes;
 - description of waste deleted in accordance with the requirements in FFCO Section IX, *Deletion of Waste*;
 - documentation of new covered waste in accordance with the requirements in Section VIII, *Addition of New Covered Waste*; and
 - proposed changes to the overall schedule in the CP.

2.0 CHANGES AND REVISIONS TO THE CP OCCURRING SINCE THE PREVIOUS ANNUAL UPDATE

This section describes revisions, amendments, or other changes to the LANL CP.

2.1 Activities Completed During FY12

During FY12, no CP Activity milestones were scheduled.

Table 2.1-1. FY11 FFCO and STP Milestones [Table omitted]

2.2 Expedited Shipment Letters

There were no expedited shipment letters in FY12.

2.3 Correspondence

Between October 1, 2011, and March 31, 2013, LANL communicated with NMED on issues related to

- Revisions 21.0 and 22.0 of the Annual STP Update, and
- FY11 and FY12 waste shipments.

This correspondence is listed in Appendix I (Table I-2). Correspondence previously listed in Appendix I, Table I-2 of Revision 22.0 of the STP is so noted in the appendix.

3.0 DESCRIPTION OF DELETED WASTE

A proposal for deletion of STP waste items is included with this update as Proposed Revision 23.0 in accordance with FFCO Section IX, *Deletion of Waste*. These deletions are proposed because the waste was shipped offsite for treatment, disposal, or recycling or were otherwise determined not to be mixed wastes. These covered wastes are included in Appendix B, Appendix F, and Appendix G.

4.0 DOCUMENTATION OF NEW COVERED WASTE

A proposal for addition of STP waste items is included with this update in accordance with FFCO Section VIII, *Addition of Waste*. These additions consist of wastes that were placed in storage during FY11 and were proposed to become covered wastes in FY12. These covered wastes are included in Appendix E. Additional waste to be added to the STP is identified in Section 6.1.

5.0 PROPOSED CHANGES TO THE COMPLIANCE PLAN SCHEDULE

LANL is proposing a new milestone for *Noncombustible Debris* (LA-W922), Activity 3.1.5(A) to “*complete shipping of wastes to an offsite treatment facility or complete parallel option.*” LANL expects to be able to complete shipping of the one container of this waste by March 30, 2014.

I. Compliance Dates and Waste Description

LA-W922: This waste consists of noncombustible debris, such as buckets, gloves, and air pumps. The waste has been assigned an EPA code of D008.

Current approved compliance date: none
Proposed Revision 23 compliance date: March 31, 2014

II. Treatment Process

The preferred treatment process for LA-W922 is shipment offsite for treatment to meet LDRs. These wastes may be treated by macroencapsulation or other RCRA treatment methods according to the standards in 40 CFR 268.40 at an offsite commercial facility.

III. Availability of Commercial Facilities

LANL uses the facilities identified in Appendix H for treatment and disposal of MLLW. No additional facilities are needed to treat the current inventory of *Noncombustible Debris* (LA-W922).

IV. Justification for Milestone

Since commercial treatment facilities are available, LANL does not anticipate any significant delays in shipping this waste offsite for treatment. The shipping date will be based on the ability of a facility to accept the waste at a given time and on the scheduling of other offsite shipments. LANL is therefore requesting a milestone of March 31, 2014 to allow for schedule

flexibility on the part of the receiving facility. LANL will schedule shipment as part of routine waste shipment.

No other changes to the schedule in the CP of the STP are proposed.

6.0 DETAILED DESCRIPTION OF THE PROPOSED REVISION

The purpose of this revision request is to reflect changes in the STP inventories in the LANL CP of the STP in accordance with FFCO Section X.C.2.a. The changes proposed by this revision to the CP will allow the added covered wastes to be treated or otherwise managed in accordance with the Activities and Compliance Dates pertaining to each treatability group, as adopted or revised herein. The CP text changes are indicated in the redlined version provided to NMED.

LANL is proposing to revise the CP text to reflect the following change in STP-covered inventories:

- Increases and decreases in covered mixed waste inventories due to the addition of new covered waste and offsite shipments during FY12 and other changes in the STP inventory.
- Establishment of new Compliance Dates for LA-W922 as discussed in Part II, Section 5.

The CP changes are proposed in accordance with the applicable requirements in the FFCO, as amended: Section VIII, *Addition of New Covered Waste*; Section X.B.4, *Revisions*; and Section XI, *Deletion of Waste*.

6.1 Addition of New Covered² Waste

LANL is requesting that the following waste be added to the STP as covered waste.

6.1.1 MLLW Additions

The volume of MLLW that is requested for addition is 0.2082 m³ of new-covered³ *Noncombustible Debris* (LA-W922).

Table 6.1.1-1: Proposed Addition of New Covered MLLW Waste

CP Section	MWIR Waste ID	Treatability Group	Volume (m ³)
3.1.5	LA-W922	<i>Noncombustible Debris</i>	0.2082 ¹
Total			0.2082

¹Waste accumulated in order to meet the offsite facility WAC for treatment.

6.1.2 MTRU Waste Additions

The volume of new covered MTRU waste that is requested for addition is 17.391 m³ (Table 6.1.2-1). LANL also requests the addition of 31.672 m³ of *Combustible-Noncombustible Waste*, 51.376 m³ of *Noncombustible Waste*, and 34.296 m³ of *Solidified Inorganic and Organic Waste* that was previously managed in the TRU inventory (Appendix G, Table G-1). Table 6.1.2-2 identifies waste that is proposed

² Waste generated during the previous FY that was not shipped offsite within one year is termed new-covered STP waste.

for addition following activities that identified waste in the TRU inventory as MTRU either through review of waste characteristics or as a result of identifying potentially hazardous constituents during repacking TRU waste.

Table 6.1.2-1: Proposed Addition of New Covered¹ MTRU Waste

CP Section	Treatability Group	Volume (m ³)
4.0	Combustible-Noncombustible Waste	8.348
4.0	Combustible Waste	0.664
4.0	Noncombustible Waste	0.208
4.0	Solidified Inorganic and Organic Waste	2.288
	Total TA-54 New Covered	11.488²
4.0	Combustible-Noncombustible Waste at TA-55	2.080
	Combustible Waste at TA-55	0.019
4.0	Noncombustible Waste at TA-55	3.5960
	Total TA-55 New Covered	5.695³
	Total New Covered Waste	17.183

¹New covered waste in Table 6.1.2-1 refers to waste generated in the previous FY.

²Confirmation of re-assay to determine TRU or LLW concentration for containers to continue on a path for disposition.

³New covered waste at TA-55 was a result of radioactive assay problems

Table 6.1.2-2: Proposed Addition of Waste Newly Characterized as MTRU

CP Section	Treatability Group	Volume (m ³)
4.0	Combined Combustible-Noncombustible Waste (2.316 m ³ – discovery of aerosol cans in containers; 29.356 m ³ from identification of potentially hazardous constituents during repacking of TRU waste)	31.672
4.0	Noncombustible Waste (from identification of potentially hazardous constituents during repacking of TRU waste)	51.376
4.0	Solidified Inorganic and Organic Waste (34.296 m ³ – Nitrate salts determined to be potentially mixed waste)	34.296
	Total Newly Characterized MTRU	117.344

6.2 Deletion of Covered Waste

Both MLLW and MTRU wastes were shipped offsite for treatment and disposal or recycling or are otherwise proposed as deleted waste.

6.2.1 Deletion of MLLW

LANL is requesting that covered MLLW identified in Appendix B be deleted from the STP. These covered wastes were shipped offsite for treatment and disposal or recycling. The total volume of covered MLLW that is requested for deletion under this Revision to the CP is 62.3556 m³ (Appendix B, Table B-1).

6.2.2 Deletion of MTRU Waste

LANL is requesting that a total of 476.020 m³ of covered MTRU waste be deleted from the STP. These covered wastes were shipped offsite for disposal at WIPP. Details of the offsite shipments are given in Appendix F..

6.2.3 Other Deletions of FY12 Waste

No waste is proposed for deletion due to recycling or onsite treatment in FY12. No waste was shipped offsite for treatability studies.

6.3 Adjustments to the Original (October 4, 1995) STP-Covered MLLW Inventory

LANL is requesting adjustments to the original (October 4, 1995) STP-covered MLLW inventory as listed in Appendix C (Table C-1). Most administrative adjustments are due to reclassification of MTRU waste to MLLW treatability groups and to quality control activities related to preparing waste for treatment and disposal. These adjustments may result in additions of newly identified covered waste or transfers of waste to other treatability groups.

6.4 Adjustments to MTRU Waste Inventory

LANL is requesting adjustments (Appendix G, Tables G-1 and G-2) to the original (October 4, 1995) STP-covered MTRU waste inventory. Most administrative adjustments are due to reclassification of MTRU waste to MLLW treatability groups or to other MTRU treatability groups and to reclassification of TRU to MTRU as a result of quality control activities related to preparing waste for treatment and disposal. These adjustments may result in additions of newly identified covered waste or transfers of waste to other treatability groups.

6.5 Establishment of New Milestone Activity Dates

LANL is requesting a new compliance milestone for new covered LA-W922 for which there is no current milestone.

Table 6.5-1: Proposed Milestone Activity Compliance Dates

Milestone Activity	Treatability Group	Revision 22 Compliance Date	Proposed Compliance Date	Rationale
3.1.5(A)	LA-W922 Noncombustible Debris	none	3/31/2014	LANL will schedule shipment as part of routine waste shipment.

6.6 Additional Revisions

No other revisions are requested.

7.0 RATIONALE FOR THE PROPOSED REVISION

This information is provided in accordance with FFCO Section X.C.2.a.

7.1 Establishment of New Proposed Milestone

LANL is requesting a milestone for the LA-W922 waste stream since there is no current milestone for shipping this waste offsite.

7.2 Addition of New Covered Waste

Waste that was newly generated in FY11, which was not treated within 12 months of generation, became new covered waste during FY12 (see Appendix E). In addition, TRU wastes, which were re-evaluated during repacking and quality control activities as having previously unidentified RCRA constituents, were also added to the STP inventory (Appendix G). Approval of these proposed additions to the STP inventory will allow the added covered wastes to be treated or otherwise managed in accordance with the activities and compliance dates pertaining to each treatability group, as adopted or revised herein.

7.3 Deletion of Covered Waste

Decreases in covered waste inventory reflect the treatment and disposal or recycling of covered waste at offsite commercial facilities during FY12. Deletion of this covered waste is proposed in order to more accurately reflect the LANL STP inventory as of the end of FY12.

7.4 Adjustments to the Original (October 4, 1995) STP-Covered Waste Inventory

Administrative adjustments result from quality control activities related to preparing waste for treatment and disposal. These adjustments result in additions of newly identified covered waste and transfers of waste to other treatability groups. The adjustments to the original (October 4, 1995) STP-covered waste inventory are proposed in order to more accurately reflect the LANL STP inventory as of the end of FY12.

8.0 ANTICIPATED LENGTH OF ANY DELAY IN PERFORMANCE

In accordance with FFCO Section X.C.2.c, LANL does not anticipate any delay in performance for any other proposals stated in this requested revision to the CP of the STP.

9.0 PLAN AND SCHEDULE FOR IMPLEMENTING ALL REASONABLE MEASURES

All other measures proposed could be implemented within the framework of the existing plan and schedule for the STP (FFCO Section X.C.2.d).

PART III. COMPLIANCE PLAN – PROPOSED REVISION 23.0

1.0 PURPOSE AND SCOPE OF THE COMPLIANCE PLAN

1.1 Introduction

Part III of this document identifies changes that require NMED approval as a revision under Section X, *Revisions*, or an amendment under Section XI, *Other Amendments to the STP*.

The CP includes a schedule for offsite transportation for treatment, or completion of parallel options as defined in each Treatability Group Section, and the treatment of mixed wastes in full compliance with the HWA and the implementing regulations at 20 NMAC 4.1, which incorporates by reference 40 CFR Parts 260 through 270. Part I, Background, contains progress reports as required in the FFCO. Respondents shall carry out the activities described in the STP, including the CP, in accordance with the schedules and requirements set forth in the STP and the FFCO.

1.2 STP Revisions and Amendments

The STP CP has been modified several times since it was originally issued, in accordance with the provisions of Section X, *Revisions*, and Section XI, *Other Amendments to the STP*, of the October 4, 1995, FFCO, as amended and revised. The history of revisions is provided in Appendix J.

2.0 COMPLIANCE SCHEDULES

The STP provides overall schedules for achieving compliance with LDR storage and treatment requirements for mixed waste at LANL. The schedules include those activities required to process backlogged and currently generated waste and include schedules required to establish an overall timeframe 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 below. The categories of activities are based on Section 3021(b)(1)(B)(i), (ii), and (iii) of the 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 onsite, the categories of activities for compliance dates identified in Table 2.1.1-1 shall apply.

Table 2.1.1-1: Categories of Activities for Compliance for Mixed Waste with Existing Treatment Technologies

- | |
|---|
| <ul style="list-style-type: none">A. Submit permit applications to the NMED.B. Initiate construction as specified in the NMED permit.C. Complete system testing and commence operation.D. Begin treating mixed waste.E. Complete treatment of existing wastes to applicable regulatory standards. |
|---|

2.1.2 Plans Where Technology Must Be Developed

For some mixed waste, no treatment technologies have been identified and developed, or the treatment technology must be modified or adapted to apply to such waste. For the waste that will be treated onsite, the categories of activities for compliance dates are identified in Table 2.1.2-1 and shall apply.

Table 2.1.2-1: Categories of Activities for Compliance Dates for Mixed Waste Without Existing Treatment Technologies

- | |
|---|
| <ul style="list-style-type: none">A. Identify and develop technology.B. Submit permit application to NMED; orC. Submit a Notification of Intent to perform treatability study to 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 waste.G. Complete treatment of existing wastes to applicable regulatory standards. |
|---|

2.2 Primary Preferred Treatment

Offsite treatment at a commercial or noncommercial mixed waste treatment facility is the primary preferred treatment option applicable to all mixed waste streams in the STP inventory unless otherwise indicated in the descriptions of individual waste treatability groups. DOE may also pursue parallel treatment options, such as recycling/re-use or radiological decontamination. Requirements for waste shipped offsite for recycling are discussed under Part III, Section 2.6. All activities and compliance dates related to the construction, permitting, and operation of onsite treatment skids were removed from this document. This change was due to the increased availability of offsite treatment and disposal capacity for mixed waste. Respondents will continue evaluating new commercial and DOE offsite treatment facilities as potential options for managing mixed waste, as they become available.

2.3 Plans for Mixed Waste to be Shipped Offsite for Treatment

Should DOE decide to treat or recycle waste at a commercial offsite facility (Table 2.3-1), DOE will notify the NMED Project Manager in writing as soon as possible and in any event within 45 working days of receipt of waste at the treatment/recycling facility.

DOE shall notify the NMED Project Manager in writing as soon as possible if mixed waste is planned to be sent to a noncommercial facility. Notification should be made if possible when DOE is first considering such an option to allow NMED and the state to address any state issues or concerns with other states. The NMED Project Manager shall approve in writing the proposed offsite noncommercial treatment option proposed by DOE prior to any shipment by DOE. DOE will notify the NMED Project Manager in writing as soon as possible and in any event within 45 working days of receipt of waste at the treatment/recycling facility. Activities for mixed waste to be shipped offsite for treatment/recycling at a noncommercial facility are identified in Table 2.3-2.

Table 2.3-1: Activities for Offsite Shipment for Treatment or Recycling at a Commercial Facility

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

2.3.1 Specific Site Requirements for Noncommercial Treatment Facilities

Shipment to Idaho National Laboratory

Prior to shipment, Idaho National Laboratory (INL) and Idaho Division of Environmental Quality shall be notified of any pending shipments of waste should DOE ship MLLW to INL. Proper procedures including additional approvals (if necessary) and documentation shall be completed prior to the shipment of wastes to INL. Management of post-treatment waste residuals or newly generated waste streams will be in accordance with the requirements of DOE, the State of Idaho, and that state where they will be disposed. A modification to LANL's RCRA permit providing for the return of such wastes and/or residues to LANL must be approved by NMED prior to any such return of wastes and/or residues to LANL. DOE will notify the NMED Project Manager in writing as soon as possible and in any event within 30 working days after receipt of shipment of treatment residuals or newly generated waste streams from INL.

Shipments of MLLW to planned facilities (not yet existing) will occur only after that treatment and schedules are approved by DOE-ID and the State of Idaho. Upon approval of the planned treatment facilities, the applicable protocol from the paragraph above will be implemented for mixed wastes to be treated at planned facilities.

Shipment to Oak Ridge Reservation

In the case that Oak Ridge Reservation (ORR) may not dispose of mixed-waste residues or new waste streams generated from offsite treatment, and they cannot be sent to another facility for disposal, then the residues may return to LANL. Should residual or newly generated waste streams be returned to LANL, the proper permits for the State of New Mexico must exist. DOE will notify the NMED Project Manager in writing as soon as possible and in any event within 30 working days after receipt of shipment of treatment residuals or newly generated waste streams from ORR.

Table 2.3-2: Activities for Shipment Offsite for Treatment or Recycling at a Noncommercial Facility

A.	Request necessary approval from NMED for shipment of waste by category before shipping.
B.	Meet all regulatory requirements for offsite shipment.
C.	Provide documentation to NMED of confirmation of shipment date within 14 working days prior to sending waste to an offsite facility for treatment, disposal, or recycling, or storage pending treatment, disposal, or recycling.
D.	Provide documentation to NMED that waste has been received at an offsite facility for treatment within 45 working days of receipt of waste at the offsite facility.
E.	Meet all regulatory requirements to include RCRA Permit modifications for residual or newly generated waste streams after treatment or recycling.
F.	Provide documentation to NMED within 30 working days after receipt of residual or newly generated waste streams upon return to LANL.

2.4 Requirements Pertaining to Radionuclide Separation

The FFCA sets additional requirements in cases in which DOE intends to conduct radionuclide separation of mixed waste. Should the DOE determine to do radionuclide separation of such mixed waste, DOE will schedule specific compliance dates based on category activities identified in Table 2.4-1. “Radionuclide separation” shall mean segregating the radioactive portion of the mixed waste from the hazardous portion of the mixed waste.

Table 2.4-1: Activities for Radionuclide Separation

A.	Complete an estimate of the volume of waste generated by each case of radionuclide separation.
B.	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 with the estimated costs if it is not used.
D.	Provide the assumptions underlying such estimates of waste volumes and cost estimates.
E.	Provide characterization methodologies for determining waste type.
F.	Submit a plan for treating or managing hazardous waste residues, accompanied by an NMED permit application.

2.5 Plans Related to Other Mixed Waste Activities

Activities other than the types of activities specifically called for in the FFCA as requiring schedules are described in this STP. Some of these activities may be associated with schedules that may contain compliance dates related to treatment of the DOE’s mixed waste.

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 described in 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 of the FFCO.

DOE will notify the NMED when offsite treatability studies are conducted on STP waste. Treatability studies are used to explore alternative treatment options that may be practical for any or all of the STP mixed waste streams. When preparing waste for shipment for an offsite treatability study, DOE will evaluate the potential for incidental waste treatment or secondary waste generation, which are often associated with treatability studies.

2.6 Recycling/Re-Use

Respondent will pursue onsite or offsite recycling/re-use as a parallel preferred option.

Should DOE elect to use recycling facilities in lieu of (or in combination with) treatment, it will follow requirements as if the waste were shipped offsite for treatment. Any and all requirements by the recycling facility and all state, federal, or other regulatory requirements applicable at the recycling site shall be met by Respondents.

DOE shall notify the NMED Project Manager in writing as soon as possible if mixed waste is planned to be sent to an offsite noncommercial recycling facility. Notification should be made if possible when DOE is first considering such an option to allow NMED and the state to address any state issues or concerns with other states. The NMED Project Manager shall approve in writing the proposed offsite noncommercial recycling option prior to any shipment by DOE. DOE will notify the NMED Project Manager in writing as soon as possible and in any event within 45 working days of receipt of waste at the recycling facility. Activities for mixed waste to be recycled are identified in Table 2.6-1.

Should DOE elect to use recycling/re-use facilities in lieu of (or in combination with) treatment, it will follow the requirements as if the waste were shipped offsite for treatment. DOE will provide a notification letter to the NMED within 45 days, in place of documentation, that waste was received at a recycling facility.

Table 2.6-1: Requirements for Recycling

- A. Meet all regulatory requirements for recycling/re-use.
- B. Provide documentation to NMED that waste has been received at recycling facility within 45 working days of receipt of waste at the recycling facility.

2.7 Onsite Radiological Decontamination

DOE will pursue onsite radiological surface or external decontamination as a preferred option. No volumetric or internal decontamination processes will be considered or performed. Surface radiological decontamination includes activities such as sand blasting, hand-scrubbing, or

electrolytic decontamination. These decontamination activities could result in reducing or removing the radiological contaminant from the waste such that the waste could be recycled in accordance with CP Section 2.6 (*Recycling/Re-Use*) or be proposed for deletion in accordance with Section IX (*Deletion of Waste*) of the FFCO.

Activities for mixed waste to be radiologically decontaminated are identified in Table 2.7-1.

Table 2.7-1: Activities for Radiological Decontamination

A. Meet all DOE requirements for radiological decontamination.
B. Provide documentation to NMED that waste has been received at recycling facility within 45 working days of receipt of waste at the recycling facility; or
C. Propose waste for deletion in accordance with Section IX of the FFCO.

3.0 MIXED LOW-LEVEL WASTE STREAMS

This section presents the preferred options to treat MLLW (formerly known as LLMW) at LANL. All preferred options not described below must be approved by NMED in accordance with the revision process pursuant to the FFCO.

The original October 4, 1995, STP inventory in each MLLW treatability group has been modified through the revision process in the FFCO. The tables in the STP Background (Part I) Appendices A–M of the FY09 STP Annual Update provide a comprehensive summary of changes to the CP covered waste inventories (additions, deletions, and shifts of waste between treatability groups) occurring as of the date of that revision. In Part III, the original STP inventory in each MLLW treatability group is denoted as subgroup 0 of that treatability group (e.g., the original volume of STP treatability group LA-W906 became LA-W906-0). Each revision that has since added volumes to individual treatability groups has resulted in creation of an additional subgroup, having the same number as the revision (e.g., LA-W906-4 was created in Revision 4.0, and LA-W906-5 was created in Revision 5.0).

In most subsections of this section, the subgroups of the treatability groups are not shown. In those cases, the Activities and Compliance Dates are applicable to the entire net volume of that treatability group. However, when subgroups of a treatability group have been assigned Activities and Compliance Dates unique to that subgroup, those subgroups are detailed in the text. Activities and Compliance Dates that have been met in previous years are not shown in this document.

3.1 Mixed Waste Streams

The following subsections summarize MLLW treatability groups.

3.1.1 IPA Wastes and Scintillation Fluids

Table 3.1.1-1: Treatability Groups for IPA Wastes and Scintillation Fluids

Treatability Group	MWIR* Waste ID	RCRA Codes	Net Volume (m ³)
IPA Wastes	LA-W901	D001, D009, F002, F003, F005	0.00
Scintillation Fluids	LA-W902	D001, F003, F005	0.00
Totals			0.00

*MWIR is Mixed Waste Inventory Report

Treatment: The waste will be treated at an offsite facility that combusts organic liquid waste.

3.1.2 Lead Blankets, Soil with Heavy Metals, Environmental Restoration (ER) Soils

Table 3.1.2-1: Treatability Groups for Lead Blankets, Soil with Heavy Metals, ER Soils

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Lead Blankets	LA-W903	D007, D008	0.00
Soil With Heavy Metals	LA-W904	D004, D005, D006, D007, D008, D009, D010, D011	0.00
ER Soils	LA-W905	D028, D029, F001, F005 D010, D011	0.00
Totals			0.00

Treatment: The waste will be treated at an offsite facility that stabilizes or macroencapsulates wastes.

3.1.3 Aqueous Organic Liquids

Table 3.1.3-1: Treatability Groups for Aqueous Organic Liquids

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Aqueous Organic Liquids	LA-W906-0 LA-W906-4 LA-W906-5	D001, D002, D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D027, D028, D030, D032, D033, D034, D036, D037, D038, D039, D041, D042, D043, F001, F002, F003, F004, F005	0.00
Totals			0.00

Table 3.1.3-2: Additional Treatability Groups for Aqueous Organic Liquids

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Aqueous Organic Liquids	LA-W906-6 LA-W906-9 LA-W906-10 LA-W906-15	D001, D002, D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D027, D028, D030, D032, D033, D034, D036, D037, D038, D039, D041, D042, D043, F001, F002, F003, F004, F005	0.00
Totals			0.00

3.1.4 Organic-Contaminated Combustible Solids

Table 3.1.4-1: Treatability Groups for Organic-Contaminated Combustible Solids

Treatability Group	MWIR Waste ID	RCRA codes	Net Volume (m ³)
Organic-Contaminated Combustible Solids	LA-W911	D001, D004, D008, D009, F001, F002, F003, F005	0.00
Totals			0.00

Table 3.1.4-2: Treatability Groups for Organic-Contaminated Noncombustible Solids

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Organic-Contaminated Noncombustible Solids	LA-W919	D001, D003, D004, D005, D006, D007, D008, D009, D010, D011, D012, D015, D018, D019, D020, D022, D027, D028, D029, D030, D031, D032, D033, D034, D035, D036, D042, D043, F001, F002, F003, F004, F005	0.00
Totals			0.00

3.1.5 Combustible Debris, Activated or Inseparable Lead, Noncombustible Debris

Table 3.1.5-1: Treatability Groups for Combustible Lead, Activated or Inseparable Lead, and Noncombustible Debris

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Combustible Debris	LA-W912	D001, D002, D003, D005, D006, D007, D008, D009, D011, D035, F001, F002, F003, F005	0.00
Activated Or Inseparable Lead	LA-W921	D008	0.00
Noncombustible Debris	LA-W922 LA-W922-17 LA-W922-22 LA-W922-23	D001, D002, D004, D005, D006, D007, D008, D009, D010, D011	0.2082
Totals			0.2082

Table 3.1.5-2: Activities and Compliance Dates for Noncombustible Debris

Activity	Compliance Dates
A. Complete shipping of existing wastes to an offsite treatment facility or complete parallel option	3/31/2014
B. Provide documentation to NMED that waste was received at offsite facility or provide notification of parallel option	Within 45 days of receipt of waste at treatment facility or within 45 days after completion of parallel option

3.1.6 Aqueous Wastes with Heavy Metals, Corrosive Solutions, Aqueous Cyanides, Nitrates, Chromates, and Arsenates

Table 3.1.6-1: Treatability Groups for Aqueous Wastes with Heavy Metals, Corrosive Solutions, Aqueous Cyanides, Nitrates, Chromates, and Arsenates

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
<i>Aqueous Wastes With Heavy Metals</i>	LA-W913	D001, D002, D003, D004, D005, D006, D007, D008, D009, D010, D011	0.00
<i>Corrosive Solutions</i>	LA-W914	D001, D002	0.00
<i>Aqueous Cyanides, Nitrates, Chromates, And Arsenates</i>	LA-W915	D001, D002, D003, D004, D005, D006, D007, D008, D009, D010, D011, F007, P029, P098	0.00
Totals			0.00

3.1.7 Water-Reactive Metal

Table 3.1.7-1: Treatability Groups for Water-Reactive Metal

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
<i>Water-Reactive Metal</i>	LA-W916	D001, D003, D004, D005, D007, D008, D010, D011	0.00
Totals			0.00

3.1.8 Compressed Gases Requiring Scrubbing

Table 3.1.8-1: Treatability Groups for Compressed Gases Requiring Scrubbing

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
<i>Compressed Gases Requiring Scrubbing</i>	LA-W917 LA-W917-21	D001, D002, D003, D008, D009, P056	0.8328
Totals			0.8328

Table 3.1.8-2: Activities and Compliance Dates for Compressed Gases Requiring Scrubbing

Activity	Compliance Dates
A. Complete shipping of existing wastes to an offsite treatment facility or complete parallel option	6/30/2014
B. Provide documentation to NMED that waste was received at offsite facility or provide notification of parallel option	Within 45 days of receipt of waste at treatment facility or within 45 days after completion of parallel option

3.1.9 Compressed Gases Requiring Oxidation

Table 3.1.9-1: Treatability Groups for Compressed Gases Requiring Oxidation

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Compressed Gases Requiring Oxidation	LA-W918	D001, U226	0.00
Totals			0.00

3.1.10 Elemental Mercury

Table 3.1.10-1: Treatability Groups for Elemental Mercury

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Elemental Mercury	LA-W920 LA-W920-16	D006, D009, F005	0.00
Totals			0.00

3.1.11 Halogenated Organic Liquids, Nonhalogenated Organic Liquids, Bulk Oils, Polychlorinated Biphenyl (PCB) Wastes with RCRA Components, Liquid and Solid Oxidizers

Table 3.1.11-1: Treatability Groups for Halogenated Organic Liquids, Nonhalogenated Organic Liquids, Bulk Oils, PCB Wastes with RCRA Components

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Halogenated Organic Liquids	LA-W907	D001, D002, D003, D007, D009, D010, D011, D018, D019, D022, D028, D029, D035, D043, F001, F002, F003, F004, F005, U077, U080, U226, U227, U228, U236	0.00
Nonhalogenated Organic Liquids	LA-W908 LA-W908-18	D001, D002, D003, D004, D007, D008, D009, D011, D018, D038, D040, F002, F003, F004, F005, U002, U019, U154, U169, U188, U220, U246	0.00
Bulk Oils	LA-W909 LA-W909-15 LA-W909-16 LA-W909-17	D002, D004, D005, D006, D007, D008, D009, D010, D011, D021, D027, D039, F001, F002, F003, F005	0.00
PCB Wastes With RCRA Components	LA-W910 LA-W910-16	D004, D005, D006, D007, D008, D009, D010, D011, D012, D015, D019, D027, D028, D030, D031, D032, D033, D034, D036, D039, D042, D043, F002, F003, F004, F005	0.00
Totals			0.00

Table 3.1.11-2: Additional Treatability Groups

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Liquid And Solid Oxidizers	LA-W923	D001, D003, D005	0.00
Totals			0.00

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

Table 3.2-1: Treatability Groups for Waste Requiring Characterization or Assessment

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Lead Wastes - TBD	LA-W924	D003, D008	0.00
Mercury Wastes - TBD	LA-W925-0	D007, D008, D009, F001	0.00
Compressed Gases - TBD	LA-W926	D001, D007, D009, D022, P056, U080, U226	0.00
Biochemical Laboratory Wastes	LA-W927	D001, D003	0.00
Dewatered Treatment Sludge	LA-W928		0.00
Totals			0.00

Table 3.2-2: Additional Wastes Requiring Characterization or Assessment

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Lead Wastes - TBD	LA-W924-15	D003, D008	0.00
	LA-W924-16		0.00
	LA-W924-17		0.00
Mercury Wastes – TBD	LA-W925-4	D003, D007, D008, D009 F001, F002, F005	0.00
	LA-W925-5		
	LA-W925-6		
	LA-W925-15		
	LA-W925-16		
	LA-W925-17		
Explosives	LA-W932	D003	0.00
Labpacks	LA-W933	D001, D002, D003, D004, D005, D006, D007, D008, D010, F003, F005, D011, P012, P029, P098, P106, P113, P120, U131, U144, U145, U188, U190, U204, U216, U219	0.00
	LA-W933-17		
High Activity Waste	LA-W934	D001, D003, D008, D009	1.5079
	LA-W934-16		
	LA-W934-19		
	LA-W934-20		
Totals			1.5079

Table 3.2-3: Activities and Compliance Dates for Wastes Requiring Characterization or Assessment

Activity	Compliance Dates
J. Complete shipping of wastes to an offsite treatment facility, or submit documentation assigning waste items to applicable treatability groups or complete parallel option	12/31/2013
K. Provide documentation to NMED that waste was received at offsite facility or provide notification of parallel option	Within 45 days of receipt of waste at offsite facility or within 45 days after completion of parallel option

LANL's inventory of *High Activity Waste* was approximately 31 m³ at the time the milestone was extended to December 31, 2013. LANL has subsequently shipped about 95 percent of that waste offsite. LANL's remaining inventory of *High Activity Waste* on September 30, 2012, consisted of six containers with a combined volume of 1.5079 m³. Assuming that shipping issues can be resolved, LANL expects to meet the December 31, 2013, milestone for the remaining *High Activity Waste*.

Container C05180336 (Portsmouth debris) was shipped offsite in February 2013 and will be reported in the FY13 Annual Update. Container C00130818 (Tritium traps with mercury contamination) will be shipped as soon as TSDf availability and scheduling allows.

The remaining four containers (mole sieves and squib assemblies with very high tritium) cannot be transported as currently packaged. They were intended to be repackaged at TA-16 once Nuclear Safety Authorization Basis issues had been resolved. TA-16, however, is not permitted for processing the containers and has not been able to assure that the containers could be processed within the 24-hour period allowed for removal of waste from a permitted TSDf. LANL is working with off-site TSDfs to accept these containers, however, to date LANL has not been able to identify an available shipping container with a Certificate of Compliance that is capable of transporting these containers offsite safely and compliantly.

3.3 Plans for Other Types of Activities

The following subsection summarizes plans for other types of activities.

3.3.1 Lead Decontamination

Table 3.3.1-1: Treatability Groups for Lead Decontamination

		First Category	Second Category	Totals
Treatability Group	MWIR Waste ID	Net Volume (m ³)	Net Volume (m ³)	Net Volume (m ³)
Lead For Surface Decontamination	LA-W930-0 LA-W930-5	0.00	0.00	0.00
Totals		0.00	0.00	0.00

Treatment: Any lead not acceptable for onsite or offsite lead decontamination, plus any lead unsuccessfully decontaminated, will be designated in the following two categories: 1) for treatment and disposal at an offsite facility or 2) for recycle through an offsite capability, such as metal melting to create shielding blocks or a DOE lead bank. Non-conforming items will be reassigned to appropriate treatability groups in accordance with the FFCO.

Table 3.3.1-2: Additional Wastes for Lead Decontamination

		First Category	Second Category	Totals
Treatability Group	MWIR Waste ID	Net Volume (m ³)	Net Volume (m ³)	Net Volume (m ³)
Lead For Surface Decontamination	LA-W930-6	0.00	0.00	0.00
Totals		0.00	0.00	0.00

3.3.2 Sorting, Surveying, and Decontamination

Table 3.3.2-1: Treatability Groups for Sorting, Surveying, and Decontamination

Treatability Group	MWIR Waste ID	Net Volume (m ³)
Nonradioactive or Suspect Waste Items To Be Surveyed	LA-W929-0(1)	0.00
Nonradioactive or Suspect Waste Items To Receive RCRA and Radiological Characterization	LA-W929-0(2)	0.00
Nonradioactive or Suspect Waste Items That Cannot or Should Not Be Sampled	LA-W929-0(3)	0.00
Totals		0.00

Table 3.3.2-2: Additional Wastes for Sorting, Surveying, and Decontamination

Treatability Group	MWIR Waste ID	Net Volume (m ³)
Nonradioactive or Suspect Waste Items	LA-W929-5	0.00
Totals		0.00

3.3.3 Lead Requiring Sorting

Table 3.3.3-1: Treatability Groups for Lead Requiring Sorting

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Lead Requiring Sorting	LA-W931	D008	0.00
Totals			0.00

Treatment: Wastes in this treatability group will require different treatment processes. Drums will be opened, the contents removed, and the waste repackaged based on appropriate treatment requirements. Wastes in this treatability group are primarily lead pieces, lead shot, and lead-contaminated soils that have been packaged in the same drum.

The wastes will be reclassified as the applicable treatability group after physical separation and repackaging. The wastes will be treated by appropriate technology.

3.3.4 10–100 nCi/g Waste

Table 3.3.4-1: Treatability Groups for 10–100 nCi/g Waste

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
10-100 nCi/g	LA-W935 LA-W935-19 LA-W935-20 LA-W935-21 LA-W935-22 LA-W935-23	D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D026, D027, D028, D029, D030, D035, D036, D037, D038, D039, D040, D043, F001, F002, F004, F005, F006, F007, F009	201.4007¹
Totals			201.4007

¹ The total volume of 10-100 nCi/g Waste shown in Table 3.3.4-1 in the FY11 Annual Update was shown as 173.1088 m³; it should have been entered as 173.1039 as shown in Table A-1 in the FY11 Update.

Treatment: Wastes in this treatability group are a population of legacy drums packaged and managed as MTRU (> 100 nCi/g) but, after assay, are determined to be MLLW (< 100 nCi/g). Once confirmed, these drums are segregated from other TRU waste and stored in a designated MLLW storage area. Waste Profiles are prepared to allow acceptance into the low-level waste population, and drums are relabeled appropriately. A Chemical Waste Disposal Request is prepared to transfer the drums from the TRU database to the Chem-Low-Level (ChemLL) database. TRU programs will be notified of the drums reclassified from TRU to MLLW for evaluation of possible other drums based on waste stream. CCP will be notified for removal of drums from Acceptable Knowledge (AK).

The drum numbers will be submitted to Production Control for retrieval and staging as MLLW prior to offsite disposal. The MLLW drums are prepared for treatment and disposal to an offsite facility using CCP-AK documentation and onsite and offsite profiles generated for debris or sludge drums.

Table 3.3.4-2: Activities and Compliance Dates for 10–100 nCi/g Waste

Activity	Compliance Dates
A. Complete assaying	12/01/13
B. Complete shipment of existing waste to offsite facility for treatment, or complete parallel options	4-16-2014
C. Provide documentation to NMED that waste was received at offsite facility or provide notification of parallel option	Within 45 days of receipt of waste at treatment facility or within 45 days after completion of parallel option

As discussed in Part I, Section 2, LANL has prioritized waste shipments to address higher risk wastes before lower risk wastes like those in the *10-100 nCi/g Waste (LA-W935)* treatability group. Therefore, a substantial inventory of LA-W935 waste that resulted from reclassifying MTRU waste between FY07 and FY12 remains to be shipped offsite. LANL intends to complete shipment of the remaining inventory from FY11 as well as additional *10-100 nCi/g Waste* generated from continued remediation of legacy TRU waste in FY12 (a total of 201.4007 m³) before the milestone of April 16, 2014. As much waste as possible that is reclassified in FY13 will also be shipped offsite prior to December 31, 2013. However, some waste produced in the latter part of 2013 may not be able to be shipped prior to December 31, 2013 if there are scheduling conflicts or restrictions at the receiving facilities. In that case, LANL would seek an additional milestone for those particular wastes. The estimated waste volume will be subtracted from the MTRU STP inventory and added to MLLW STP inventory as the waste is reclassified as MLLW. Overall the STP inventory will have a zero net change. However, because of the repacking process the apparent volume of waste will reflect the number of additional containers needed to repackage the waste into compliant configurations for transportation and disposal.

3.4 Management of “Missing” Items

Table 3.4-1: Waste Category for “Missing Waste”

Category	MWIR Waste ID	Net Volume (m³)
<i>Missing/Nonexistent/TBV</i>	None	0.00
Totals		0.00

Treatment: During visual inspections and sampling activities in support of STP waste work-off, occasionally an item cannot be found, or it is not located in the containers in which it is expected to be, according to the LANL data files for the waste item. In some instances, such items cannot be verified as having ever been received in storage at LANL, and follow-up investigations of the record files reveal that for various reasons, the waste items were never in fact generated, although on paper they were included in the original STP inventory.

Some items were determined not to exist after visual inspection and document review. When LANL determines that an STP-covered waste item does not exist, transfer of the item to the category called “*Missing/nonexistent/TBV* (to be verified)” is requested through the revision process associated with the next Annual Update.

DOE verified the absence of all “*Missing/nonexistent/TBV*” items container by container as each STP waste item was being sampled, repackaged, or otherwise prepared for onsite or offsite treatment. The final verification of all “*Missing/nonexistent/TBV*” items was completed by 2004. All missing or nonexistent items have been deleted from the STP. All remaining MLLW items in the original STP inventory have been treated and disposed of.

If, at any time, any of these items be discovered in the inventory, NMED would be notified, and approval would be requested for assignment of the rediscovered items to the appropriate treatability group. If necessary, they would be assigned new Activities and Compliance Dates, in accordance with the terms of the FFCO.

2.6044 MIXED TRANSURANIC WASTE

Treatment Group(s): Assorted MTRU Waste

Offsite Disposal: MTRU waste at LANL will be shipped for disposal at WIPP, which is located in Carlsbad, New Mexico.

4.0-1 Treatability Groups for The Framework Agreement MTRU Waste (remaining)

Treatability Group	CP Section	Volume (m³)
<i>Cemented Sludge</i>	4.0	27.136
<i>Combustible –Noncombustible Waste</i>	4.0	252.780
<i>Combustible Waste</i>	4.0	1.059
<i>Metallic Waste</i>	4.0	19.258
<i>Noncombustible Waste</i>	4.0	1.456
<i>Solidified Inorganic and Organic Waste</i>	4.0	4.237
Totals		306.248

Disposal: Waste volumes listed above in Table 4.0-1 are a remaining population of the Framework Agreement of “non-cemented above-ground EM Legacy TRU” and “above-ground cemented EM Legacy TRU that is MTRU waste only. As stated in the “Los Alamos National Laboratory Framework Agreement: Realignment of Environmental Priorities,” DOE/NNSA commits to continue to accelerate the rate of removal of above ground transuranic waste (TRU) at TA-54, Area G and to focus its efforts to achieve disposition of this TRU waste at the earliest feasible time. There are competing priorities for the facilities between the Framework Agreement waste and the 10-100 nCi/g waste that needs to be processed.

Covered MTRU Inventory at TA-55: The FY12 reported waste volume for STP-covered MTRU inventory at TA-55 and CMR is 42.004 m³. In FY12 approximately 31 cubic meters of TA-55's STP waste is associated with the Bolas Grande Project, which is scheduled to begin in the summer of FY14. This project is scheduled to last two years with an anticipated ending date of September 20, 2016. The remainder of the TA-55 STP waste consists of 1) radioactive free liquids, requiring management at the Waste Characterization, Reduction, and Repacking Facility (WCRRF), and 2) MTRU waste containers that are not DOT-certified. The management of this waste involves the transfer of waste from these not DOT-certified drums into DOT-certified containers. However, this waste transfer will need to be conducted inside a glovebox, because past experience with these not DOT-certified containers revealed internal radioactive contamination. TA-55 has no gloveboxes in its permitted waste storage units. A Temporary Authorization was pursued in FY12 involving a glovebox waste management strategy, but it was never approved. A less desirable and costly solution for these not DOT-certified containers was to place them into Standard Waste Boxes (SWBs) and shipped to TA-54, Area G, there they will undergo real time radiography. If prohibited items are observed then the offending SWBs will be shipped to WCRRF for material inspection and drum repackaging. After the waste is removed and repackaged into DOT-certified containers, they would be shipped back to TA-54 and scheduled for disposal at the Waste Isolation Pilot Plant (WIPP). This process has begun in FY13 and will affect volumes reported in the STP Compliance Plan Volume which will involve increased administrative adjustments to be made in order to reflect the repackaging of these not DOT-certified containers into SWBs and repackaging of SWBs into DOT-certified containers.

Table 4.0-2: Activities and Compliance Dates for MTRU Inventory at TA-55 and CMR from Table E-2

Activity	Compliance Dates
A. Complete transfer of existing waste (excluding Metallic Waste) to TA-54 facility	9-30-2017
C. Complete transfer of Metallic Waste to CMR for material retrieval	9-30-2017

APPENDICES

APPENDIX A. CURRENT YEAR MLLW INVENTORY DETAIL

Table A-1: FY12 MLLW Inventory Detailed Update by Treatability Group

CP* Sec.	MWIR* Waste ID and Treatability Group/Category	FY11 Annual Update (m³)¹	Proposed Revision 23.0 (m³)	Comments²	FY12 Annual Update (m³)	Projection FY13- FY17 (m³)
3.1.1	LA-W901 <i>IPA Wastes</i>	0	0		0	0
3.1.1	LA-W902 <i>Scintillation Fluids</i>	0	0		0	0
3.1.2	LA-W903 <i>Lead Blankets</i>	0	0		0	0
3.1.2	LA-W904 <i>Soil with Heavy Metals</i>	0	0		0	0
3.1.2	LA-W905 <i>ER Soils</i>	0	0		0	0
3.1.3	LA-W906 <i>Aqueous Organic Liquids</i>	0	0		0	0
3.1.4	LA-W911 <i>Organic-Contaminated Combustible Solids</i>	0	0		0	0
3.1.4	LA-W919 <i>Organic-Contaminated Noncombustible Solids</i>	0	0		0	0
3.1.5	LA-W912 <i>Combustible Debris</i>	0	0		0	0
3.1.5	LA-W921 <i>Activated or Inseparable Lead</i>	0	0		0	0
3.1.5	LA-W922 <i>Noncombustible Debris</i>	0	0.2082		0.2082	0
3.1.6	LA-W913 <i>Aqueous Wastes with Heavy Metals</i>	0	0		0	0
3.1.6	LA-W914 <i>Corrosive Solutions</i>	0	0		0	0
3.1.6	LA-W915 <i>Aqueous Cyanides, Nitrates, Chromates, and Arsenates</i>	0	0		0	0
3.1.7	LA-W916 <i>Water-Reactive Wastes</i>	0	0		0	0

**FY12 Annual Update
Site Treatment Plan**

**February 10, 2014
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CP* Sec.	MWIR* Waste ID and Treatability Group/Category	FY11 Annual Update (m ³) ¹	Proposed Revision 23.0 (m ³)	Comments ²	FY12 Annual Update (m ³)	Projection FY13- FY17 (m ³)
3.1.8	LA-W917 ³ <i>Compressed Gases Requiring Scrubbing</i>	1.2492	0	Administrative Adjustment	0.8328	0
	-0.4164		Shipped offsite for treatment/disposal			
3.1.9	LA-W918 <i>Compressed Gases Requiring Oxidation</i>	0	0		0	0
3.1.10	LA-W920 <i>Elemental Mercury</i>	0	0		0	0
3.1.11	LA-W907 <i>Halogenated Organic Liquids</i>	0	0		0	0
3.1.11	LA-W908 <i>Nonhalogenated Organic Liquids</i>	0	0		0	0
3.1.11	LA-W909 <i>Bulk Oils</i>	0	0		0	0
3.1.11	LA-W910 <i>Polychlorinated Biphenyl (PCB) Wastes with Resource Conservation and Recovery Act (RCRA) Components</i>	0	0		0	0
3.1.11	LA-W923 <i>Liquid and Solid Oxidizers</i>	0	0		0	0
3.2	LA-W924 <i>Lead Wastes – TBD</i>	0	0		0	0
3.2	LA-W925 <i>Mercury Wastes – TBD</i>	0	0		0	0
3.2	LA-W926 <i>Compressed Gases – TBD</i>	0	0		0	0
3.2	LA-W927 <i>Biochemical Laboratory Wastes</i>	0	0		0	0
3.2	LA-W928 <i>Dewatered Treatment Sludge</i>	0	0		0	0
3.2	LA-W932 <i>Explosives</i>	0	0		0	0

CP* Sec.	MWIR* Waste ID and Treatability Group/Category	FY11 Annual Update (m ³) ¹	Proposed Revision 23.0 (m ³)	Comments ²	FY12 Annual Update (m ³)	Projection FY13- FY17 (m ³)
3.2	LA-W933 <i>Labpacks</i>	0	0		0	0
3.2	LA-W934 <i>High Activity Waste</i>	1.5079	0	Shipped offsite for treatment/disposal	1.5079	0
3.3.1	LA-W930 <i>Lead for Surface Decontamination</i>	0	0		0	0
3.3.2	LA-W929 <i>Nonradioactive or Suspect Waste Items to be Surveyed</i>	0	0		0	0
3.3.3	LA-W931 <i>Lead Requiring Sorting</i>	0	0		0	0
3.3.4	LA-W935 <i>10–100 nCi/g Waste</i>	173.1039	90.2360	Administrative Adjustment	201.4007	50
			-61.9392	Shipped offsite for treatment/disposal		
3.4	<i>Missing/ nonexistent/ TBV category</i>	0	0		0	N/A
	TOTALS	175.8610			203.9496	

* CP is Compliance Plan; MWIR is Mixed Waste Inventory Report

¹ MLLW volumes are calculated using the conversion: 55-gallon container = 0.2082 m³; 85-gallon container = 0.3218 m³; however, due to FY12 changes in the way that the MTRU and MLLW databases record volumes for newly reclassified LA-W935 waste, the volumes removed from the MTRU database for containers reclassified in FY12 equal those added to the MLLW inventory of LA-W935 waste.

² Shipment details are in Appendix B; Administrative adjustments are in Appendix C.

³ Items prohibited from shipment to WIPP are removed from MTRU STP containers and consolidated; some are MLLW and are included in Table A-1 as LA-W917 waste; others are MTRU waste and are considered *Combustible-Noncombustible Waste* in Table E-1.

⁴ LANL anticipates that a volume of formerly TRU and MTRU waste will be retrieved over the next few years and will be reclassified to LA-W935. As a conservative measure, stored reclassified TRU waste may be assigned hazardous waste codes and managed as STP mixed waste.

APPENDIX B. CURRENT YEAR MLLW SHIPMENT DETAIL

Table B-1. MLLW Shipped Offsite for Treatment and Disposal in FY12

CP Section	MWIR No.	Treatability Group	Manifest Number	Destination	Date Shipped	Date NMED Notified	Volume (m ³)
3.1.8	LA-W917	<i>Compressed Gases Requiring Scrubbing</i>	007047476JJK	Perma-Fix/M&EC	9/26/2012	11/6/2012 (WM-DO-12-0005)	0.4164
LA-W917 Total							0.4164
3.3.4	LA-W935	<i>10-100 nCi/g Waste</i>	007047091JJK	Perma-Fix/NW	12/15/2011	1/20/2012 (ENV-ES-12-011)	2.1100
3.3.4	LA-W935	<i>10-100 nCi/g Waste</i>	007047103JJK	Perma-Fix/NW	12/20/2011	1/25/2012 (ENV-ES-12-015)	10.1832 ¹
3.3.4	LA-W935	<i>10-100 nCi/g Waste</i>	007047487JJK	Perma-Fix/NW	3/30/2012	9/19/2012 (ENV-ES-12-0201)	2.1080
3.3.4	LA-W935	<i>10-100 nCi/g Waste</i>	007047487JJK	Perma-Fix/NW	9/27/2012	11/6/2012 (WM-DO-12-0004)	15.4900
3.3.4	LA-W935	<i>10-100 nCi/g Waste</i>	007047497JJK	Perma-Fix/NW	9/27/2012	11/6/2012 (WM-DO-12-0004)	31.8400
3.3.4	LA-W935	<i>10-100 nCi/g Waste</i>	007047483JJK	Perma-Fix/FL	9/26/2012	11/6/2012 (WM-DO-12-0005)	.2080
LA-W935 Total							61.9392
Grand Total							62.3556

¹ Due to a rounding error, the total volume reported in ENV-ES-12-015 was 10.1735 m³; it should have been reported as 10.1832 m³.

APPENDIX C. CURRENT YEAR MLLW ADMINISTRATIVE ADJUSTMENTS

Table C-1. Administrative Adjustments

CP Section	MWIR Number	Administrative Adjustment	Volume (m ³)
3.3.4	LA-W935	Transferred into LA-W935 from MTRU STP Inventory	90.2360 ¹
Total Net Adjustments for LA-W935			90.2360
Total Net Adjustments			90.2360

¹ Due to changes in the way that the MTRU and MLLW databases record volumes for newly reclassified (LA-W935 waste), the volumes removed from the MTRU Inventory in FY12 equal the volumes added to the MLLW inventory.

Table C-2. Administrative Adjustment – Detail

CP Section	MWIR	Treatability Group	Type of Adjustment	Cumulative Volume Adjustment (m ³)	Item or Container Number	MLLW Container Volume (m ³)	Reason for Administrative Adjustment
3.3.4	LA-W935	10-100 nCi/g	Reclassified MTRU STP inventory to MLLW STP inventory	90.236			Less than 100 nCi/g; Derived from combustible/noncombustible MTRU inventory
					L12226669	2.5600	Parent MTRU Container 52307, 2.560 m3
					C11225642	26.7200	Parent MTRU Container 55123, 26.720 m3
					L12226668	19.2700	Parent MTRU Container 55304, 19.270 m3
					L12226671	11.7600	Parent MTRU Container 55306, 11.760 m3
					L12226665	12.5700	Parent MTRU Container S794035, 12.570 m3
					W730474	1.9000	Parent MTRU Container 89999, 1.900 m3
					L12226666	12.4000	Parent MTRU Container S813231, 12.400 m3
					L12226655	0.3220	Parent MTRU Container 91021, 0.322
					L12226663	0.2080	Parent MTRU Container 91111, 0.208 m3
					W734347	0.2080	Parent MTRU Container 90735, 0.208 m3
					L12226670	0.2080	Parent MTRU Container 89758, 0.208 m3
				C11225675	2.1100	Parent MTRU Container 56040, 2.110 m3	
Subtotal MLLW Volume						90.2360	Subtotal MTRU Volume: 90.236

APPENDIX D. PREVIOUS YEAR MLLW INVENTORY DETAIL

Table D-1: FY11 MLLW Inventory1 Detailed Update by Treatability Group

CP* Sec.	MWIR* Waste ID and Treatability Group/Category	FY10 Annual Update (m³)¹	Proposed Revision 22.0 (m³)	Comments²	FY11 Annual Update (m³)	Projection FY12- FY16 (m³)
3.1.1	LA-W901 <i>IPA Wastes</i>	0	0		0	0
3.1.1	LA-W902 <i>Scintillation Fluids</i>	0	0		0	0
3.1.2	LA-W903 <i>Lead Blankets</i>	0	0		0	0
3.1.2	LA-W904 <i>Soil with Heavy Metals</i>	0	0		0	0
3.1.2	LA-W905 <i>ER Soils</i>	0	0		0	0
3.1.3	LA-W906 <i>Aqueous Organic Liquids</i>	0	0		0	0
3.1.4	LA-W911 <i>Organic-Contaminated Combustible Solids</i>	0	0		0	0
3.1.4	LA-W919 <i>Organic-Contaminated Noncombustible Solids</i>	0	0		0	0
3.1.5	LA-W912 <i>Combustible Debris</i>	0	0		0	0
3.1.5	LA-W921 <i>Activated or Inseparable Lead</i>	0	0		0	0
3.1.5	LA-W922 <i>Noncombustible Debris</i>	0	1.3027	New covered	0	0
			-1.3027	Shipped offsite for treatment/disposal		
3.1.6	LA-W913 <i>Aqueous Wastes with Heavy Metals</i>	0	0		0	0
3.1.6	LA-W914 <i>Corrosive Solutions</i>	0	0		0	0
3.1.6	LA-W915 <i>Aqueous Cyanides, Nitrates, Chromates, and Arsenates</i>	0	0		0	0

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CP* Sec.	MWIR* Waste ID and Treatability Group/Category	FY10 Annual Update (m ³) ¹	Proposed Revision 22.0 (m ³)	Comments ²	FY11 Annual Update (m ³)	Projection FY12- FY16 (m ³)
3.1.7	LA-W916 <i>Water-Reactive Wastes</i>	0	0		0	0
3.1.8	LA-W917 <i>Compressed Gases Requiring Scrubbing</i>	4.164	-0.6246	Administrative Adjustment (Existing prohibited items from MLLW STP inventory ³ recharacterized as MTRU)	1.2492	0
			-2.2902	Shipped offsite for treatment/disposal		
3.1.9	LA-W918 <i>Compressed Gases Requiring Oxidation</i>	0	0		0	0
3.1.10	LA-W920 <i>Elemental Mercury</i>	0	0		0	0
3.1.11	LA-W907 <i>Halogenated Organic Liquids</i>	0	0		0	0
3.1.11	LA-W908 <i>Nonhalogenated Organic Liquids</i>	0	0		0	0
3.1.11	LA-W909 <i>Bulk Oils</i>	0	0		0	0
3.1.11	LA-W910 <i>Polychlorinated Biphenyl (PCB) Wastes with Resource Conservation and Recovery Act (RCRA) Components</i>	0	0		0	0
3.1.11	LA-W923 <i>Liquid and Solid Oxidizers</i>	0	0		0	0
3.2	LA-W924 <i>Lead Wastes – TBD</i>	0	0		0	0
3.2	LA-W925 <i>Mercury Wastes – TBD</i>	0	0		0	0
3.2	LA-W926 <i>Compressed Gases – TBD</i>	0	0		0	0
3.2	LA-W927 <i>Biochemical Laboratory Wastes</i>	0	0		0	0
3.2	LA-W928 <i>Dewatered Treatment Sludge</i>	0	0		0	0

CP* Sec.	MWIR* Waste ID and Treatability Group/Category	FY10 Annual Update (m ³) ¹	Proposed Revision 22.0 (m ³)	Comments ²	FY11 Annual Update (m ³)	Projection FY12- FY16 (m ³)
3.2	LA-W932 <i>Explosives</i>	0	0		0	0
3.2	LA-W933 <i>Labpacks</i>	0	0		0	0
3.2	LA-W934 <i>High Activity Waste³</i>	2.1709	-0.6556	Shipped offsite for treatment/disposal	1.5079	0
			-0.0074	Administrative Adjustment		
3.3.1	LA-W930 <i>Lead for Surface Decontamination</i>	0	0		0	0
3.3.2	LA-W929 <i>Nonradioactive or Suspect Waste Items to be Surveyed</i>	0	0		0	0
3.3.3	LA-W931 <i>Lead Requiring Sorting</i>	0	0		0	0
3.3.4	LA-W935 <i>10-100 nCi/g Waste³</i>	155.1344	76.1505	Administrative Adjustment	173.1039	460.0000 ⁴
			10.6028	New covered (reclassified and transferred from TRU inventory)		
			-68.7838	Shipped offsite for treatment/disposal		
3.4	<i>Missing/ nonexistent/ TBV category</i>	0	0		0	N/A
	TOTALS	161.4693			175.8610	

* CP is Compliance Plan; MWIR is Mixed Waste Inventory Report

¹ MLLW volumes are calculated using the conversion: 55-gallon container = 0.2082 m³; 85-gallon container = 0.3218 m³

² Shipment details are in Appendix B; Administrative adjustments are in Appendix C.

³ Items prohibited from shipment to WIPP are removed from MTRU STP containers and consolidated; some are MLLW and are included in Table A-1 as LA-W917 waste; others are MTRU waste and are considered *Combustible-Noncombustible Waste* in Table E-1.

⁴ LANL anticipates that a large volume of formerly TRU and MTRU waste will be retrieved over the next few years and will be reclassified to LA-W935. As a conservative measure, the stored reclassified TRU waste will be assigned hazardous waste codes and will be managed as STP mixed waste.

APPENDIX E. CURRENT MTRU INVENTORY DETAIL

Table E-1. TA-54 MTRU Covered Inventory (by Treatability Group)

Treatability Group	FY11 Annual Update (m ³)	Proposed Revision 23.0 (m ³) ^{1,2}	Comments ³	FY12 Annual Update (m ³)	Projection FY13-FY17 (m ³)
<i>Cemented Sludge</i>	662.822				
		(27.136) ₅	3706 Above-ground Cemented EM Legacy TRU (MTRU waste only)		
		0	New Covered		
		-62.580	Shipped Offsite		
		-4.154	Administrative Adjustments		
			FY12 Subtotal Cemented Sludge	596.088	0
<i>Combustible – Noncombustible Waste</i>	2005.544				
		(252.780) ⁵	3706 Non-cemented Above-ground EM Legacy TRU (MTRU waste only)		
		8.348	New Covered		
		-280.568	Shipped Offsite		
		77.928	Administrative Adjustments		
			FY12 Subtotal Combustible-Noncombustible Waste	1811.252	100
<i>Combustible Waste</i>	20.460				
		(1.059) ⁵	3706 Non-cemented Above-ground EM Legacy TRU (MTRU waste only)		
		0.644	New Covered		
		-6.296	Shipped Offsite		
		-2.536	Administrative Adjustments		
			FY12 Subtotal Combustible Waste	12.272	0
<i>Glass Waste</i>	0.208				
		(0) ⁵	3706 Non-cemented Above-ground EM Legacy TRU (MTRU waste only)		
		0	New Covered		
		0	Shipped Offsite		
		-0.208	Administrative Adjustments		
			FY12 Subtotal Glass Waste	0	0
<i>Leaded Glovebox Waste</i>	0				
		(0) ⁵	3706 Non-cemented Above-ground EM Legacy TRU (MTRU waste only)		

Treatability Group	FY11 Annual Update (m ³)	Proposed Revision 23.0 (m ³) ^{1,2}	Comments ³	FY12 Annual Update (m ³)	Projection FY13-FY17 (m ³)
		0	New Covered		
		0	Shipped Offsite		
		0	Administrative Adjustments		
			FY12 Subtotal Leaded Glovebox Waste	0	0
Metallic Waste	118.988				
		(19.258) ₅	3706 Non-cemented Above-ground EM Legacy TRU (MTRU waste only)		
		0	New Covered		
		-6.116	Shipped Offsite		
		-2.526	Administrative Adjustments		
			FY12 Subtotal Metallic Waste	110.346	0
Noncombustible Waste	125.352				
		(1.456) ⁵	3706 Non-cemented Above-ground EM Legacy TRU (MTRU waste only)		
		0.208	New Covered		
		-96.708	Shipped Offsite		
		96.908	Administrative Adjustments		
			FY12 Subtotal Noncombustible Waste	125.760	100
Solidified Inorganic and Organic Waste	140.870				
		(4.237) ⁵	3706 Non-cemented Above-ground EM Legacy TRU (MTRU waste only)		
		2.288	New Covered		
		-23.752	Shipped Offsite		
		31.310	Administrative Adjustments		
			FY12 Subtotal Solidified Inorganic and Organic Waste	150.716	10
TOTAL FY11:	3074.244		Total FY12 Inventory:	2721.368	210

¹ MTRU waste volumes are calculated using the conversion: 55-gallon container = 0.2080 m³; 85-gallon container = 0.3215 m³.

² Volumes are represented to three decimal places in accordance with an agreement with NMED to report MTRU volumes to three decimal places.

³ Shipping details are found in Appendix F, and Administrative Adjustments are found in Appendix G.

⁴ Depending on the rounding method (rounding of totals or of individual volumes), minor differences in the total inventory may be obtained. This report adjusts the end-of-the-year inventory with individual drum volumes rounded to three decimal places.

⁵ Amount already included in the MTRU STP covered inventory.

Table E-2: MTRU Inventory at TA-55 and CMR

Location	FY11 MTRU Inventory (m ³) ¹	Treatability Group	Proposed Revision 23.0 (m ³)	Comments ¹	FY12 MTRU Inventory (m ³)
CMR	3.564				
			-1.456	Administrative Adjustments	
Total FY12 CMR Inventory					2.108
TA-55	5.806	Combustible-Noncombustible Waste	2.080	New Covered	
			-4.632	Administrative Adjustment	
FY12 TA-55 Combustible-Noncombustible Waste Inventory					3.254
TA-55	0	Combustible Waste	0.019	New Covered	
FY12 TA-55 Combustible Waste Inventory					0.019
TA-55	31.987	Metallic Waste			
FY12 TA-55 Metallic Waste Inventory					31.987
TA-55	3.148	Noncombustible Waste	3.596	New Covered	
			-2.524	Administrative Adjustment	
FY12 TA-55 Noncombustible Waste Inventory					4.220
TA-55	0.208	Solid Organic and Inorganic Waste			
FY12 TA-55 Solidified Organic and Inorganic Waste Inventory					0.208
Total FY12 TA-55 Inventory					39.688
	44.713	Total FY12 CMR/TA-55 Inventory			41.796

¹Shipping details are found in Appendix F and Administrative Adjustments are found in Appendix G. Since all waste is shipped from TA-54, there are no shipping data for CMR/TA-55, only transfers to TA-54, which are included in the Appendix G.

APPENDIX F. FY12 MTRU WASTE SHIPMENTS TO WIPP

Table F-1: FY12 MTRU Shipments to WIPP

FY12 Quarter	Treatability Group	Existing FY11 Inventory Volume (m ³)	New Covered Volume (m ³)	Total Removed from Inventory (m ³)	Total Volume Shipped (m ³) ¹
Q1	<i>Cemented Sludge Total</i>	4.690	0	4.690	4.576
	<i>Combustible-Noncombustible Waste Total</i>	50.336	0.208	50.544	50.544
	<i>Combustible Waste Total</i>	0.624	0	0.624	0.624
	<i>Noncombustible Waste Total</i>	24.960	0	24.960	24.960
	<i>Solidified Inorganic and Organic Waste Total</i>	1.664	0	1.664	1.664
	Q1 Total	82.274	0.208	82.482	82.368
Q2	<i>Cemented Sludge Total</i>	1.456	0	1.456	1.456
	<i>Combustible-Noncombustible Waste Total</i>	40.352	0.208	40.560	40.560
	<i>Combustible Waste Total</i>	1.040	0	1.040	1.040
	<i>Metallic Waste Total</i>	0.416	0	0.416	0.416
	<i>Noncombustible Waste Total</i>	31.408	0	31.408	31.408
	<i>Solidified Inorganic and Organic Waste Total</i>	1.040	0.208	1.248	1.248
Q2 Total	75.712	0.416	76.128	76.128	
Q3	<i>Cemented Sludge Total</i>	1.664	0	1.664	1.664
	<i>Combustible-Noncombustible Waste Total</i>	128.044	2.732	130.776	130.776
	<i>Combustible Waste Total</i>	4.216	0	4.216	4.216
	<i>Metallic Waste Total</i>	3.800	0	3.800	3.800
	<i>Noncombustible Waste Total</i>	17.472	0.208	17.680	17.680
	<i>Solidified Inorganic and Organic Waste Total</i>	0.416	0.416	0.832	0.832
Q3 Total	155.612	3.356	158.968	158.968	
Q4	<i>Cemented Sludge Total</i>	54.770	0	54.770	52.832
	<i>Combustible-Noncombustible Waste Total</i>	58.272	0.416	58.688	58.688
	<i>Combustible Waste Total</i>	0.416	0	0.416	0.416
	<i>Metallic Waste Total</i>	1.900	0	1.900	1.900
	<i>Noncombustible Waste Total</i>	22.660	0	22.660	22.660
	<i>Solidified Inorganic and Organic Waste Total</i>	19.592	0.416	20.008	19.552
Q4 Total	157.610	0.832	158.442	156.048	
Grand Total	471.208	4.812	476.020	473.512	

¹ Volumes shipped may be lower than volumes removed from the STP inventory due to the removal of overpacks before shipping.

APPENDIX G. CURRENT YEAR MTRU INVENTORY – ADMINISTRATIVE ADJUSTMENTS

Table G-1: FY12 MTRU Administrative Adjustments to TA-54 Inventory

Treatability Group	Administrative Adjustment	Volume (m³)
<i>Cemented Sludge</i>	Repacked into 6.032 m ³ <i>Combustible-Noncombustible Waste</i> and 4.576 m ³ <i>Noncombustible Waste</i>	-5.938
	Volume changes due to addition or removal of 85 gallon overpacks	1.784
<i>Cemented Sludge Net Adjustment</i>		-4.154
<i>Combustible-Noncombustible Waste</i>	Reclassified as MLLW (LA-W935)	-88.126
	Added as a result of recharacterizing TRU inventory as MTRU (Three containers (2.316 m ³) were discovered to contain aerosol cans and were assigned EPA Code D003	2.316
	Added as a result from reconciliation of inconsistencies in the current inventory	85.066
	Added as a result of recharacterizing TRU inventory as MTRU during repacking	29.356
	Repacked into 138.086 m ³ <i>Combustible-Noncombustible Waste</i> and 33.280 m ³ <i>Noncombustible Waste</i>	-114.894
	Additional covered inventory transferred from TA-55 covered inventory	4.632
	Additional covered inventory transferred from CMR covered inventory	2.940
	Added as a result of repacking <i>Cemented Sludge</i> waste	6.0320
	Added as a result of repacking <i>Combustible-Noncombustible Waste</i>	138.086
	Added as a result of repacking <i>Combustible Waste</i>	1.872
	Added as a result of repacking <i>Glass Waste</i>	0.208
	Added as a result of repacking <i>Metallic Waste</i>	0.416
	Added as a result of repacking <i>Noncombustible Waste</i>	3.744
	Added as a result of repacking <i>Solidified Inorganic and Organic Waste</i>	3.952
	Added as a result of reclassifying MTRU WIPP-prohibited items (<i>Noncombustible Waste</i>) as <i>Combustible-Noncombustible Waste</i>	1.664
	Added as a result of accumulating MTRU WIPP-prohibited items	0.208
Volume changes due to addition of 85 gallon overpacks	0.456	
<i>Combustible-Noncombustible Net Adjustment</i>		77.928
<i>Combustible Waste</i>	Repacked into 1.872 m ³ <i>Combustible-Noncombustible Waste</i> and 1.248 m ³ <i>Noncombustible Waste</i>	-2.536
<i>Combustible Waste Net Adjustment</i>		-2.536
<i>Glass Waste</i>	Repacked into 0.208 m ³ <i>Combustible-Noncombustible Waste</i>	-0.208
	<i>Glass Waste Net Adjustment</i>	-0.208
<i>Metallic Waste</i>	Reclassified as MLLW (LA-W935)	-2.110
	Repacked into 0.416 m ³ <i>Combustible-Noncombustible Waste</i>	-0.530
	Volume changes due to addition or removal of 85 gallon overpacks	0.114
<i>Metallic Waste Net Adjustment</i>		-2.526
<i>Noncombustible Waste</i>	Repacked into 3.744 m ³ <i>Combustible-Noncombustible Waste</i> and 7.696 m ³ <i>Noncombustible Waste</i>	-3.556
	Added as a result of repacking <i>Cemented Sludge</i>	4.576

Treatability Group	Administrative Adjustment	Volume (m ³)
	Added as a result of repacking <i>Combustible-Noncombustible Waste</i>	33.280
	Added as a result of repacking <i>Noncombustible Waste</i>	7.696
	Added as result of repacking <i>Combustible Waste</i>	1.248
	Added as result of repacking <i>Solidified Inorganic and Organic Waste</i>	3.120
	MTRU WIPP-prohibited items (<i>Noncombustible Waste</i>) reclassified as <i>Combustible-Noncombustible Waste</i>	-1.664
	Added as a result of recharacterizing TRU inventory as MTRU during repacking	51.376
	Additional covered inventory transferred from TA-55 covered inventory and assigned to <i>Combustible-Noncombustible Waste</i> at TA-54	0.832
<i>Noncombustible Waste Net Adjustment</i>		96.908
<i>Solidified Inorganic and Organic Waste</i>	Repacked into 3.952 m ³ <i>Combustible-Noncombustible Waste</i> and 3.120 m ³ <i>Noncombustible Waste</i>	-3.442
	Added as a result of recharacterizing TRU inventory as MTRU during repacking 132 containers (34.296 m ³) of nitrate salts were reevaluated, determined to be potentially mixed waste, and assigned EPA codes D007, D008, and D009)	34.296
	Volume changes due to addition or removal of 85 gallon overpacks	0.456
<i>Solidified Inorganic and Organic Waste Net Adjustment</i>		31.310
<i>Total Net TA-54 Adjustment</i>		196.722

Table G-2: FY12 MTRU Administrative Adjustments
for CMR and TA-55 Inventory

Location	Treatability Group	Administrative Adjustment	Volume (m ³)
CMR	<i>Combustible-Noncombustible Waste</i>	Transferred to TA-54 and assigned to <i>Combustible-Noncombustible Waste</i> in the TA-54 inventory	-2.940
		Added due to overpacking waste (0.416 m ³) into Standard Waste Box (1.900 m ³)	1.484
Net Adjustment CMR Inventory			-1.456
TA-55	<i>Combustible-Noncombustible Waste</i>	Transferred to TA-54 and assigned to <i>Combustible-Noncombustible Waste</i> in the TA-54 inventory	-4.632
		Net Adjustment TA-55 <i>Combustible-Noncombustible Waste</i>	
TA-55	<i>Noncombustible Waste</i>	Transferred to TA-54 and assigned to <i>Combustible-Noncombustible Waste</i> in the TA-54 inventory	-0.832
		One container (a large metal plate) was reevaluated and determined to be nonhazardous low-level waste	-1.900
		Added as a result of dividing the contents of one <i>Noncombustible Waste</i> container (0.208 m ³) into two <i>Noncombustible Waste</i> containers (0.416 m ³) for a net increase of 0.208 m ³	0.208
Net Adjustment TA-55 <i>Noncombustible Waste</i>			-2.524
Net Adjustment TA-55 Inventory			-7.156
Total Net TA-55/CMR Adjustment			-8.612

Table G-3: MTRU Administrative Adjustments – TA-54 Volume Adjustments [Table omitted]

Table G-4: MTRU Administrative Adjustments – TA-54 Containers Added [Table omitted]

APPENDIX H. MLLW TREATMENT FACILITIES

Table H-1: Commercial Facilities Contacted for Waste Treatment Capabilities

Commercial Facility	Location
Perma-Fix (including Material & Energy Corporation in Tennessee (TN); Diversified Scientific Services, Inc. in TN; and Perma-Fix North West in Washington)	Florida
Waste Control Specialists	Texas
EnergySolutions of Utah (including Bear Creek Operations in TN)	Utah
Nuclear Fuel Services	Tennessee
Integrated Environmental Services	Tennessee
NSSI	Texas

APPENDIX I. CORRESPONDENCE

Table I-1: Expedited Shipment Letters [Table omitted]

Table I-2: Correspondence

Letter Date	Description	Letter Number	Revision Reference	Listed in Revision 22.0 (Appendix I)
10/7/2011	Response to the 9/21/2011 Notice of Disapproval of the FY10 STP Annual Report and Proposed Revision 21.0	ENV-ES-11-0222	21.0	Yes
10/28/2011	Notice of Completion of OffSite Waste Shipment Activity 3.3.4	ENV-ES-11-0234	22.0	Yes
11/1/2011	Notice of Completion of OffSite Waste Shipment Activity 4.0, FY11 Q4	ENV-ES-11-0257	22.0	Yes
12/9/2011	Notice of Completion of OffSite Waste Shipment Activity 3.1.8	ENV-ES-11-0285	22.0	Yes
1/20/2012	Notice of Completion of OffSite Waste Shipment Activity 3.3.4	ENV-ES-12-0011	23.0	No
1/25/2012	Notice of Completion of OffSite Waste Shipment Activity 3.3.4	ENV-ES-12-015	23.0	No
1/31/2012	Notice of Completion of OffSite Waste Shipment Activity 4.0, FY12 Q1	ENV-ES-018	23.0	No
3/30/2012	Submittal of FY11 STP Annual Report and Proposed Revision 22.0	ENV-ES-12-0059	22.0	Yes
5/9/2012	Notice of Completion of OffSite Waste Shipment Activity 4.0, FY12 Q2	ENV-ES-12-0092	23.0	No
8/7/2012	Notice of Completion of OffSite Waste Shipment Activity 4.0, FY12 Q3	ENV-ES-12-0160	23.0	No
9/11/2012	Correction of Table 3.2-2, FY11 Annual Report, STP	ENV-ES-12-0217	22.0	Yes
9/19/2012	Notice of Completion of OffSite Waste Shipment Activity 3.3.4	ENV-ES-12-0201	23.0	No
10/22/2012	Response to the 9/18/2012 Notice of Disapproval of the FY11 STP Annual Report and Proposed Revision 22.0	WM-DO-12-0002	22.0	Yes
11/6/2012	Notice of Completion of OffSite Waste Shipment Activity 3.3.4	WM-DO-12-0004	23.0	No
11/6/2012	Notice of Completion of OffSite Waste Shipment Activities 3.1.8 and 3.3.4	WM-DO-12-0005	23.0	No

Letter Date	Description	Letter Number	Revision Reference	Listed in Revision 22.0 (Appendix I)
11/6/2012	Notice of Completion of OffSite Waste Shipment Activity 4.0, FY12 Q4	WM-DO-12-0006	23.0	No
3/22/2013	Correction of Off-Site Shipment Reports, FY12 Q1, Q3, and Q4, Activity 4.0	ENV-EDA-13-04	23.0	No
3/29/2013	Submittal of FY12 Annual Update and Proposal 23.0	ENV-EDA-13-06	23.0	No

APPENDIX J. HISTORY OF CHANGES TO THE CP AND FFCO

As discussed in Part III (CP), Section 1.2, the STP CP has been modified several times since it was originally issued, in accordance with the provisions of Section X, “Revisions,” and Section XI, “Other Amendments to the STP,” of the October 4, 1995, FFCO, as amended and revised. This Appendix provides a summary of these CP changes and of modifications to the FFCO since its issuance.

To date, there have been 22 revisions and three amendments to the CP. In addition, the FFCO was amended once on May 20, 1997. The following Table J-1 provides a summary of these changes. More detailed descriptions can be found in the CP Update portion of each year’s *STP Annual Update* and the original correspondence requesting each change.

Table J-1: Summary of Changes to the CP and the FFCO

Action	Document Modified	Effective Date	Effect on FFCO/STP
Rev. 1.0	STP/CP	6/12/96	Added offsite treatment as a parallel preferred option for most MLLW treatability groups.
Rev. 2.0	STP/CP	12/9/96	Reduced volume of LA-W928 by approving reclassification of sludges as LLW.
Amendment 1.0	STP/CP	10/30/96	Divided original volume of LA-W929 into three subgroups, and added new Activities and Compliance Dates.
Rev. 3.0	STP/CP	1/27/97	Divided original volume of LA-W929 into three subgroups, and added new Activities and Compliance Dates.
Amendment 1.0	FFCO	5/20/97	Modified FFCO Sections IV, V, IX, and X to streamline waste transfers and deletions.
Amendment 2.0	STP/CP	9/4/97	Extended CP Activity 3.1.2B Compliance Date to 12/29/97.
Rev. 4.0	STP/CP	12/29/97	Transferred original volume of LA-W929 from three subgroups to other treatability groups, added treatability groups, and deleted treated items.
Rev. 5.0	STP/CP	12/29/97	Added volumes reported in FY95 and FY96 <i>Annual Updates</i> (and certain other items) to several treatability groups, added Activities and Compliance Dates, added CP Appendices, and deleted treated items.
Rev. 6.0	STP/CP	7/31/98	Added volumes reported in FY97 <i>Annual Update</i> to several treatability groups, added certain Activities and Compliance Dates, adjusted several original inventory volumes, transferred one LA-W929 item to a new treatability group, and deleted treated items.
Rev. 7.0	STP/CP	11/30/98	Removed onsite treatment skids, added STP inventory items, added onsite recycling/re-use and radiological decontamination, added notification for offsite treatability studies.
Rev. 8.0	STP/CP	12/3/98	Extended compliance dates for treatment of MTRU waste.
Rev. 9.0	STP/CP	6/7/00	Added and deleted volumes reported in FY98 <i>Annual Update</i> to certain treatability groups.

Action	Document Modified	Effective Date	Effect on FFCO/STP
Amendment 3.0	STP/CP	8/30/99	Transferred three items to MTRU, transferred one item to subgroup within same treatability group.
Rev. 10.0	STP/CP	12/18/00	Added and deleted volumes reported in FY99 <i>Annual Update</i> to certain treatability groups.
Rev. 11.0	STP/CP	4/18/01	Added and deleted volumes reported in FY00 <i>Annual Update</i> .
Rev. 12.0	STP/CP	3/13/02	Added and deleted volumes reported in FY01 <i>Annual Update</i> . Extended CP Activity 3.1.5A Compliance Date to 8/25/03. Extended CP Activity 3.1.11A to 2/01/04. Removed the requirement to develop treatment technologies and the associated compliance schedule in CP Activity 4.0 and added language specifying that MTRU waste would be shipped offsite to WIPP for disposal.
Rev 13.0	STP/CP	7/14/03	Added and deleted volumes reported in FY02 <i>Annual Update</i> .
Rev 14.0	STP/CP	1/5/05	Added and deleted volumes reported in FY03 <i>Annual Update</i> .
Rev 15.0	STP/CP	8/16/05	Added and deleted volumes reported in FY04 <i>Annual Update</i> .
Rev 16.0	STP/CP	12/12/06	Added and deleted volumes reported in FY05 <i>Annual Update</i> . Extended CP Activity 3.1.8(A) Compliance Date to 8/09/07. Extended CP Activity 3.1.9(A) Compliance Date to 8/09/07. Extended CP Activity 3.1.10(A) Compliance Date to 8/31/07. Extended CP Activity 3.1.11(A) Compliance Date to 12/31/07. Extended CP Activity 3.2(J) Compliance Date to 12/31/07. Reclassified 0.2082 m ³ of LA-W934 High Activity MLLW waste to MTRU waste.
Rev 17.0	STP/CP	6/26/08	Added and deleted volumes reported in FY06 <i>Annual Update</i> . Extended CP Activity 3.1.5(A) Compliance Date to 12/31/08. Extended CPV Activity 3.1.8(A) Compliance Date to 8/28/08. Extended CP Activity 3.1.9(A) Compliance Date to 8/28/08. Extended CP Activity 3.2(J) Compliance Date to 12/31/08.
Rev 18.0	STP/CP	1/9/09	Added and deleted volumes reported in FY07 <i>Annual Update</i> . Extended CP Activity 3.1.8(A) Compliance Date to 8/28/09. Extended CP Activity 3.1.9(A) Compliance Date to 8/28/09. Proposed a new Section 3.3.4 for Treatability Group, LA-W935 "10–100 nCi/g Waste" with new CP Activity 3.3.4 (A) Compliance Date 12/01/13 and CP Activity 3.3.4 (B) Compliance Date 12/31/13. Extended CP Activity 3.2(J) Compliance Date to 12/31/10.
Rev 19.0	STP/CP	2/5/10	Added and deleted volumes reported in FY08 <i>Annual Update</i> . Extended compliance date for CP Activities 3.1.8(A) and 3.1.9(A) to 8/28/12. Proposed a new milestone of 12/31/2010 for 3.1.4(A) and a new milestone 3.3.4(C) for 10–100 nCi/g Waste.

Action	Document Modified	Effective Date	Effect on FFCO/STP
Rev 20.0	STP/CP	11/8/10	Added and deleted volumes reported in FY09 Annual Update. Proposed an extended compliance date for CP Activity 3.2(J).
Rev 21.0	STP/CP	3/21/12	Added and deleted volumes reported in FY10 Annual Update. Proposed new compliance date for CP Activity 3.1.8(A).
Rev 22.0	STP/CP	12/10/12	Added and deleted volumes reported in FY11 Annual Update.
Rev 23.0	STP/CP	TBD	Added and deleted volumes reported in FY12 Annual Update

REFERENCES

1. *Federal Facility Compliance Order (Los Alamos National Laboratory)*, New Mexico Environment Department (October 4, 1995).
2. Congress, 1996. Text of Public Law 104-201, Congressional Record dated September 23, 1996, Amendment to Public Law 102-579, 1992 *Waste Isolation Pilot Plant Land Withdrawal Act (106 Stat. 4777)*.
3. 40 CFR Part 194, Criteria for the Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations: Certification Decision; Proposed Rule (Federal Register V.62, No. 210, Oct. 30, 1997, pp. 58792–58838).

Los Alamos National Laboratory

Federal Facility Compliance Order

*Annual Site Treatment Plan Update
for Fiscal Year 2012*

LA-UR-14-207683-22082

February 10, 2014 ~~March 29, 2013~~



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**~~February 10~~March 29, 20143
Federal Facility Compliance Order**

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ACRONYMS

AK	Acceptable Knowledge
CCA	Compliance Certification Application
CCP	Central Characterization Project
40 CFR	Title 40 of the Code of Federal Regulations
CMR	Chemistry and Metallurgy Research
CP	Compliance Plan
DOE	U.S. Department of Energy
DSSI	Diversified Scientific Services, Inc.
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
FFCA	Federal Facility Compliance Act
FFCO	Federal Facility Compliance Order
FR	Federal Register
FY	Fiscal Year
HWA	Hazardous Waste Act
INL	Idaho National Laboratory
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security, LLC
LDR	Land Disposal Restrictions (RCRA)
LLNL	Lawrence Livermore National Laboratory
LWAA	Land Withdrawal Act Amendments
M&EC	Materials and Energy Corporation
MLLW	Mixed Low-Level Waste
MTRU	Mixed Transuranic (Waste)
MWIR	Mixed Waste Inventory Report
NMED	New Mexico Environment Department
ORR	Oak Ridge Reservation
PCB	Polychlorinated Biphenyl
RCRA	Resource Conservation and Recovery Act
STP	Site Treatment Plan
TA	Technical Area
TBD	To be determined
TBV	To be verified
TRU	Transuranic
UC	University of California
WIPP	Waste Isolation Pilot Plant

INTRODUCTION

On October 6, 1992, Congress passed the Federal Facility Compliance Act (FFCA) to address compliance by the U.S. 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 FFCA requires 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 FFCA provides 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, the FFCA requires NMED to provide public notice, consider public comments, and consult with the U.S. Environmental Protection Agency (EPA) and any other state in which a facility affected by the STP is located.

On October 4, 1995, the NMED issued a Federal Facility Compliance Order (FFCO) to DOE and its then management and operating contractor, the University of California (UC) Regents. On June 1, 2006, Los Alamos National Security, LLC (LANS) replaced UC as operating contractor of Los Alamos National Laboratory (LANL) at which time LANS assumed responsibility for compliance with the FFCO.

The FFCO required LANL to implement an STP for the treatment of mixed waste at LANL. The STP is intended to fulfill the requirements of the FFCA and establish an enforceable framework to allow DOE and LANS (Respondents) to achieve full compliance with LDR requirements under the New Mexico Hazardous Waste Act (HWA) and RCRA. The compliance dates set forth in the STP are enforceable time periods in which Respondents are required to treat or otherwise meet the requirements set forth for LDR under the HWA and RCRA.

On March 31, 1995, DOE submitted its proposed STP, which addressed treatment capacities and technologies to treat all of LANL's mixed waste, regardless of the time it was generated, to NMED. On April 17, 1995, the public was provided an opportunity to comment to NMED on DOE's draft STP. After considering public comment and otherwise complying with the FFCA, NMED approved the draft STP with modifications.

Section VII of the FFCO requires LANL to submit an Annual STP Update to the NMED each year on or before March 31. The FFCO requires that the Annual Update bring the information in both the Background and the Compliance Plan (CP) current to the end of the previous federal fiscal year (FY). Part I of this Annual Update constitutes the update to the Background. Part II contains the changes that have occurred since the last Annual Update and also identifies proposed revisions and amendments to the CP. Part III incorporates the changes in Part II into the proposed CP revision (Revision ~~232~~.0).

PART I. BACKGROUND UPDATE

1.0 INTRODUCTION

The Background (Part I) provides the following information:

- The estimated volume of covered waste in storage at the end of the previous FY and anticipated to be placed in storage for the next five FYs;
- A progress report from the end of the previous federal FY describing treatment progress and treatment technology development for each treatment facility and activity scheduled in the STP;
- A description, if applicable, of current or anticipated alternative treatment technology that is being evaluated for use instead of treatment technologies or capacities identified in the STP;
- A description of DOE's funding for STP-related activities and any funding issues that may affect the schedule;
- The status of the "No-Migration Variance Petition" or any treatability variances; and
- A progress report on characterization and/or treatment capabilities or plans for mixed transuranic (MTRU) waste related to the waste treatment standards, if any, for the DOE Waste Isolation Pilot Plant (WIPP) facility near Carlsbad, New Mexico.

The STP-covered waste inventory is verified during quality control activities. Inconsistencies in treatability group or volume between the original inventory and the current inventory may exist. These inconsistencies are reconciled annually with the STP update.

2.0 AMOUNT OF EACH COVERED WASTE STORED AT LANL

2.1 Mixed Low-Level Waste (MLLW) Inventory

During FY12, STP-covered MLLW inventories increased from approximately 176 m³ to 204 m³. The increase was mainly due to reclassifying more mixed transuranic (MTRU) waste to mixed low-level waste (MLLW) (LA-W935) than could be shipped offsite for treatment. The waste was reclassified because it no longer satisfied DOE criteria for TRU waste (activity more than 100 nCi/g). In 2011 the Las Conchas Fire came within 3.5 miles of Technical Area 54, Area G where transuranic waste (higher risk waste) is stored. The Framework Agreement was formed between the State of New Mexico Environment Department (NMED) and the Department of Energy's National Nuclear Security Administration (DOE/NNSA) that realigned environmental priorities at the Lab based on risk. Because higher risk wastes covered by the Framework Agreement were given shipment priority, less *10-100 nCi/g Waste* was shipped in FY11 and FY12 than in previous years. There are competing priorities for the facilities between the Framework Agreement waste and the 10-100 nCi/g waste that needs to be processed. However, with NMED's advisement, the Framework Agreement waste has been deemed higher priority. LANL shipped approximately 10 m³ of the existing FY11 inventory and a portion of the FY12 newly reclassified *10-100 nCi/g Waste* (approximately 52 m³) in FY12. The rest of the FY12 reclassified waste (approximately 38 m³) was readied for shipment and placed in storage. LANL intends to resume shipments of *10-100nCi/g Waste* when some of the higher risk waste shipments are completed

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in order to meet the established STP milestone (12/31/2013) for the current 10–100 nCi/g Waste. The fiscal year (FY) 2013 budget was augmented to increase shipments of 10-100 nCi/g Waste. During FY13, DOE/LANS worked off 553 out of 602 containers of 10-100 nCi/g Waste. Table 2.1-1 summarizes changes to the estimated STP-covered MLLW inventory for FY12. Approximately 62 m³ of covered MLLW was treated, recycled, disposed of, or otherwise deleted during FY12.

Appendix A provides the detailed changes to the FY12 covered MLLW inventory by treatability group, including the inventory at Technical Area (TA)-55 and the Chemistry and Metallurgy Research Building (CMR).¹ Appendix B (Table B-1) lists the MLLW shipments in FY12. Table B-2 identifies other deleted waste. If any, administrative adjustments to the MLLW inventory are shown in Appendix C (Table C-1). Detailed information about the administrative adjustments in Table C-1 are shown in Table C-2. The MLLW inventory reported in the FY11 Annual Update is included as Appendix D.

Table 2.1-1: FY12 MLLW Inventory Summary

Contribution	Volume (m ³) ¹
Estimated MLLW Inventory Reported in FY11 Annual Update	175.8610
Proposed Revision 23.0	
New Covered Waste	0.2082
Administrative Adjustments ²	90.2360
Offsite Treatment	-62.3556
Offsite Recycle	NA ³
Onsite Decontamination	NA
Treatability Study Use	NA
Estimated MLLW Inventory Reported in FY12 Annual Update	203.9496

¹ MLLW volumes are calculated using the conversion: 55-gallon container = 0.2082 m³; 85-gallon container = 0.3218

² Includes transfers of MTRU and other wastes into MLLW categories

³ NA = No Activity

2.2 Mixed Transuranic (MTRU) Inventory Summary

During FY12, STP-covered MTRU inventories decreased from approximately 3119 m³ to 2763 m³.

Table 2.2-1 summarizes changes to the estimated MTRU covered waste inventory for FY12. The total volume of MTRU waste in Table 2.2-1 includes the CMR and TA-55 MTRU volumes, which are maintained in a separate inventory from the MTRU inventory at TA-54. DOE/NNSA commits to accelerating the rate of removal of above-ground transuranic waste (TRU) at TA-54, Area G as stated in the “Los Alamos National Laboratory Framework Agreement: Realignment of Environmental Priorities.” Appendix E contains additional detail for the MTRU inventory; Table E-1 covers the TA-54 inventory, and Table E-2 covers the inventory at CMR and TA-55. The volume of STP-covered MTRU waste that is part of the “non-cemented above-ground EM Legacy TRU” (MTRU waste only) has been

¹ No MLLW was stored at CMR or TA-55 in FY12.

[summarized in Appendix E-1 and Section 4.0 of the Compliance Plan Volume.](#) Appendix F (Table F-1) provides a summary of FY12 MTRU shipments to WIPP. In Appendix G, Tables G-1 and G-2 describe the administrative adjustments that were made to resolve differences in the TA-54 and the CMR/TA-55 MTRU inventory data, respectively.

Administrative adjustments typically represent the following types of activities:

- LANL may correct database entries so that waste items that previously were not listed as STP waste are now identified as STP waste.
- LANL may correct waste data, such as volume or EPA codes, through quality control activities. Waste that was formerly classified as MTRU because it had radioactivity greater than 10 nCi/g has been reclassified to MLLW (LA-W935) if its activity is less than 100 nCi/g under DOE standards.
- New analytical data may also require that waste streams previously managed as TRU waste should, as a prudent measure, be reclassified and managed as MTRU waste.
- During repacking or other quality control activities, TRU waste may be recharacterized as MTRU waste when previously unidentified hazardous contents, such as lead, are determined to be present.
- During repacking, treatability groups are frequently reassigned to be consistent with current management and shipping criteria.
- Containers of waste are occasionally determined not to belong to mixed waste streams and are reclassified as TRU waste; removal of WIPP-prohibited items, if they are the only hazardous constituent, will result in the remaining waste being classified as nonmixed.
- Addition or removal of 85-gallon overpacks changes the volume of waste in the inventory; rounding container volumes to three decimal places also changes the inventory volume.

Appendix G includes changes to the MTRU waste inventory that resulted from repacking activities. MTRU waste volumes in the STP inventory reflect the volume of the container rather than the volume of the contents. When containers are repacked, the STP inventory volume of any given treatability group may either increase or decrease. When a container is repacked, the contents are sometimes split into two or more new containers to meet shipping and waste acceptance criteria or to meet characterization criteria (e.g., nondestructive analysis calibration limits). In addition, the new containers may be assigned to different treatability groups depending on the contents of each drum. Therefore, the volume of a single drum may 'multiply' into more volume than the original container. For example, repacking one container of *Cemented Sludge* (0.2080 m³) may result in one drum of *Combined Combustible-Noncombustible Waste* (0.2080 m³) and one drum of *Noncombustible Waste* (0.2080 m³). In addition, changes in the waste volume in the STP inventory occur when an 85-gallon 'overpack' is removed from, or added to, a 55-gallon drum during repackaging. Removal of overpacks decreases the volume of waste in the STP inventory. Adding an overpack to a 55-gallon drum increases the volume of waste shown in the STP inventory.

Table 2.2-1: Covered MTRU Inventory Summary

Description	Volume (m ³)
Covered MTRU Inventory Reported in FY11 (44,713 m ³ at CMR/TA-55 and 3074,244 m ³ at TA-54)	3118.957
New Covered MTRU Waste at TA-54	11.488
New Covered MTRU Waste at TA-55 CMR	5.695903
Covered MTRU Waste Shipped to WIPP in FY12	-476.020
Net Administrative Adjustments for TA-54 in FY12	111.656
Net Administrative Adjustments for CMR/TA-55 in FY12	-8.612
Covered MTRU Inventory at End of FY12	2763.164372

3.0 TREATMENT PROGRESS

3.1 Offsite Treatment

During FY12, covered MLLW streams were shipped for treatment to the following offsite commercial treatment facilities: Perma-Fix in Gainesville, Florida; Perma-Fix/Material and Energy Corporation (M&EC) in Oak Ridge, Tennessee; and Perma-Fix Northwest in the State of Washington.

Perma-Fix/Florida

Perma-Fix in Gainesville, Florida, is a RCRA-permitted facility with a Radioactive Materials License for processing scintillation cocktail vials and other mixed waste fluids for blending and shipment to an energy recovery facility. Perma-Fix services include the decommissioning of labpacks, thermal treatment of organics, stabilization and solidification of inorganics, and distillation of halogenated organics. The facility also performs chemical treatments such as solvent extraction, demulsification/precipitation/flocculation, chelation, oxidation-reduction, ion exchange, absorption/adsorption, amalgamation, and chemical decontamination.

Perma-Fix/Material and Energy Corporation (M&EC)

M&EC, located in the East Tennessee Technology Park in Oak Ridge, Tennessee, is a permitted treatment facility for low-level radioactive and mixed waste. The facility installed six treatment processes and has the capability for treating organic and inorganic mixed waste to meet the LDR criteria. These processes include stabilization/solidification, chemical extraction, chemical fixation, metals precipitation, neutralization, and debris treatment.

Perma-Fix Northwest

Perma-Fix Northwest, located in Richland, Washington, is a permitted treatment facility for the treatment of low-level radioactive and low-level mixed waste. The site houses both a low-level radioactive waste treatment facility and a low-level mixed waste treatment facility, which are licensed under Nuclear Regulatory Commission regulations (State of Washington licenses WN-I00393-1 and WN-I00508-1) and permitted under RCRA regulations through the State of Washington. The facility can perform thermal treatment, compaction, macroencapsulation, neutralization, and stabilization.

Appendix B summarizes LANL's offsite shipments for treatment and/or disposal of covered MLLW in FY12. Approximately 62 m³ of STP-covered MLLW was shipped offsite for treatment and/or disposal.

3.2 Offsite Recycling

LANL did not recycle any STP-covered MLLW offsite in FY12.

3.3 Onsite Treatment and Recycling

LANL did not treat or recycle any STP-covered MLLW onsite in FY12.

3.4 Onsite Lead Decontamination

No LANL STP-covered MLLW was decontaminated onsite during FY12.

3.5 Treatability Studies

LANL conducted no treatability studies in FY12.

3.6 Administrative Adjustments and Corrections

Administrative adjustments and corrections are due to discrepancies found during quality control activities related to preparing waste for treatment, inventory, and disposal or when preparing the STP Annual Update. A data quality review is conducted annually to compare shipment notifications and shipping manifests with database updates.

3.6.1 Adjustments to MLLW Inventory

Appendix C (Table C-1) details the administrative adjustments to the MLLW inventory. The principal adjustment reflects the transfer of MTRU waste to MLLW (LA-W935, 10–100 nCi/g). A substantial volume of LANL's STP-covered MTRU waste has been determined to no longer meet the criteria for TRU waste and has thus been reclassified as MLLW (Appendices C and G).

3.6.2 Adjustments to MTRU Inventory

During the preparation of the FY12 STP Annual Update, LANL identified a number of adjustments to the MTRU inventory volume (Appendix G, Tables G-1 and G-2), including additions of newly identified STP-covered waste, recharacterization of waste, and reclassification of MTRU waste to MLLW. Other adjustments were needed to account for volume changes due to repacking of waste and transfers of waste from one treatability group to another or to correct database entries.

4.0 TREATMENT TECHNOLOGY DEVELOPMENT

During FY12, the availability of commercial and federal facility offsite treatment and disposal capacity for MLLW remained stable. As a result of DOE's increasing reliance on commercial treatment/disposal for mixed wastes, nearly all funding for onsite technology development has been prioritized to support offsite treatment and disposal of mixed wastes. DOE treatment technology development initiatives are generally limited to specific technologies or technology adaptations in response to specific needs that cannot be addressed through commercial facilities.

4.1 Treatment Technologies Being Evaluated

LANL continues to monitor the development of other potential treatment technologies that may become available in the future. Some of these technologies are being developed at LANL and at other DOE sites. Numerous other commercially developed treatment processes exist which have not been demonstrated on mixed wastes.

4.1.1 Offsite Commercial Treatment Facilities

LANL continues to monitor the availability and capabilities of offsite commercial facilities for treatment technologies and permitting that are appropriate to LANL waste. These facilities are listed in Appendix H (Table H-1).

4.1.2 Offsite DOE Treatment Facilities

In the past, LANL staff considered Lawrence Livermore National Laboratory (LLNL) for treatability studies for MLLW gas cylinders. LANL has successfully shipped these wastes offsite for treatment, storage, and disposal. LLNL does not have treatment capabilities for treatment, storage, or disposal appropriate to any of LANL's remaining MLLW.

5.0 DOE FUNDING FOR STP-RELATED ACTIVITIES

Funding to implement the LANL STP for mixed waste during FY12 was sufficient to meet all compliance dates as required by the STP issued on October 4, 1995. As stated in previous updates to the STP, funding is no longer available for development of mobile treatment units at LANL, but funding was provided in all years between FY98 and FY05 and between FY07 and FY12 for shipment of mixed waste offsite for treatment and disposal at DOE and commercial facilities. Funding during FY13 may be sufficient to meet all compliance dates established in the STP; however, FY13 federal budget restrictions may impact LANL shipping schedules. Furthermore, Congress has not yet taken action on an FY14 budget. When the federal funding for FY14 becomes clearer, LANL will reevaluate the available funding. Should funding reductions occur that would affect STP compliance dates, the DOE and LANS will so notify the NMED to address compliance schedules and activities.

The DOE Assistant Secretary for Environmental Management initiated a long-range plan for DOE's cleanup and waste management activities, with a goal of accelerating cleanup progress as much as possible before 2006. The plan, *Accelerating Cleanup: Paths to Closure*, includes sections for the LANL site that address MLLW and TRU wastes that are currently in storage (legacy waste). Funding targets for waste management in the draft *LANL Accelerating Cleanup: Paths to Closure* plan should allow LANS staff at LANL to continue to meet all compliance dates in the STP; the plan assumes that MTRU waste is not required to be treated to meet LDR before shipment to WIPP for disposal, as provided for in the WIPP Land Withdrawal Act Amendments of 1996 (LWAA).

Beginning in FY99, all newly generated MLLW with a disposal path was planned to be treated and disposed of within one year if a treatment/disposal capability and capacity was available for the waste. MLLW placed into storage before FY99 was treated and disposed of before the end of FY09.

6.0 TREATMENT VARIANCES

RCRA allows certain case-by-case variances from LDR standards. Variances that may be sought under RCRA relate to requests for substitution of an alternative treatment technology in place of the LDR-required treatment technology. This section discusses any potential treatment variances related to LANL's covered waste, as described below.

6.1 WIPP No-Migration Variance Petition/Land Withdrawal Act Amendments

WIPP, located near Carlsbad, New Mexico, is a DOE repository for the TRU waste that was generated by the nation's defense-related activities. Some of the TRU waste contains hazardous waste constituents regulated under the RCRA.

The WIPP repository is considered to be a deep geologic repository rather than a shallow landfill. It is wholly sited 2,100 ft below the land surface in a salt bed. Because salt has the advantageous characteristic of slow plastic deformation, it is predicted that the salt will entomb the waste and seal it from the human environment, making potential release of hazardous constituents a low-probability event.

The LWAA (PL 104-201, Section 3188) exempts waste designated by the Secretary of Energy for disposal at WIPP from RCRA's LDRs. Following passage of the LWAA, the EPA terminated its review of the No-Migration Variance Petition, submitted by DOE to EPA in May 1995. EPA formalized its withdrawal by letter to George Dials, DOE/Carlsbad Area Office manager, dated December 29, 1997.

On October 29, 1996, DOE submitted its Compliance Certification Application (CCA) to EPA. The CCA is intended to demonstrate to EPA that WIPP meets the requirements of Title 40 of the Code of Federal Regulations (40 CFR) Part 191 and 40 CFR Part 194. On October 23, 1997, EPA announced its proposed decision to issue a certification of compliance, subject to a number of specified conditions and to a public comment period of 120 days. On May 18, 1998, EPA published in the Federal Register (63 FR 27354) its final rule certifying that WIPP will comply with the requirements of Subparts B and C of 40 CFR Part 191 and amending the WIPP compliance criteria in 40 CFR Part 194. The final rule became effective June 17, 1998. On March 25, 1999, WIPP received its first shipment of non-mixed (radioactive only) TRU waste from Los Alamos. Other facilities have also shipped non-mixed TRU waste to WIPP. The NMED issued a hazardous waste permit for WIPP on October 27, 1999, authorizing the DOE to manage, store, and dispose of contact-handled MTRU waste at the facility.

6.2 Other Treatment Variance(s)

No treatment variances were requested or granted in FY12.

7.0 WIPP FACILITY CAPABILITIES

As discussed above, the DOE is disposing of its defense TRU waste, both mixed and nonhazardous, in its deep geologic repository at the WIPP near Carlsbad, New Mexico. This facility is a receiving and disposal facility, without the capability of routinely opening and repackaging waste. TRU waste will already be containerized when received at the WIPP facility. The WIPP facility is not a generator of TRU waste, and, therefore, will receive all of the waste in shipments from offsite.

7.1 Characterization Capabilities at WIPP

Wastes proposed for shipment to WIPP are characterized and certified at LANL by the Central Characterization Project (CCP), a contractor to DOE's Carlsbad Field Office.

7.2 MTRU Treatment Capabilities and Plans

WIPP is not required to treat MTRU waste to meet the LDR standards. As described above, the LWAA exempted wastes designated by the Secretary of Energy for disposal at the WIPP from this requirement.

PART II. COMPLIANCE PLAN UPDATE

1.0 INTRODUCTION

This update to the CP contains

- Changes to the CP occurring since the previous Annual Update, including
 - milestones completed in FY12;
 - correspondence, including notices of shipments; and
 - new covered and deleted waste;
- Proposed revisions and amendments, including
 - compliance date changes;
 - description of waste deleted in accordance with the requirements in FFCO Section IX, *Deletion of Waste*;
 - documentation of new covered waste in accordance with the requirements in Section VIII, *Addition of New Covered Waste*; and
 - proposed changes to the overall schedule in the CP.

2.0 CHANGES AND REVISIONS TO THE CP OCCURRING SINCE THE PREVIOUS ANNUAL UPDATE

This section describes revisions, amendments, or other changes to the LANL CP.

2.1 Activities Completed During FY12

During FY12, no CP Activity milestones were scheduled.

Table 2.1-1. FY11 FFCO and STP Milestones [Table omitted]

2.2 Expedited Shipment Letters

There were no expedited shipment letters in FY12.

2.3 Correspondence

Between October 1, 2011, and March 31, 2013, LANL communicated with NMED on issues related to

- Revisions 21.0 and 22.0 of the Annual STP Update, and
- FY11 and FY12 waste shipments.

This correspondence is listed in Appendix I (Table I-2). Correspondence previously listed in Appendix I, Table I-2 of Revision 22.0 of the STP is so noted in the appendix.

3.0 DESCRIPTION OF DELETED WASTE

A proposal for deletion of STP waste items is included with this update as Proposed Revision 23.0 in accordance with FFCO Section IX, *Deletion of Waste*. These deletions are proposed because the waste was shipped offsite for treatment, disposal, or recycling or were otherwise determined not to be mixed wastes. These covered wastes are included in Appendix B, Appendix F, and Appendix G.

4.0 DOCUMENTATION OF NEW COVERED WASTE

A proposal for addition of STP waste items is included with this update in accordance with FFCO Section VIII, *Addition of Waste*. These additions consist of wastes that were placed in storage during FY11 and were proposed to become covered wastes in FY12. These covered wastes are included in Appendix E. Additional waste to be added to the STP is identified in Section 6.1.

5.0 PROPOSED CHANGES TO THE COMPLIANCE PLAN SCHEDULE

LANL is proposing a new milestone for *Noncombustible Debris* (LA-W922), Activity 3.1.5(A) to “*complete shipping of wastes to an offsite treatment facility or complete parallel option.*” LANL expects to be able to complete shipping of the one container of this waste by March 30, 2014.

I. Compliance Dates and Waste Description

LA-W922: This waste consists of noncombustible debris, such as buckets, gloves, and air pumps. The waste has been assigned an EPA code of D008.

Current approved compliance date: none
Proposed Revision 23 compliance date: March 31, 2014

II. Treatment Process

The preferred treatment process for LA-W922 is shipment offsite for treatment to meet LDRs. These wastes may be treated by macroencapsulation or other RCRA treatment methods according to the standards in 40 CFR 268.40 at an offsite commercial facility.

III. Availability of Commercial Facilities

LANL uses the facilities identified in Appendix H for treatment and disposal of MLLW. No additional facilities are needed to treat the current inventory of *Noncombustible Debris* (LA-W922).

IV. Justification for Milestone

Since commercial treatment facilities are available, LANL does not anticipate any significant delays in shipping this waste offsite for treatment. The shipping date will be based on the ability of a facility to accept the waste at a given time and on the scheduling of other offsite shipments. LANL is therefore requesting a milestone of March 31, 2014 to allow for schedule

flexibility on the part of the receiving facility. LANL will schedule shipment as part of routine waste shipment.

No other changes to the schedule in the CP of the STP are proposed.

6.0 DETAILED DESCRIPTION OF THE PROPOSED REVISION

The purpose of this revision request is to reflect changes in the STP inventories in the LANL CP of the STP in accordance with FFCO Section X.C.2.a. The changes proposed by this revision to the CP will allow the added covered wastes to be treated or otherwise managed in accordance with the Activities and Compliance Dates pertaining to each treatability group, as adopted or revised herein. The CP text changes are indicated in the redlined version provided to NMED.

LANL is proposing to revise the CP text to reflect the following change in STP-covered inventories:

- Increases and decreases in covered mixed waste inventories due to the addition of new covered waste and offsite shipments during FY12 and other changes in the STP inventory.
- Establishment of new Compliance Dates for LA-W922 as discussed in Part II, Section 5.

The CP changes are proposed in accordance with the applicable requirements in the FFCO, as amended: Section VIII, *Addition of New Covered Waste*; Section X.B.4, *Revisions*; and Section XI, *Deletion of Waste*.

6.1 Addition of New Covered² Waste

LANL is requesting that the following waste be added to the STP as covered waste.

6.1.1 MLLW Additions

The volume of MLLW that is requested for addition is 0.2082 m³ of new-covered³ *Noncombustible Debris* (LA-W922).

Table 6.1.1-1: Proposed Addition of New Covered MLLW Waste

CP Section	MWIR Waste ID	Treatability Group	Volume (m ³)
3.1.5	LA-W922	<i>Noncombustible Debris</i>	0.2082 ¹
<i>Total</i>			0.2082

~~Waste accumulated in order to meet the offsite facility WAC for treatment.~~

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6.1.2 MTRU Waste Additions

The volume of new covered MTRU waste that is requested for addition is 17.391 m³ (Table 6.1.2-1). LANL also requests the addition of 31.672 m³ of *Combustible-Noncombustible Waste*, 51.376 m³ of *Noncombustible Waste*, and 34.296 m³ of *Solidified Inorganic and Organic Waste* that was previously managed in the TRU inventory (Appendix G, Table G-1). Table 6.1.2-2 identifies waste that is proposed

² Waste generated during the previous FY that was not shipped offsite within one year is termed new-covered STP waste.

for addition following activities that identified waste in the TRU inventory as MTRU either through review of waste characteristics or as a result of identifying potentially hazardous constituents during repacking TRU waste.

Table 6.1.2-1: Proposed Addition of New Covered¹ MTRU Waste

CP Section	Treatability Group	Volume (m ³)
4.0	Combustible-Noncombustible Waste	8.348
4.0	Combustible Waste	0.664
4.0	Noncombustible Waste	0.208
4.0	Solidified Inorganic and Organic Waste	2.288
	Total TA-54 New Covered	11.488²
4.0	Combustible-Noncombustible Waste at CMR	0.208
4.0	Combustible-Noncombustible Waste at TA-55	2.080
	Combustible Waste at TA-55	0.019
4.0	Noncombustible Waste at TA-55	3.5960
	Total CMR and TA-55 New Covered	5.695903²
	Total New Covered Waste	17.183391

¹ New covered waste in Table 6.1.2-1 refers to waste generated in the previous FY.

² Confirmation of reassay to determine TRU or LLW concentration for containers to continue on a path for disposition.

³ New covered waste at TA-55 was a result of radioactive assay problems.

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Table 6.1.2-2: Proposed Addition of Waste Newly Characterized as MTRU

CP Section	Treatability Group	Volume (m ³)
4.0	Combined Combustible-Noncombustible Waste (2.316 m ³ – discovery of aerosol cans in containers; 29.356 m ³ from identification of potentially hazardous constituents during repacking of TRU waste)	31.672
4.0	Noncombustible Waste (from identification of potentially hazardous constituents during repacking of TRU waste)	51.376
4.0	Solidified Inorganic and Organic Waste (34.296 m ³ – Nitrate salts determined to be potentially mixed waste)	34.296
	Total Newly Characterized MTRU	117.344

6.2 Deletion of Covered Waste

Both MLLW and MTRU wastes were shipped offsite for treatment and disposal or recycling or are otherwise proposed as deleted waste.

6.2.1 Deletion of MLLW

LANL is requesting that covered MLLW identified in Appendix B be deleted from the STP. These covered wastes were shipped offsite for treatment and disposal or recycling. The total volume of covered MLLW that is requested for deletion under this Revision to the CP is 62.3556 m³ (Appendix B, Table B-1).

6.2.2 Deletion of MTRU Waste

LANL is requesting that a total of 476.020 m³ of covered MTRU waste be deleted from the STP. These covered wastes were shipped offsite for disposal at WIPP. Details of the offsite shipments are given in Appendix F.

6.2.3 Other Deletions of FY12 Waste

No waste is proposed for deletion due to recycling or onsite treatment in FY12. No waste was shipped offsite for treatability studies.

6.3 Adjustments to the Original (October 4, 1995) STP-Covered MLLW Inventory

LANL is requesting adjustments to the original (October 4, 1995) STP-covered MLLW inventory as listed in Appendix C (Table C-1). Most administrative adjustments are due to reclassification of MTRU waste to MLLW treatability groups and to quality control activities related to preparing waste for treatment and disposal. These adjustments may result in additions of newly identified covered waste or transfers of waste to other treatability groups.

6.4 Adjustments to MTRU Waste Inventory

LANL is requesting adjustments (Appendix G, Tables G-1 and G-2) to the original (October 4, 1995) STP-covered MTRU waste inventory. Most administrative adjustments are due to reclassification of MTRU waste to MLLW treatability groups or to other MTRU treatability groups and to reclassification of TRU to MTRU as a result of quality control activities related to preparing waste for treatment and disposal. These adjustments may result in additions of newly identified covered waste or transfers of waste to other treatability groups.

6.5 Establishment of New Milestone Activity Dates

LANL is requesting a new compliance milestone for new covered LA-W922 for which there is no current milestone.

Table 6.5-1: Proposed Milestone Activity Compliance Dates

Milestone Activity	Treatability Group	Revision 22 Compliance Date	Proposed Compliance Date	Rationale
3.1.5(A)	LA-W922 Noncombustible Debris	none	3/31/2014	LANL will schedule shipment as part of routine waste shipment.

6.6 Additional Revisions

No other revisions are requested.

7.0 RATIONALE FOR THE PROPOSED REVISION

This information is provided in accordance with FFCO Section X.C.2.a.

7.1 Establishment of New Proposed Milestone

LANL is requesting a milestone for the LA-W922 waste stream since there is no current milestone for shipping this waste offsite.

7.2 Addition of New Covered Waste

Waste that was newly generated in FY11, which was not treated within 12 months of generation, became new covered waste during FY12 (see Appendix E). In addition, TRU wastes, which were re-evaluated during repacking and quality control activities as having previously unidentified RCRA constituents, were also added to the STP inventory (Appendix G). Approval of these proposed additions to the STP inventory will allow the added covered wastes to be treated or otherwise managed in accordance with the activities and compliance dates pertaining to each treatability group, as adopted or revised herein.

7.3 Deletion of Covered Waste

Decreases in covered waste inventory reflect the treatment and disposal or recycling of covered waste at offsite commercial facilities during FY12. Deletion of this covered waste is proposed in order to more accurately reflect the LANL STP inventory as of the end of FY12.

7.4 Adjustments to the Original (October 4, 1995) STP-Covered Waste Inventory

Administrative adjustments result from quality control activities related to preparing waste for treatment and disposal. These adjustments result in additions of newly identified covered waste and transfers of waste to other treatability groups. The adjustments to the original (October 4, 1995) STP-covered waste inventory are proposed in order to more accurately reflect the LANL STP inventory as of the end of FY12.

8.0 ANTICIPATED LENGTH OF ANY DELAY IN PERFORMANCE

In accordance with FFCO Section X.C.2.c, LANL does not anticipate any delay in performance for any other proposals stated in this requested revision to the CP of the STP.

9.0 PLAN AND SCHEDULE FOR IMPLEMENTING ALL REASONABLE MEASURES

All other measures proposed could be implemented within the framework of the existing plan and schedule for the STP (FFCO Section X.C.2.d).

PART III. COMPLIANCE PLAN – PROPOSED REVISION 23.0

1.0 PURPOSE AND SCOPE OF THE COMPLIANCE PLAN

1.1 Introduction

Part III of this document identifies changes that require NMED approval as a revision under Section X, *Revisions*, or an amendment under Section XI, *Other Amendments to the STP*.

The CP includes a schedule for offsite transportation for treatment, or completion of parallel options as defined in each Treatability Group Section, and the treatment of mixed wastes in full compliance with the HWA and the implementing regulations at 20 NMAC 4.1, which incorporates by reference 40 CFR Parts 260 through 270. Part I, Background, contains progress reports as required in the FFCO. Respondents shall carry out the activities described in the STP, including the CP, in accordance with the schedules and requirements set forth in the STP and the FFCO.

1.2 STP Revisions and Amendments

The STP CP has been modified several times since it was originally issued, in accordance with the provisions of Section X, *Revisions*, and Section XI, *Other Amendments to the STP*, of the October 4, 1995, FFCO, as amended and revised. The history of revisions is provided in Appendix J.

2.0 COMPLIANCE SCHEDULES

The STP provides overall schedules for achieving compliance with LDR storage and treatment requirements for mixed waste at LANL. The schedules include those activities required to process backlogged and currently generated waste and include schedules required to establish an overall timeframe 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 below. The categories of activities are based on Section 3021(b)(1)(B)(i), (ii), and (iii) of the 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 onsite, the categories of activities for compliance dates identified in Table 2.1.1-1 shall apply.

Table 2.1.1-1: Categories of Activities for Compliance for Mixed Waste with Existing Treatment Technologies

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

2.1.2 Plans Where Technology Must Be Developed

For some mixed waste, no treatment technologies have been identified and developed, or the treatment technology must be modified or adapted to apply to such waste. For the waste that will be treated onsite, the categories of activities for compliance dates are identified in Table 2.1.2-1 and shall apply.

Table 2.1.2-1: Categories of Activities for Compliance Dates for Mixed Waste Without Existing Treatment Technologies

- | | |
|----|--|
| A. | Identify and develop technology. |
| B. | Submit permit application to NMED; or |
| C. | Submit a Notification of Intent to perform treatability study to 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 waste. |
| G. | Complete treatment of existing wastes to applicable regulatory standards. |

2.2 Primary Preferred Treatment

Offsite treatment at a commercial or noncommercial mixed waste treatment facility is the primary preferred treatment option applicable to all mixed waste streams in the STP inventory unless otherwise indicated in the descriptions of individual waste treatability groups. DOE may also pursue parallel treatment options, such as recycling/re-use or radiological decontamination. Requirements for waste shipped offsite for recycling are discussed under Part III, Section 2.6. All activities and compliance dates related to the construction, permitting, and operation of onsite treatment skids were removed from this document. This change was due to the increased availability of offsite treatment and disposal capacity for mixed waste. Respondents will continue evaluating new commercial and DOE offsite treatment facilities as potential options for managing mixed waste, as they become available.

2.3 Plans for Mixed Waste to be Shipped Offsite for Treatment

Should DOE decide to treat or recycle waste at a commercial offsite facility (Table 2.3-1), DOE will notify the NMED Project Manager in writing as soon as possible and in any event within 45 working days of receipt of waste at the treatment/recycling facility.

DOE shall notify the NMED Project Manager in writing as soon as possible if mixed waste is planned to be sent to a noncommercial facility. Notification should be made if possible when DOE is first considering such an option to allow NMED and the state to address any state issues or concerns with other states. The NMED Project Manager shall approve in writing the proposed offsite noncommercial treatment option proposed by DOE prior to any shipment by DOE. DOE will notify the NMED Project Manager in writing as soon as possible and in any event within 45 working days of receipt of waste at the treatment/recycling facility. Activities for mixed waste to be shipped offsite for treatment/recycling at a noncommercial facility are identified in Table 2.3-2.

Table 2.3-1: Activities for Offsite Shipment for Treatment or Recycling at a Commercial Facility

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

2.3.1 Specific Site Requirements for Noncommercial Treatment Facilities

Shipment to Idaho National Laboratory

Prior to shipment, Idaho National Laboratory (INL) and Idaho Division of Environmental Quality shall be notified of any pending shipments of waste should DOE ship MLLW to INL. Proper procedures including additional approvals (if necessary) and documentation shall be completed prior to the shipment of wastes to INL. Management of post-treatment waste residuals or newly generated waste streams will be in accordance with the requirements of DOE, the State of Idaho, and that state where they will be disposed. A modification to LANL's RCRA permit providing for the return of such wastes and/or residuals to LANL must be approved by NMED prior to any such return of wastes and/or residuals to LANL. DOE will notify the NMED Project Manager in writing as soon as possible and in any event within 30 working days after receipt of shipment of treatment residuals or newly generated waste streams from INL.

Shipments of MLLW to planned facilities (not yet existing) will occur only after that treatment and schedules are approved by DOE-ID and the State of Idaho. Upon approval of the planned treatment facilities, the applicable protocol from the paragraph above will be implemented for mixed wastes to be treated at planned facilities.

Shipment to Oak Ridge Reservation

In the case that Oak Ridge Reservation (ORR) may not dispose of mixed-waste residues or new waste streams generated from offsite treatment, and they cannot be sent to another facility for disposal, then the residues may return to LANL. Should residual or newly generated waste streams be returned to LANL, the proper permits for the State of New Mexico must exist. DOE will notify the NMED Project Manager in writing as soon as possible and in any event within 30 working days after receipt of shipment of treatment residuals or newly generated waste streams from ORR.

Table 2.3-2: Activities for Shipment Offsite for Treatment or Recycling at a Noncommercial Facility

- | |
|--|
| <ul style="list-style-type: none">A. Request necessary approval from NMED for shipment of waste by category before shipping.B. Meet all regulatory requirements for offsite shipment.C. Provide documentation to NMED of confirmation of shipment date within 14 working days prior to sending waste to an offsite facility for treatment, disposal, or recycling, or storage pending treatment, disposal, or recycling.D. Provide documentation to NMED that waste has been received at an offsite facility for treatment within 45 working days of receipt of waste at the offsite facility.E. Meet all regulatory requirements to include RCRA Permit modifications for residual or newly generated waste streams after treatment or recycling.F. Provide documentation to NMED within 30 working days after receipt of residual or newly generated waste streams upon return to LANL. |
|--|

2.4 Requirements Pertaining to Radionuclide Separation

The FFCA sets additional requirements in cases in which DOE intends to conduct radionuclide separation of mixed waste. Should the DOE determine to do radionuclide separation of such mixed waste, DOE will schedule specific compliance dates based on category activities identified in Table 2.4-1. "Radionuclide separation" shall mean segregating the radioactive portion of the mixed waste from the hazardous portion of the mixed waste.

Table 2.4-1: Activities for Radionuclide Separation

- | |
|--|
| <ul style="list-style-type: none">A. Complete an estimate of the volume of waste generated by each case of radionuclide separation.B. 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 with the estimated costs if it is not used.D. Provide the assumptions underlying such estimates of waste volumes and cost estimates.E. Provide characterization methodologies for determining waste type.F. Submit a plan for treating or managing hazardous waste residues, accompanied by an NMED permit application. |
|--|

2.5 Plans Related to Other Mixed Waste Activities

Activities other than the types of activities specifically called for in the FFCA as requiring schedules are described in this STP. Some of these activities may be associated with schedules that may contain compliance dates related to treatment of the DOE's mixed waste.

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 described in 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 of the FFCO.

DOE will notify the NMED when offsite treatability studies are conducted on STP waste. Treatability studies are used to explore alternative treatment options that may be practical for any or all of the STP mixed waste streams. When preparing waste for shipment for an offsite treatability study, DOE will evaluate the potential for incidental waste treatment or secondary waste generation, which are often associated with treatability studies.

2.6 Recycling/Re-Use

Respondent will pursue onsite or offsite recycling/re-use as a parallel preferred option.

Should DOE elect to use recycling facilities in lieu of (or in combination with) treatment, it will follow requirements as if the waste were shipped offsite for treatment. Any and all requirements by the recycling facility and all state, federal, or other regulatory requirements applicable at the recycling site shall be met by Respondents.

DOE shall notify the NMED Project Manager in writing as soon as possible if mixed waste is planned to be sent to an offsite noncommercial recycling facility. Notification should be made if possible when DOE is first considering such an option to allow NMED and the state to address any state issues or concerns with other states. The NMED Project Manager shall approve in writing the proposed offsite noncommercial recycling option prior to any shipment by DOE. DOE will notify the NMED Project Manager in writing as soon as possible and in any event within 45 working days of receipt of waste at the recycling facility. Activities for mixed waste to be recycled are identified in Table 2.6-1.

Should DOE elect to use recycling/re-use facilities in lieu of (or in combination with) treatment, it will follow the requirements as if the waste were shipped offsite for treatment. DOE will provide a notification letter to the NMED within 45 days, in place of documentation, that waste was received at a recycling facility.

Table 2.6-1: Requirements for Recycling

<p>A. Meet all regulatory requirements for recycling/re-use.</p> <p>B. Provide documentation to NMED that waste has been received at recycling facility within 45 working days of receipt of waste at the recycling facility.</p>

2.7 Onsite Radiological Decontamination

DOE will pursue onsite radiological surface or external decontamination as a preferred option. No volumetric or internal decontamination processes will be considered or performed. Surface radiological decontamination includes activities such as sand blasting, hand-scrubbing, or

electrolytic decontamination. These decontamination activities could result in reducing or removing the radiological contaminant from the waste such that the waste could be recycled in accordance with CP Section 2.6 (*Recycling/Re-Use*) or be proposed for deletion in accordance with Section IX (*Deletion of Waste*) of the FFCO.

Activities for mixed waste to be radiologically decontaminated are identified in Table 2.7-1.

Table 2.7-1: Activities for Radiological Decontamination

<p>A. Meet all DOE requirements for radiological decontamination.</p> <p>B. Provide documentation to NMED that waste has been received at recycling facility within 45 working days of receipt of waste at the recycling facility; or</p> <p>C. Propose waste for deletion in accordance with Section IX of the FFCO.</p>

3.0 MIXED LOW-LEVEL WASTE STREAMS

This section presents the preferred options to treat MLLW (formerly known as LLMW) at LANL. All preferred options not described below must be approved by NMED in accordance with the revision process pursuant to the FFCO.

The original October 4, 1995, STP inventory in each MLLW treatability group has been modified through the revision process in the FFCO. The tables in the STP Background (Part I) Appendices A–M of the FY09 STP Annual Update provide a comprehensive summary of changes to the CP covered waste inventories (additions, deletions, and shifts of waste between treatability groups) occurring as of the date of that revision. In Part III, the original STP inventory in each MLLW treatability group is denoted as subgroup 0 of that treatability group (e.g., the original volume of STP treatability group LA-W906 became LA-W906-0). Each revision that has since added volumes to individual treatability groups has resulted in creation of an additional subgroup, having the same number as the revision (e.g., LA-W906-4 was created in Revision 4.0, and LA-W906-5 was created in Revision 5.0).

In most subsections of this section, the subgroups of the treatability groups are not shown. In those cases, the Activities and Compliance Dates are applicable to the entire net volume of that treatability group. However, when subgroups of a treatability group have been assigned Activities and Compliance Dates unique to that subgroup, those subgroups are detailed in the text. Activities and Compliance Dates that have been met in previous years are not shown in this document.

3.1 Mixed Waste Streams

The following subsections summarize MLLW treatability groups.

3.1.1 IPA Wastes and Scintillation Fluids

Table 3.1.1-1: Treatability Groups for IPA Wastes and Scintillation Fluids

Treatability Group	MWIR* Waste ID	RCRA Codes	Net Volume (m ³)
IPA Wastes	LA-W901	D001, D009, F002, F003, F005	0.00
Scintillation Fluids	LA-W902	D001, F003, F005	0.00
Totals			0.00

*MWIR is Mixed Waste Inventory Report

Treatment: The waste will be treated at an offsite facility that combusts organic liquid waste.

3.1.2 Lead Blankets, Soil with Heavy Metals, Environmental Restoration (ER) Soils

Table 3.1.2-1: Treatability Groups for Lead Blankets, Soil with Heavy Metals, ER Soils

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Lead Blankets	LA-W903	D007, D008	0.00
Soil With Heavy Metals	LA-W904	D004, D005, D006, D007, D008, D009, D010, D011	0.00
ER Soils	LA-W905	D028, D029, F001, F005 D010, D011	0.00
Totals			0.00

Treatment: The waste will be treated at an offsite facility that stabilizes or macroencapsulates wastes.

3.1.3 Aqueous Organic Liquids

Table 3.1.3-1: Treatability Groups for Aqueous Organic Liquids

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Aqueous Organic Liquids	LA-W906-0 LA-W906-4 LA-W906-5	D001, D002, D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D027, D028, D030, D032, D033, D034, D036, D037, D038, D039, D041, D042, D043, F001, F002, F003, F004, F005	0.00
Totals			0.00

Table 3.1.3-2: Additional Treatability Groups for Aqueous Organic Liquids

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Aqueous Organic Liquids	LA-W906-6 LA-W906-9 LA-W906-10 LA-W906-15	D001, D002, D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D027, D028, D030, D032, D033, D034, D036, D037, D038, D039, D041, D042, D043, F001, F002, F003, F004, F005	0.00
Totals			0.00

3.1.4 Organic-Contaminated Combustible Solids

Table 3.1.4-1: Treatability Groups for Organic-Contaminated Combustible Solids

Treatability Group	MWIR Waste ID	RCRA codes	Net Volume (m ³)
Organic-Contaminated Combustible Solids	LA-W911	D001, D004, D008, D009, F001, F002, F003, F005	0.00
Totals			0.00

Table 3.1.4-2: Treatability Groups for Organic-Contaminated Noncombustible Solids

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Organic-Contaminated Noncombustible Solids	LA-W919	D001, D003, D004, D005, D006, D007, D008, D009, D010, D011, D012, D015, D018, D019, D020, D022, D027, D028, D029, D030, D031, D032, D033, D034, D035, D036, D042, D043, F001, F002, F003, F004, F005	0.00
Totals			0.00

3.1.5 Combustible Debris, Activated or Inseparable Lead, Noncombustible Debris

Table 3.1.5-1: Treatability Groups for Combustible Lead, Activated or Inseparable Lead, and Noncombustible Debris

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Combustible Debris	LA-W912	D001, D002, D003, D005, D006, D007, D008, D009, D011, D035, F001, F002, F003, F005	0.00
Activated Or Inseparable Lead	LA-W921	D008	0.00
Noncombustible Debris	LA-W922 LA-W922-17 LA-W922-22 LA-W922-23	D001, D002, D004, D005, D006, D007, D008, D009, D010, D011	0.2082
Totals			0.2082

Table 3.1.5-2: Activities and Compliance Dates for Noncombustible Debris

Activity	Compliance Dates
A. Complete shipping of existing wastes to an offsite treatment facility or complete parallel option	3/31/2014
B. Provide documentation to NMED that waste was received at offsite facility or provide notification of parallel option	Within 45 days of receipt of waste at treatment facility or within 45 days after completion of parallel option

3.1.6 Aqueous Wastes with Heavy Metals, Corrosive Solutions, Aqueous Cyanides, Nitrates, Chromates, and Arsenates

Table 3.1.6-1: Treatability Groups for Aqueous Wastes with Heavy Metals, Corrosive Solutions, Aqueous Cyanides, Nitrates, Chromates, and Arsenates

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
<i>Aqueous Wastes With Heavy Metals</i>	LA-W913	D001, D002, D003, D004, D005, D006, D007, D008, D009, D010, D011	0.00
<i>Corrosive Solutions</i>	LA-W914	D001, D002	0.00
<i>Aqueous Cyanides, Nitrates, Chromates, And Arsenates</i>	LA-W915	D001, D002, D003, D004, D005, D006, D007, D008, D009, D010, D011, F007, P029, P098	0.00
Totals			0.00

3.1.7 Water-Reactive Metal

Table 3.1.7-1: Treatability Groups for Water-Reactive Metal

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
<i>Water-Reactive Metal</i>	LA-W916	D001, D003, D004, D005, D007, D008, D010, D011	0.00
Totals			0.00

3.1.8 Compressed Gases Requiring Scrubbing

Table 3.1.8-1: Treatability Groups for Compressed Gases Requiring Scrubbing

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
<i>Compressed Gases Requiring Scrubbing</i>	LA-W917 LA-W917-21	D001, D002, D003, D008, D009, P056	0.8328
Totals			0.8328

Table 3.1.8-2: Activities and Compliance Dates for Compressed Gases Requiring Scrubbing

Activity	Compliance Dates
A. Complete shipping of existing wastes to an offsite treatment facility or complete parallel option	6/30/2014
B. Provide documentation to NMED that waste was received at offsite facility or provide notification of parallel option	Within 45 days of receipt of waste at treatment facility or within 45 days after completion of parallel option

3.1.9 Compressed Gases Requiring Oxidation

Table 3.1.9-1: Treatability Groups for Compressed Gases Requiring Oxidation

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Compressed Gases Requiring Oxidation	LA-W918	D001, U226	0.00
Totals			0.00

3.1.10 Elemental Mercury

Table 3.1.10-1: Treatability Groups for Elemental Mercury

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Elemental Mercury	LA-W920 LA-W920-16	D006, D009, F005	0.00
Totals			0.00

3.1.11 Halogenated Organic Liquids, Nonhalogenated Organic Liquids, Bulk Oils, Polychlorinated Biphenyl (PCB) Wastes with RCRA Components, Liquid and Solid Oxidizers

Table 3.1.11-1: Treatability Groups for Halogenated Organic Liquids, Nonhalogenated Organic Liquids, Bulk Oils, PCB Wastes with RCRA Components

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Halogenated Organic Liquids	LA-W907	D001, D002, D003, D007, D009, D010, D011, D018, D019, D022, D028, D029, D035, D043, F001, F002, F003, F004, F005, U077, U080, U226, U227, U228, U236	0.00
Nonhalogenated Organic Liquids	LA-W908 LA-W908-18	D001, D002, D003, D004, D007, D008, D009, D011, D018, D038, D040, F002, F003, F004, F005, U002, U019, U154, U169, U188, U220, U246	0.00
Bulk Oils	LA-W909 LA-W909-15 LA-W909-16 LA-W909-17	D002, D004, D005, D006, D007, D008, D009, D010, D011, D021, D027, D039, F001, F002, F003, F005	0.00
PCB Wastes With RCRA Components	LA-W910 LA-W910-16	D004, D005, D006, D007, D008, D009, D010, D011, D012, D015, D019, D027, D028, D030, D031, D032, D033, D034, D036, D039, D042, D043, F002, F003, F004, F005	0.00
Totals			0.00

Table 3.1.11-2: Additional Treatability Groups

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Liquid And Solid Oxidizers	LA-W923	D001, D003, D005	0.00
Totals			0.00

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

Table 3.2-1: Treatability Groups for Waste Requiring Characterization or Assessment

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Lead Wastes - TBD	LA-W924	D003, D008	0.00
Mercury Wastes - TBD	LA-W925-0	D007, D008, D009, F001	0.00
Compressed Gases - TBD	LA-W926	D001, D007, D009, D022, P056, U080, U226	0.00
Biochemical Laboratory Wastes	LA-W927	D001, D003	0.00
Dewatered Treatment Sludge	LA-W928		0.00
Totals			0.00

Table 3.2-2: Additional Wastes Requiring Characterization or Assessment

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
Lead Wastes - TBD	LA-W924-15	D003, D008	0.00
	LA-W924-16		0.00
	LA-W924-17		0.00
Mercury Wastes – TBD	LA-W925-4	D003, D007, D008, D009 F001, F002, F005	0.00
	LA-W925-5		
	LA-W925-6		
	LA-W925-15		
	LA-W925-16		
	LA-W925-17		
Explosives	LA-W932	D003	0.00
Labpacks	LA-W933	D001, D002, D003, D004, D005, D006, D007, D008, D010, F003, F005, D011, P012, P029, P098, P106, P113, P120, U131, U144, U145, U188, U190, U204, U216, U219	0.00
	LA-W933-17		
High Activity Waste	LA-W934	D001, D003, D008, D009	1.5079
	LA-W934-16		
	LA-W934-19		
	LA-W934-20		
Totals			1.5079

Table 3.2-3: Activities and Compliance Dates for Wastes Requiring Characterization or Assessment

Activity	Compliance Dates
J. Complete shipping of wastes to an offsite treatment facility, or submit documentation assigning waste items to applicable treatability groups or complete parallel option	12/31/2013
K. Provide documentation to NMED that waste was received at offsite facility or provide notification of parallel option	Within 45 days of receipt of waste at offsite facility or within 45 days after completion of parallel option

LANL's inventory of *High Activity Waste* was approximately 31 m³ at the time the milestone was extended to December 31, 2013. LANL has subsequently shipped about 95 percent of that waste offsite. LANL's remaining inventory of *High Activity Waste* on September 30, 2012, consisted of six containers with a combined volume of 1.5079 m³. Assuming that shipping issues can be resolved, LANL expects to meet the December 31, 2013, milestone for the remaining *High Activity Waste*.

Container C05180336 (Portsmouth debris) was shipped offsite in February 2013 and will be reported in the FY13 Annual Update. Container C00130818 (Tritium traps with mercury contamination) will be shipped as soon as TSDF availability and scheduling allows.

The remaining four containers (mole sieves and squib assemblies with very high tritium) cannot be transported as currently packaged. They were intended to be repackaged at TA-16 once Nuclear Safety Authorization Basis issues had been resolved. TA-16, however, is not permitted for processing the containers and has not been able to assure that the containers could be processed within the 24-hour period allowed for removal of waste from a permitted TSDF. LANL is working with off-site TSDFs to accept these containers, however, to date LANL has not been able to identify an available shipping container with a Certificate of Compliance that is capable of transporting these containers offsite safely and compliantly.

3.3 Plans for Other Types of Activities

The following subsection summarizes plans for other types of activities.

3.3.1 Lead Decontamination

Table 3.3.1-1: Treatability Groups for Lead Decontamination

Treatability Group	MWIR Waste ID	First Category	Second Category	Totals
		Net Volume (m ³)	Net Volume (m ³)	Net Volume (m ³)
Lead For Surface Decontamination	LA-W930-0	0.00	0.00	0.00
	LA-W930-5			
Totals		0.00	0.00	0.00

Treatment: Any lead not acceptable for onsite or offsite lead decontamination, plus any lead unsuccessfully decontaminated, will be designated in the following two categories: 1) for treatment and disposal at an offsite facility or 2) for recycle through an offsite capability, such as metal melting to create shielding blocks or a DOE lead bank. Non-conforming items will be reassigned to appropriate treatability groups in accordance with the FFCO.

Table 3.3.1-2: Additional Wastes for Lead Decontamination

Treatability Group	MWIR Waste ID	First Category	Second Category	Totals
		Net Volume (m ³)	Net Volume (m ³)	Net Volume (m ³)
Lead For Surface Decontamination	LA-W930-6	0.00	0.00	0.00
Totals		0.00	0.00	0.00

3.3.2 Sorting, Surveying, and Decontamination

Table 3.3.2-1: Treatability Groups for Sorting, Surveying, and Decontamination

Treatability Group	MWIR Waste ID	Net Volume (m ³)
Nonradioactive or Suspect Waste Items To Be Surveyed	LA-W929-0(1)	0.00
Nonradioactive or Suspect Waste Items To Receive RCRA and Radiological Characterization	LA-W929-0(2)	0.00
Nonradioactive or Suspect Waste Items That Cannot or Should Not Be Sampled	LA-W929-0(3)	0.00
Totals		0.00

Table 3.3.2-2: Additional Wastes for Sorting, Surveying, and Decontamination

Treatability Group	MWIR Waste ID	Net Volume (m ³)
Nonradioactive or Suspect Waste Items	LA-W929-5	0.00
Totals		0.00

3.3.3 Lead Requiring Sorting

Table 3.3.3-1: Treatability Groups for Lead Requiring Sorting

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m3)
Lead Requiring Sorting	LA-W931	D008	0.00
Totals			0.00

Treatment: Wastes in this treatability group will require different treatment processes. Drums will be opened, the contents removed, and the waste repackaged based on appropriate treatment requirements. Wastes in this treatability group are primarily lead pieces, lead shot, and lead-contaminated soils that have been packaged in the same drum.

The wastes will be reclassified as the applicable treatability group after physical separation and repackaging. The wastes will be treated by appropriate technology.

3.3.4 10–100 nCi/g Waste

Table 3.3.4-1: Treatability Groups for 10–100 nCi/g Waste

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
10-100 nCi/g	LA-W935 LA-W935-19 LA-W935-20 LA-W935-21 LA-W935-22 LA-W935-23	D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D026, D027, D028, D029, D030, D035, D036, D037, D038, D039, D040, D043, F001, F002, F004, F005, F006, F007, F009	201.4007¹
Totals			201.4007

¹ The total volume of 10-100 nCi/g Waste shown in Table 3.3.4-1 in the FY11 Annual Update was shown as 173.1088 m3; it should have been entered as 173.1039 as shown in Table A-1 in the FY11 Update.

Treatment: Wastes in this treatability group are a population of legacy drums packaged and managed as MTRU (> 100 nCi g) but, after assay, are determined to be MLLW (< 100 nCi g). Once confirmed, these drums are segregated from other TRU waste and stored in a designated MLLW storage area. Waste Profiles are prepared to allow acceptance into the low-level waste population, and drums are relabeled appropriately. A Chemical Waste Disposal Request is prepared to transfer the drums from the TRU database to the Chem-Low-Level (ChemLL) database. TRU programs will be notified of the drums reclassified from TRU to MLLW for evaluation of possible other drums based on waste stream. CCP will be notified for removal of drums from Acceptable Knowledge (AK).

The drum numbers will be submitted to Production Control for retrieval and staging as MLLW prior to offsite disposal. The MLLW drums are prepared for treatment and disposal to an offsite facility using CCP-AK documentation and onsite and offsite profiles generated for debris or sludge drums.

Table 3.3.4-2: Activities and Compliance Dates for 10–100 nCi/g Waste

Activity	Compliance Dates
A. Complete assaying	12/01/13
B. Complete shipment of existing waste to offsite facility for treatment, or complete parallel options	4-16-2014 2/31/13
C. Provide documentation to NMED that waste was received at offsite facility or provide notification of parallel option	Within 45 days of receipt of waste at treatment facility or within 45 days after completion of parallel option

As discussed in Part I, Section 2, LANL has prioritized waste shipments to address higher risk wastes before lower risk wastes like those in the 10-100 nCi/g Waste (LA-W935) treatability group. Therefore, a substantial inventory of LA-W935 waste that resulted from reclassifying MTRU waste between FY07 and FY12 remains to be shipped offsite. LANL intends to complete shipment of the remaining inventory from FY11 as well as additional 10-100 nCi/g Waste generated from continued remediation of legacy TRU waste in FY12 – (a total of 201.4007 m³) before the milestone of ~~April 16, 2014~~~~December 31, 2012~~. As much waste as possible that is reclassified in FY13 will also be shipped offsite prior to December 31, 2013. However, some waste produced in the latter part of 2013 may not be able to be shipped prior to December 31, 2013 if there are scheduling conflicts or restrictions at the receiving facilities. In that case, LANL would seek an additional milestone for those particular wastes. The estimated waste volume will be subtracted from the MTRU STP inventory and added to MLLW STP inventory as the waste is reclassified as MLLW. Overall the STP inventory will have a zero net change. However, because of the repacking process the apparent volume of waste will reflect the number of additional containers needed to repackage the waste into compliant configurations for transportation and disposal.

3.4 Management of “Missing” Items

Table 3.4-1: Waste Category for “Missing Waste”

Category	MWIR Waste ID	Net Volume (m ³)
Missing/Nonexistent/TBV	None	0.00
Totals		0.00

Treatment: During visual inspections and sampling activities in support of STP waste work-off, occasionally an item cannot be found, or it is not located in the containers in which it is expected to be, according to the LANL data files for the waste item. In some instances, such items cannot be verified as having ever been received in storage at LANL, and follow-up investigations of the record files reveal that for various reasons, the waste items were never in fact generated, although on paper they were included in the original STP inventory.

Some items were determined not to exist after visual inspection and document review. When LANL determines that an STP-covered waste item does not exist, transfer of the item to the category called “*Missing/nonexistent/TBV* (to be verified)” is requested through the revision process associated with the next Annual Update.

DOE verified the absence of all “*Missing/nonexistent/TBV*” items container by container as each STP waste item was being sampled, repackaged, or otherwise prepared for onsite or offsite treatment. The final verification of all “*Missing/nonexistent/TBV*” items was completed by 2004. All missing or nonexistent items have been deleted from the STP. All remaining MLLW items in the original STP inventory have been treated and disposed of.

If, at any time, any of these items be discovered in the inventory, NMED would be notified, and approval would be requested for assignment of the rediscovered items to the appropriate treatability group. If necessary, they would be assigned new Activities and Compliance Dates, in accordance with the terms of the FFCO.

2.6044 **4.0** — MIXED TRANSURANIC WASTE

Treatment Group(s): Assorted MTRU Waste

Offsite Disposal: MTRU waste at LANL will be shipped for disposal at WIPP, which is located in Carlsbad, New Mexico. ~~The schedule for characterization and subsequent offsite shipment to WIPP will be dependent on the annual DOE budget allocation specific to this activity.~~

4.0-1 Treatability Groups for The Framework Agreement MTRU Waste (remaining)

<u>Treatability Group</u>	<u>CP Section</u>	<u>Volume (m³)</u>
<u>Cemented Sludge</u>	<u>4.0</u>	<u>27.136</u>
<u>Combustible – Noncombustible Waste</u>	<u>4.0</u>	<u>252.780</u>
<u>Combustible Waste</u>	<u>4.0</u>	<u>1.059</u>
<u>Metallic Waste</u>	<u>4.0</u>	<u>19.258</u>
<u>Noncombustible Waste</u>	<u>4.0</u>	<u>1.456</u>
<u>Solidified Inorganic and Organic Waste</u>	<u>4.0</u>	<u>4.237</u>
<u>Totals</u>		<u>306.248</u>

Disposal: Waste volumes listed above in Table 4.0-1 are a remaining population of the Framework Agreement of “non-cemented above-ground EM Legacy TRU” and “above-ground cemented EM Legacy TRU that is MTRU waste only. As stated in the “Los Alamos National Laboratory Framework Agreement: Realignment of Environmental Priorities,” DOE/NNSA commits to continue to accelerate the rate of removal of above ground transuranic waste (TRU) at TA-54, Area G and to focus its efforts to achieve disposition of this TRU waste at the earliest feasible time. There are competing priorities for the facilities between the Framework Agreement waste and the 10-100 nCi/g waste that needs to be processed.

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Covered MTRU Inventory at TA-55: The FY12 reported waste volume for STP-covered MTRU inventory at TA-55 and CMR is 42,004 m³. In FY12 approximately 31 cubic meters of TA-55's STP waste is associated with the Bolas Grande Project, which is scheduled to begin in the summer of FY14. This project is scheduled to last two years with an anticipated ending date of September 20, 2016. The remainder of the TA-55 STP waste consists of 1) radioactive free liquids, requiring management at the Waste Characterization, Reduction, and Repacking Facility (WCRRF), and 2) MTRU waste containers that are not DOT-certified. The management of this waste involves the transfer of waste from these not DOT-certified drums into DOT-certified containers. However, this waste transfer will need to be conducted inside a glovebox, because past experience with these not DOT-certified containers revealed internal radioactive contamination. TA-55 has no gloveboxes in its permitted waste storage units. A Temporary Authorization was pursued in FY12 involving a glovebox waste management strategy, but it was never approved. A less desirable and costly solution for these not DOT-certified containers was to place them into Standard Waste Boxes (SWBs) and shipped to TA-54, Area G, there they will undergo real time radiography. If prohibited items are observed then the offending SWBs will be shipped to WCRRF for material inspection and drum repackaging. After the waste is removed and repackaged into DOT-certified containers, they would be shipped back to TA-54 and scheduled for disposal at the Waste Isolation Pilot Plant (WIPP). This process has begun in FY13 and will affect volumes reported in the STP Compliance Plan Volume which will involve increased administrative adjustments to be made in order to reflect the repackaging of these not DOT-certified containers into SWBs and repackaging of SWBs into DOT-certified containers.

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Table 4.0-2: Activities and Compliance Dates for MTRU Inventory at TA-55 and CMR from Table E-2

Activity	Compliance Dates
A. Complete transfer of existing waste (excluding Metallic Waste) to TA-54 facility	9-30-2017
C. Complete transfer of Metallic Waste to CMR for material retrieval	9-30-2017

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APPENDICES

APPENDIX A. CURRENT YEAR MLLW INVENTORY DETAIL

Table A-1: FY12 MLLW Inventory¹ Detailed Update by Treatability Group

CP* Sec.	MWIR* Waste ID and Treatability Group/Category	FY11 Annual Update (m ³) ¹	Proposed Revision 23.0 (m ³)	Comments ²	FY12 Annual Update (m ³)	Projection FY13- FY17 (m ³)
3.1.1	LA-W901 <i>IPA Wastes</i>	0	0		0	0
3.1.1	LA-W902 <i>Scintillation Fluids</i>	0	0		0	0
3.1.2	LA-W903 <i>Lead Blankets</i>	0	0		0	0
3.1.2	LA-W904 <i>Soil with Heavy Metals</i>	0	0		0	0
3.1.2	LA-W905 <i>ER Soils</i>	0	0		0	0
3.1.3	LA-W906 <i>Aqueous Organic Liquids</i>	0	0		0	0
3.1.4	LA-W911 <i>Organic-Contaminated Combustible Solids</i>	0	0		0	0
3.1.4	LA-W919 <i>Organic-Contaminated Noncombustible Solids</i>	0	0		0	0
3.1.5	LA-W912 <i>Combustible Debris</i>	0	0		0	0
3.1.5	LA-W921 <i>Activated or Inseparable Lead</i>	0	0		0	0
3.1.5	LA-W922 <i>Noncombustible Debris</i>	0	0.2082		0.2082	0
3.1.6	LA-W913 <i>Aqueous Wastes with Heavy Metals</i>	0	0		0	0
3.1.6	LA-W914 <i>Corrosive Solutions</i>	0	0		0	0
3.1.6	LA-W915 <i>Aqueous Cyanides, Nitrates, Chromates, and Arsenates</i>	0	0		0	0
3.1.7	LA-W916 <i>Water-Reactive Wastes</i>	0	0		0	0

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Site Treatment Plan

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CP* Sec.	MWIR* Waste ID and Treatability Group/Category	FY11 Annual Update (m ³) ¹	Proposed Revision 23.0 (m ³)	Comments ²	FY12 Annual Update (m ³)	Projection FY13- FY17 (m ³)
3.1.8	LA-W917 ³ <i>Compressed Gases Requiring Scrubbing</i>	1.2492	0	Administrative Adjustment	0.8328	0
			-0.4164	Shipped offsite for treatment/disposal		
3.1.9	LA-W918 <i>Compressed Gases Requiring Oxidation</i>	0	0		0	0
3.1.10	LA-W920 <i>Elemental Mercury</i>	0	0		0	0
3.1.11	LA-W907 <i>Halogenated Organic Liquids</i>	0	0		0	0
3.1.11	LA-W908 <i>Nonhalogenated Organic Liquids</i>	0	0		0	0
3.1.11	LA-W909 <i>Bulk Oils</i>	0	0		0	0
3.1.11	LA-W910 <i>Polychlorinated Biphenyl (PCB) Wastes with Resource Conservation and Recovery Act (RCRA) Components</i>	0	0		0	0
3.1.11	LA-W923 <i>Liquid and Solid Oxidizers</i>	0	0		0	0
3.2	LA-W924 <i>Lead Wastes – TBD</i>	0	0		0	0
3.2	LA-W925 <i>Mercury Wastes – TBD</i>	0	0		0	0
3.2	LA-W926 <i>Compressed Gases – TBD</i>	0	0		0	0
3.2	LA-W927 <i>Biochemical Laboratory Wastes</i>	0	0		0	0
3.2	LA-W928 <i>Dewatered Treatment Sludge</i>	0	0		0	0
3.2	LA-W932 <i>Explosives</i>	0	0		0	0

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CP* Sec.	MWIR* Waste ID and Treatability Group/Category	FY11 Annual Update (m ³) ¹	Proposed Revision 23.0 (m ³)	Comments ²	FY12 Annual Update (m ³)	Projection FY13- FY17 (m ³)
3.2	LA-W933 <i>Labpacks</i>	0	0		0	0
3.2	LA-W934 <i>High Activity Waste³</i>	1.5079	0	Shipped offsite for treatment/disposal	1.5079	0
3.3.1	LA-W930 <i>Lead for Surface Decontamination</i>	0	0		0	0
3.3.2	LA-W929 <i>Nonradioactive or Suspect Waste Items to be Surveyed</i>	0	0		0	0
3.3.3	LA-W931 <i>Lead Requiring Sorting</i>	0	0		0	0
3.3.4	LA-W935 <i>10-100 nCi/g Waste³</i>	173.1039	90.2360	Administrative Adjustment	201.4007	460.0000 ⁴ 50
			-61.9392	Shipped offsite for treatment/disposal		
3.4	<i>Missing/ nonexistent/ TBV category</i>	0	0		0	N/A
TOTALS		175.8610			203.9496	

* CP is Compliance Plan; MWIR is Mixed Waste Inventory Report

¹ MLLW volumes are calculated using the conversion: 55-gallon container = 0.2082 m³; 85-gallon container = 0.3218 m³; however, due to FY12 changes in the way that the MTRU and MLLW databases record volumes for newly reclassified LA-W935 waste, the volumes removed from the MTRU database for containers reclassified in FY12 equal those added to the MLLW inventory of LA-W935 waste.

² Shipment details are in Appendix B; Administrative adjustments are in Appendix C.

³ Items prohibited from shipment to WIPP are removed from MTRU STP containers and consolidated; some are MLLW and are included in Table A-1 as LA-W917 waste; others are MTRU waste and are considered *Combustible-Noncombustible Waste* in Table E-1.

⁴ LANL anticipates that a large volume of formerly TRU and MTRU waste will be retrieved over the next few years and will be reclassified to LA-W935. As a conservative measure, stored, reclassified TRU waste may be assigned hazardous waste codes and managed as STP mixed waste.

APPENDIX B. CURRENT YEAR MLLW SHIPMENT DETAIL

Table B-1. MLLW Shipped Offsite for Treatment and Disposal in FY12

CP Section	MWIR No.	Treatability Group	Manifest Number	Destination	Date Shipped	Date NMED Notified	Volume (m ³)
3.1.8	LA-W917	Compressed Gases Requiring Scrubbing	007047476JJK	Perma-Fix/M&EC	9/26/2012	11/6/2012 (WM-DO-12-0005)	0.4164
LA-W917 Total							0.4164
3.3.4	LA-W935	10-100 nCi/g Waste	007047091JJK	Perma-Fix/NW	12/15/2011	1/20/2012 (ENV-ES-12-011)	2.1100
3.3.4	LA-W935	10-100 nCi/g Waste	007047103JJK	Perma-Fix/NW	12/20/2011	1/25/2012 (ENV-ES-12-015)	10.1832 ¹
3.3.4	LA-W935	10-100 nCi/g Waste	007047487JJK	Perma-Fix/NW	3/30/2012	9/19/2012 (ENV-ES-12-0201)	2.1080
3.3.4	LA-W935	10-100 nCi/g Waste	007047487JJK	Perma-Fix/NW	9/27/2012	11/6/2012 (WM-DO-12-0004)	15.4900
3.3.4	LA-W935	10-100 nCi/g Waste	007047497JJK	Perma-Fix/NW	9/27/2012	11/6/2012 (WM-DO-12-0004)	31.8400
3.3.4	LA-W935	10-100 nCi/g Waste	007047483JJK	Perma-Fix/FL	9/26/2012	11/6/2012 (WM-DO-12-0005)	.2080
LA-W935 Total							61.9392
Grand Total							62.3556

¹ Due to a rounding error, the total volume reported in ENV-ES-12-015 was 10.1735 m³; it should have been reported as 10.1832 m³.

APPENDIX C. CURRENT YEAR MLLW ADMINISTRATIVE ADJUSTMENTS

Table C-1. Administrative Adjustments

CP Section	MWIR Number	Administrative Adjustment	Volume (m ³)
3.3.4	LA-W935	Transferred into LA-W935 from MTRU STP Inventory	90.2360 ¹
Total Net Adjustments for LA-W935			90.2360
Total Net Adjustments			90.2360

¹ Due to changes in the way that the MTRU and MLLW databases record volumes for newly reclassified (LA-W935 waste, the volumes removed from the MTRU Inventory in FY12 equal the volumes added to the MLLW inventory.

Table C-2. Administrative Adjustment -- Detail

CP Section	MWIR	Treatability Group	Type of Adjustment	Cumulative Volume Adjustment (m ³)	Item or Container Number	MLLW Container Volume (m ³)	Reason for Administrative Adjustment	
3.3.4	LA-W935	10-100 nCi/g	Reclassified MTRU STP inventory to MLLW STP inventory	90.236			Less than 100 nCi/g; Derived from combustible/noncombustible MTRU inventory	
					L12226669	2.5600		Parent MTRU Container 52307, 2.560 m3
					C11225642	26.7200		Parent MTRU Container 55123, 26.720 m3
					L12226668	19.2700		Parent MTRU Container 55304, 19.270 m3
					L12226671	11.7600		Parent MTRU Container 55306, 11.760 m3
					L12226665	12.5700		Parent MTRU Container S794035, 12.570 m3
					W730474	1.9000		Parent MTRU Container 89999, 1.900 m3
					L12226666	12.4000		Parent MTRU Container S813231, 12.400 m3
					L12226655	0.3220		Parent MTRU Container 91021, 0.322
					L12226663	0.2080		Parent MTRU Container 91111, 0.208 m3
					W734347	0.2080		Parent MTRU Container 90735, 0.208 m3
					L12226670	0.2080		Parent MTRU Container 89758, 0.208 m3
C11225675	2.1100	Parent MTRU Container 56040, 2.110 m3						
Subtotal MLLW Volume						90.2360	Subtotal MTRU Volume: 90.236	

APPENDIX D. PREVIOUS YEAR MLLW INVENTORY DETAIL

Table D-1: FY11 MLLW Inventory1 Detailed Update by Treatability Group

CP* Sec.	MWIR* Waste ID and Treatability Group/Category	FY10 Annual Update (m ³) ¹	Proposed Revision 22.0 (m ³)	Comments ²	FY11 Annual Update (m ³)	Projection FY12- FY16 (m ³)
3.1.1	LA-W901 <i>IPA Wastes</i>	0	0		0	0
3.1.1	LA-W902 <i>Scintillation Fluids</i>	0	0		0	0
3.1.2	LA-W903 <i>Lead Blankets</i>	0	0		0	0
3.1.2	LA-W904 <i>Soil with Heavy Metals</i>	0	0		0	0
3.1.2	LA-W905 <i>ER Soils</i>	0	0		0	0
3.1.3	LA-W906 <i>Aqueous Organic Liquids</i>	0	0		0	0
3.1.4	LA-W911 <i>Organic-Contaminated Combustible Solids</i>	0	0		0	0
3.1.4	LA-W919 <i>Organic-Contaminated Noncombustible Solids</i>	0	0		0	0
3.1.5	LA-W912 <i>Combustible Debris</i>	0	0		0	0
3.1.5	LA-W921 <i>Activated or Inseparable Lead</i>	0	0		0	0
3.1.5	LA-W922 <i>Noncombustible Debris</i>	0	1.3027	New covered	0	0
			-1.3027	Shipped offsite for treatment/disposal		
3.1.6	LA-W913 <i>Aqueous Wastes with Heavy Metals</i>	0	0		0	0
3.1.6	LA-W914 <i>Corrosive Solutions</i>	0	0		0	0
3.1.6	LA-W915 <i>Aqueous Cyanides, Nitrates, Chromates, and Arsenates</i>	0	0		0	0

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CP* Sec.	MWIR* Waste ID and Treatability Group/Category	FY10 Annual Update (m ³) ¹	Proposed Revision 22.0 (m ³)	Comments ²	FY11 Annual Update (m ³)	Projection FY12- FY16 (m ³)
3.1.7	LA-W916 <i>Water-Reactive Wastes</i>	0	0		0	0
3.1.8	LA-W917 <i>Compressed Gases Requiring Scrubbing</i>	4.164	-0.6246	Administrative Adjustment (Existing prohibited items from MLLW STP inventory ³ recharacterized as MTRU)	1.2492	0
			-2.2902	Shipped offsite for treatment/disposal		
3.1.9	LA-W918 <i>Compressed Gases Requiring Oxidation</i>	0	0		0	0
3.1.10	LA-W920 <i>Elemental Mercury</i>	0	0		0	0
3.1.11	LA-W907 <i>Halogenated Organic Liquids</i>	0	0		0	0
3.1.11	LA-W908 <i>Nonhalogenated Organic Liquids</i>	0	0		0	0
3.1.11	LA-W909 <i>Bulk Oils</i>	0	0		0	0
3.1.11	LA-W910 <i>Polychlorinated Biphenyl (PCB) Wastes with Resource Conservation and Recovery Act (RCRA) Components</i>	0	0		0	0
3.1.11	LA-W923 <i>Liquid and Solid Oxidizers</i>	0	0		0	0
3.2	LA-W924 <i>Lead Wastes – TBD</i>	0	0		0	0
3.2	LA-W925 <i>Mercury Wastes – TBD</i>	0	0		0	0
3.2	LA-W926 <i>Compressed Gases – TBD</i>	0	0		0	0
3.2	LA-W927 <i>Biochemical Laboratory Wastes</i>	0	0		0	0
3.2	LA-W928 <i>Dewatered Treatment Sludge</i>	0	0		0	0

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CP* Sec.	MWIR* Waste ID and Treatability Group/Category	FY10 Annual Update (m ³) ¹	Proposed Revision 22.0 (m ³)	Comments ²	FY11 Annual Update (m ³)	Projection FY12- FY16 (m ³)
3.2	LA-W932 <i>Explosives</i>	0	0		0	0
3.2	LA-W933 <i>Labpacks</i>	0	0		0	0
3.2	LA-W934 <i>High Activity Waste³</i>	2.1709	-0.6556	Shipped offsite for treatment/disposal	1.5079	0
			-0.0074	Administrative Adjustment		
3.3.1	LA-W930 <i>Lead for Surface Decontamination</i>	0	0		0	0
3.3.2	LA-W929 <i>Nonradioactive or Suspect Waste Items to be Surveyed</i>	0	0		0	0
3.3.3	LA-W931 <i>Lead Requiring Sorting</i>	0	0		0	0
3.3.4	LA-W935 <i>10-100 nCi/g Waste³</i>	155.1344	76.1505	Administrative Adjustment	173.1039	460.0000 ⁴
			10.6028	New covered (reclassified and transferred from TRU inventory)		
			-68.7838	Shipped offsite for treatment/disposal		
3.4	<i>Missing/ nonexistent/ TBV category</i>	0	0		0	N/A
TOTALS		161.4693			175.8610	

* CP is Compliance Plan; MWIR is Mixed Waste Inventory Report

¹ MLLW volumes are calculated using the conversion: 55-gallon container = 0.2082 m³; 85-gallon container = 0.3218 m³

² Shipment details are in Appendix B; Administrative adjustments are in Appendix C.

³ Items prohibited from shipment to WIPP are removed from MTRU STP containers and consolidated; some are MLLW and are included in Table A-1 as LA-W917 waste; others are MTRU waste and are considered *Combustible-Noncombustible Waste* in Table E-1.

⁴ LANL anticipates that a large volume of formerly TRU and MTRU waste will be retrieved over the next few years and will be reclassified to LA-W935. As a conservative measure, the stored reclassified TRU waste will be assigned hazardous waste codes and will be managed as STP mixed waste.

APPENDIX E. CURRENT MTRU INVENTORY DETAIL

Table E-1. TA-54 MTRU Covered Inventory (by Treatability Group)

Treatability Group	FY11 Annual Update (m ³)	Proposed Revision 23.0 (m ³) ^{1,2}	Comments ³	FY12 Annual Update (m ³)	Projection FY13-FY17 (m ³)
Cemented Sludge	662.822				
		(27.136) ⁵	3706 Above-ground Cemented EM Legacy TRU (MTRU waste only)		
		0	New Covered		
		-62.580	Shipped Offsite		
		-4.154	Administrative Adjustments		
			FY12 Subtotal Cemented Sludge	596.088	0
Combustible Noncombustible Waste	2005.544				
		(252.78) ⁵	3706 Non-cemented Above-ground EM Legacy TRU (MTRU waste only)		
		8.348	New Covered		
		-280.568	Shipped Offsite		
		-7.138 ⁵	Administrative Adjustments		
			FY12 Subtotal Combustible-Noncombustible Waste	1726.186181 1.252	100
Combustible Waste	20.460				
		(1.059) ⁵	3706 Non-cemented Above-ground EM Legacy TRU (MTRU waste only)		
		0.644	New Covered		
		-6.296	Shipped Offsite		
		-2.536	Administrative Adjustments		
			FY12 Subtotal Combustible Waste	12.272	0
Glass Waste	0.208				
		(0) ⁵	3706 Non-cemented Above-ground EM Legacy TRU (MTRU waste only)		
		0	New Covered		
		0	Shipped Offsite		
		-0.208	Administrative Adjustments		
			FY12 Subtotal Glass Waste	0	0
Leaded Glovebox Waste	0				
		(0) ⁵	3706 Non-cemented Above-ground EM Legacy TRU		

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Treatability Group	FY11 Annual Update (m ³)	Proposed Revision 23.0 (m ³) ^{1,2}	Comments ³	FY12 Annual Update (m ³)	Projection FY13-FY17 (m ³)
			(MTRU waste only)		
		0	New Covered		
		0	Shipped Offsite		
		0	Administrative Adjustments		
			FY12 Subtotal Leaded Glovebox Waste	0	0
Metallic Waste	118.988				
		(19.258) ⁵	3706 Non-cemented Above-ground EM Legacy TRU (MTRU waste only)		
		0	New Covered		
		-6.116	Shipped Offsite		
		-2.526	Administrative Adjustments		
			FY12 Subtotal Metallic Waste	110.346	0
Noncombustible Waste	125.352				
		(1.456) ⁵	3706 Non-cemented Above-ground EM Legacy TRU (MTRU waste only)		
		0.208	New Covered		
		-96.708	Shipped Offsite		
		96.908	Administrative Adjustments		
			FY12 Subtotal Noncombustible Waste	125.760	100
Solidified Inorganic and Organic Waste	140.870				
		(4.237) ⁵	3706 Non-cemented Above-ground EM Legacy TRU (MTRU waste only)		
		2.288	New Covered		
		-23.752	Shipped Offsite		
		31.310	Administrative Adjustments		
			FY12 Subtotal Solidified Inorganic and Organic Waste	150.716	10
TOTAL FY11⁴:	3074.24	4	Total FY12 Inventory:	2721.368	210

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¹ MTRU waste volumes are calculated using the conversion: 55-gallon container = 0.2080 m³; 85-gallon container = 0.3215 m³.
² Volumes are represented to three decimal places in accordance with an agreement with NMED to report MTRU volumes to three decimal places.
³ Shipping details are found in Appendix F, and Administrative Adjustments are found in Appendix G.
⁴ Depending on the rounding method (rounding of totals or of individual volumes), minor differences in the total inventory may be obtained. This report adjusts the end-of-the-year inventory with individual drum volumes rounded to three decimal places.
⁵ Amount already included in the MTRU STP covered inventory.

Table E-2: MTRU Inventory at TA-55 and CMR

Location	FY11 MTRU Inventory (m ³) ¹	Treatability Group	Proposed Revision 23.0 (m ³)	Comments ¹	FY12 MTRU Inventory (m ³)
CMR	3.564	Combustible-Noncombustible Waste	0.208	New Covered	
			-1.456	Administrative Adjustment	
Total FY12 CMR Inventory					2,108,316
TA-55	5.806	Combustible-Noncombustible Waste	2.080	New Covered	
			-4.632	Administrative Adjustment	
FY12 TA-55 Combustible-Noncombustible Waste Inventory					3.254
TA-55	0	Combustible Waste	0.019	New Covered	
FY12 TA-55 Combustible Waste Inventory					0.019
TA-55	31.987	Metallic Waste			
FY12 TA-55 Metallic Waste Inventory					31.987
TA-55	3.148	Noncombustible Waste	3.596	New Covered	
			-2.524	Administrative Adjustment	
FY12 TA-55 Noncombustible Waste Inventory					4.220
TA-55	0.208	Solid Organic and Inorganic Waste			
FY12 TA-55 Solidified Organic and Inorganic Waste Inventory					0.208
Total FY12 TA-55 Inventory					39.688
	44.713	Total FY12 CMR/TA-55 Inventory			42,004,179.6

¹ Shipping details are found in Appendix F and Administrative Adjustments are found in Appendix G. Since all waste is shipped from TA-54, there are no shipping data for CMR/TA-55, only transfers to TA-54, which are included in the Appendix G.

APPENDIX F. FY12 MTRU WASTE SHIPMENTS TO WIPP

Table F-1: FY12 MTRU Shipments to WIPP

FY12 Quarter	Treatability Group	Existing FY11 Inventory Volume (m ³)	New Covered Volume (m ³)	Total Removed from Inventory (m ³)	Total Volume Shipped (m ³) ¹
Q1	<i>Cemented Sludge Total</i>	4.690	0	4.690	4.576
	<i>Combustible-Noncombustible Waste Total</i>	50.336	0.208	50.544	50.544
	<i>Combustible Waste Total</i>	0.624	0	0.624	0.624
	<i>Noncombustible Waste Total</i>	24.960	0	24.960	24.960
	<i>Solidified Inorganic and Organic Waste Total</i>	1.664	0	1.664	1.664
	Q1 Total	82.274	0.208	82.482	82.368
Q2	<i>Cemented Sludge Total</i>	1.456	0	1.456	1.456
	<i>Combustible-Noncombustible Waste Total</i>	40.352	0.208	40.560	40.560
	<i>Combustible Waste Total</i>	1.040	0	1.040	1.040
	<i>Metallic Waste Total</i>	0.416	0	0.416	0.416
	<i>Noncombustible Waste Total</i>	31.408	0	31.408	31.408
	<i>Solidified Inorganic and Organic Waste Total</i>	1.040	0.208	1.248	1.248
Q2 Total	75.712	0.416	76.128	76.128	
Q3	<i>Cemented Sludge Total</i>	1.664	0	1.664	1.664
	<i>Combustible-Noncombustible Waste Total</i>	128.044	2.732	130.776	130.776
	<i>Combustible Waste Total</i>	4.216	0	4.216	4.216
	<i>Metallic Waste Total</i>	3.800	0	3.800	3.800
	<i>Noncombustible Waste Total</i>	17.472	0.208	17.680	17.680
	<i>Solidified Inorganic and Organic Waste Total</i>	0.416	0.416	0.832	0.832
Q3 Total	155.612	3.356	158.968	158.968	
Q4	<i>Cemented Sludge Total</i>	54.770	0	54.770	52.832
	<i>Combustible-Noncombustible Waste Total</i>	58.272	0.416	58.688	58.688
	<i>Combustible Waste Total</i>	0.416	0	0.416	0.416
	<i>Metallic Waste Total</i>	1.900	0	1.900	1.900
	<i>Noncombustible Waste Total</i>	22.660	0	22.660	22.660
	<i>Solidified Inorganic and Organic Waste Total</i>	19.592	0.416	20.008	19.552
Q4 Total	157.610	0.832	158.442	156.048	
	Grand Total	471.41647 <u>1,208</u>	4,6044 <u>812</u>	476.020	473.512

¹ Volumes shipped may be lower than volumes removed from the STP inventory due to the removal of overpacks before shipping.

APPENDIX G. CURRENT YEAR MTRU INVENTORY – ADMINISTRATIVE ADJUSTMENTS

Table G-1: FY12 MTRU Administrative Adjustments to TA-54 Inventory

Treatability Group	Administrative Adjustment	Volume (m ³)
Cemented Sludge	Repacked into 6.032 m ³ Combustible-Noncombustible Waste and 4.576 m ³ Noncombustible Waste	-5.938
	Volume changes due to addition or removal of 85 gallon overpacks	1.784
Cemented Sludge Net Adjustment		-4.154
Combustible-Noncombustible Waste	Reclassified as MLLW (LA-W935)	-88.126
	Added as a result of recharacterizing TRU inventory as MTRU (Three containers (2.316 m ³) were discovered to contain aerosol cans and were assigned EPA Code D003	2.316
	<u>Added as a result from reconciliation of inconsistencies in the current inventory</u>	<u>85.066</u>
	Added as a result of recharacterizing TRU inventory as MTRU during repacking	29.356
	Repacked into 138.086 m ³ Combustible-Noncombustible Waste and 33.280 m ³ Noncombustible Waste	-114.894
	Additional covered inventory transferred from TA-55 covered inventory	4.632
	Additional covered inventory transferred from CMR covered inventory	2.940
	Added as a result of repacking Cemented Sludge waste	6.0320
	Added as a result of repacking Combustible-Noncombustible Waste	138.086
	Added as a result of repacking Combustible Waste	1.872
	Added as a result of repacking Glass Waste	0.208
	Added as a result of repacking Metallic Waste	0.416
	Added as a result of repacking Noncombustible Waste	3.744
	Added as a result of repacking Solidified Inorganic and Organic Waste	3.952
	Added as a result of reclassifying MTRU WIPP-prohibited items (Noncombustible Waste) as Combustible-Noncombustible Waste	1.664
	Added as a result of accumulating MTRU WIPP-prohibited items	0.208
	Volume changes due to addition of 85 gallon overpacks	0.456
Combustible-Noncombustible Net Adjustment		-77.92438
Combustible Waste	Repacked into 1.872 m ³ Combustible-Noncombustible Waste and 1.248 m ³ Noncombustible Waste	-2.536
Combustible Waste Net Adjustment		-2.536
Glass Waste	Repacked into 0.208 m ³ Combustible-Noncombustible Waste	-0.208
	Glass Waste Net Adjustment	-0.208
Metallic Waste	Reclassified as MLLW (LA-W935)	-2.110
	Repacked into 0.416 m ³ Combustible-Noncombustible Waste	-0.530
	Volume changes due to addition or removal of 85 gallon overpacks	0.114
Metallic Waste Net Adjustment		-2.526
Noncombustible Waste	Repacked into 3.744 m ³ Combustible-Noncombustible Waste and 7.696 m ³ Noncombustible Waste	-3.556
	Added as a result of repacking Cemented Sludge	4.576

Treatability Group	Administrative Adjustment	Volume (m ³)
	Added as a result of repacking <i>Combustible-Noncombustible Waste</i>	33.280
	Added as a result of repacking <i>Noncombustible Waste</i>	7.696
	Added as result of repacking <i>Combustible Waste</i>	1.248
	Added as result of repacking <i>Solidified Inorganic and Organic Waste</i>	3.120
	MTRU WIPP-prohibited items (<i>Noncombustible Waste</i>) reclassified as <i>Combustible-Noncombustible Waste</i>	-1.664
	Added as a result of recharacterizing TRU inventory as MTRU during repacking	51.376
	Additional covered inventory transferred from TA-55 covered inventory and assigned to <i>Combustible-Noncombustible Waste</i> at TA-54	0.832
Noncombustible Waste Net Adjustment		96.908
<i>Solidified Inorganic and Organic Waste</i>	Repacked into 3.952 m ³ <i>Combustible-Noncombustible Waste</i> and 3.120 m ³ <i>Noncombustible Waste</i>	-3.442
	Added as a result of recharacterizing TRU inventory as MTRU during repacking 132 containers (34.296 m ³) of nitrate salts were reevaluated, determined to be potentially mixed waste, and assigned EPA codes D007, D008, and D009)	34.296
	Volume changes due to addition or removal of 85 gallon overpacks	0.456
Solidified Inorganic and Organic Waste Net Adjustment		31.310
Total Net TA-54 Adjustment		<u>196.722</u>111.656

Table G-2: FY12 MTRU Administrative Adjustments
for CMR and TA-55 Inventory

Location	Treatability Group	Administrative Adjustment	Volume (m ³)
CMR	<i>Combustible-Noncombustible Waste</i>	Transferred to TA-54 and assigned to <i>Combustible-Noncombustible Waste</i> in the TA-54 inventory	-2.940
		Added due to overpacking waste (0.416 m ³) into Standard Waste Box (1.900 m ³)	1.484
Net Adjustment CMR Inventory			-1.456
TA-55	<i>Combustible-Noncombustible Waste</i>	Transferred to TA-54 and assigned to <i>Combustible-Noncombustible Waste</i> in the TA-54 inventory	-4.632
		Net Adjustment TA-55 <i>Combustible-Noncombustible Waste</i>	
TA-55	<i>Noncombustible Waste</i>	Transferred to TA-54 and assigned to <i>Combustible-Noncombustible Waste</i> in the TA-54 inventory	-0.832
		One container (a large metal plate) was reevaluated and determined to be nonhazardous low-level waste	-1.900
		Added as a result of dividing the contents of one <i>Noncombustible Waste</i> container (0.208 m ³) into two <i>Noncombustible Waste</i> containers (0.416 m ³) for a net increase of 0.208 m ³	0.208
Net Adjustment TA-55 <i>Noncombustible Waste</i>			-2.524
Net Adjustment TA-55 Inventory			-7.156
Total Net TA-55/CMR Adjustment			-8.612

Table G-3: MTRU Administrative Adjustments – TA-54 Volume Adjustments [Table omitted]

Table G-4: MTRU Administrative Adjustments – TA-54 Containers Added [Table omitted]

APPENDIX H. MLLW TREATMENT FACILITIES

Table H-1: Commercial Facilities Contacted for Waste Treatment Capabilities

Commercial Facility	Location
Perma-Fix (including Material & Energy Corporation in Tennessee (TN); Diversified Scientific Services, Inc. in TN; and Perma-Fix North West in Washington)	Florida
Waste Control Specialists	Texas
EnergySolutions of Utah (including Bear Creek Operations in TN)	Utah
Nuclear Fuel Services	Tennessee
Integrated Environmental Services	Tennessee
NSSI	Texas

APPENDIX I. CORRESPONDENCE

Table I-1: Expedited Shipment Letters [Table omitted]

Table I-2: Correspondence

Letter Date	Description	Letter Number	Revision Reference	Listed in Revision 22.0 (Appendix I)
10/7/2011	Response to the 9/21/2011 Notice of Disapproval of the FY10 STP Annual Report and Proposed Revision 21.0	ENV-ES-11-0222	21.0	Yes
10/28/2011	Notice of Completion of OffSite Waste Shipment Activity 3.3.4	ENV-ES-11-0234	22.0	Yes
11/1/2011	Notice of Completion of OffSite Waste Shipment Activity 4.0, FY11 Q4	ENV-ES-11-0257	22.0	Yes
12/9/2011	Notice of Completion of OffSite Waste Shipment Activity 3.1.8	ENV-ES-11-0285	22.0	Yes
1/20/2012	Notice of Completion of OffSite Waste Shipment Activity 3.3.4	ENV-ES-12-0011	23.0	No
1/25/2012	Notice of Completion of OffSite Waste Shipment Activity 3.3.4	ENV-ES-12-015	23.0	No
1/31/2012	Notice of Completion of OffSite Waste Shipment Activity 4.0, FY12 Q1	ENV-ES-018	23.0	No
3/30/2012	Submittal of FY11 STP Annual Report and Proposed Revision 22.0	ENV-ES-12-0059	22.0	Yes
5/9/2012	Notice of Completion of OffSite Waste Shipment Activity 4.0, FY12 Q2	ENV-ES-12-0092	23.0	No
8/7/2012	Notice of Completion of OffSite Waste Shipment Activity 4.0, FY12 Q3	ENV-ES-12-0160	23.0	No
9/11/2012	Correction of Table 3.2-2, FY11 Annual Report, STP	ENV-ES-12-0217	22.0	Yes
9/19/2012	Notice of Completion of OffSite Waste Shipment Activity 3.3.4	ENV-ES-12-0201	23.0	No
10/22/2012	Response to the 9/18/2012 Notice of Disapproval of the FY11 STP Annual Report and Proposed Revision 22.0	WM-DO-12-0002	22.0	Yes
11/6/2012	Notice of Completion of OffSite Waste Shipment Activity 3.3.4	WM-DO-12-0004	23.0	No
11/6/2012	Notice of Completion of OffSite Waste Shipment Activities 3.1.8 and 3.3.4	WM-DO-12-0005	23.0	No

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Letter Date	Description	Letter Number	Revision Reference	Listed in Revision 22.0 (Appendix I)
11/6/2012	Notice of Completion of Off-Site Waste Shipment Activity 4.0, FY12 Q4	WM-DO-12-0006	23.0	No
3/22/2013	Correction of Off-Site Shipment Reports, FY12 Q1, Q3, and Q4, Activity 4.0	ENV-EDA-13-04	23.0	No
3/29/2013	Submittal of FY12 Annual Update and Proposal 23.0	ENV-EDA-13-06	23.0	No

APPENDIX J. HISTORY OF CHANGES TO THE CP AND FFCO

As discussed in Part III (CP), Section 1.2, the STP CP has been modified several times since it was originally issued, in accordance with the provisions of Section X, “Revisions,” and Section XI, “Other Amendments to the STP,” of the October 4, 1995, FFCO, as amended and revised. This Appendix provides a summary of these CP changes and of modifications to the FFCO since its issuance.

To date, there have been 22 revisions and three amendments to the CP. In addition, the FFCO was amended once on May 20, 1997. The following Table J-1 provides a summary of these changes. More detailed descriptions can be found in the CP Update portion of each year’s STP Annual Update and the original correspondence requesting each change.

Table J-1: Summary of Changes to the CP and the FFCO

Action	Document Modified	Effective Date	Effect on FFCO/STP
Rev. 1.0	STP/CP	6/12/96	Added offsite treatment as a parallel preferred option for most MLLW treatability groups.
Rev. 2.0	STP/CP	12/9/96	Reduced volume of LA-W928 by approving reclassification of sludges as LLW.
Amendment 1.0	STP/CP	10/30/96	Divided original volume of LA-W929 into three subgroups, and added new Activities and Compliance Dates.
Rev. 3.0	STP/CP	1/27/97	Divided original volume of LA-W929 into three subgroups, and added new Activities and Compliance Dates.
Amendment 1.0	FFCO	5/20/97	Modified FFCO Sections IV, V, IX, and X to streamline waste transfers and deletions.
Amendment 2.0	STP/CP	9/4/97	Extended CP Activity 3.1.2B Compliance Date to 12/29/97.
Rev. 4.0	STP/CP	12/29/97	Transferred original volume of LA-W929 from three subgroups to other treatability groups, added treatability groups, and deleted treated items.
Rev. 5.0	STP/CP	12/29/97	Added volumes reported in FY95 and FY96 Annual Updates (and certain other items) to several treatability groups, added Activities and Compliance Dates, added CP Appendices, and deleted treated items.
Rev. 6.0	STP/CP	7/31/98	Added volumes reported in FY97 Annual Update to several treatability groups, added certain Activities and Compliance Dates, adjusted several original inventory volumes, transferred one LA-W929 item to a new treatability group, and deleted treated items.
Rev. 7.0	STP/CP	11/30/98	Removed onsite treatment skids, added STP inventory items, added onsite recycling/re-use and radiological decontamination, added notification for offsite treatability studies.
Rev. 8.0	STP/CP	12/3/98	Extended compliance dates for treatment of MTRU waste.
Rev. 9.0	STP/CP	6/7/00	Added and deleted volumes reported in FY98 Annual Update to certain treatability groups.

Action	Document Modified	Effective Date	Effect on FFCO/STP
Amendment 3.0	STP/CP	8/30/99	Transferred three items to MTRU, transferred one item to subgroup within same treatability group.
Rev. 10.0	STP/CP	12/18/00	Added and deleted volumes reported in FY99 <i>Annual Update</i> to certain treatability groups.
Rev. 11.0	STP/CP	4/18/01	Added and deleted volumes reported in FY00 <i>Annual Update</i> .
Rev. 12.0	STP/CP	3/13/02	Added and deleted volumes reported in FY01 <i>Annual Update</i> . Extended CP Activity 3.1.5A Compliance Date to 8/25/03. Extended CP Activity 3.1.11A to 2/01/04. Removed the requirement to develop treatment technologies and the associated compliance schedule in CP Activity 4.0 and added language specifying that MTRU waste would be shipped offsite to WIPP for disposal.
Rev 13.0	STP/CP	7/14/03	Added and deleted volumes reported in FY02 <i>Annual Update</i> .
Rev 14.0	STP/CP	1/5/05	Added and deleted volumes reported in FY03 <i>Annual Update</i> .
Rev 15.0	STP/CP	8/16/05	Added and deleted volumes reported in FY04 <i>Annual Update</i> .
Rev 16.0	STP/CP	12/12/06	Added and deleted volumes reported in FY05 <i>Annual Update</i> . Extended CP Activity 3.1.8(A) Compliance Date to 8/09/07. Extended CP Activity 3.1.9(A) Compliance Date to 8/09/07. Extended CP Activity 3.1.10(A) Compliance Date to 8/31/07. Extended CP Activity 3.1.11(A) Compliance Date to 12/31/07. Extended CP Activity 3.2(J) Compliance Date to 12/31/07. Reclassified 0.2082 m ³ of LA-W934 High Activity MLLW waste to MTRU waste.
Rev 17.0	STP/CP	6/26/08	Added and deleted volumes reported in FY06 <i>Annual Update</i> . Extended CP Activity 3.1.5(A) Compliance Date to 12/31/08. Extended CPV Activity 3.1.8(A) Compliance Date to 8/28/08. Extended CP Activity 3.1.9(A) Compliance Date to 8/28/08. Extended CP Activity 3.2(J) Compliance Date to 12/31/08.
Rev 18.0	STP/CP	1/9/09	Added and deleted volumes reported in FY07 <i>Annual Update</i> . Extended CP Activity 3.1.8(A) Compliance Date to 8/28/09. Extended CP Activity 3.1.9(A) Compliance Date to 8/28/09. Proposed a new Section 3.3.4 for Treatability Group, LA-W935 "10-100 nCi/g Waste" with new CP Activity 3.3.4 (A) Compliance Date 12/01/13 and CP Activity 3.3.4 (B) Compliance Date 12/31/13. Extended CP Activity 3.2(J) Compliance Date to 12/31/10.
Rev 19.0	STP/CP	2/5/10	Added and deleted volumes reported in FY08 <i>Annual Update</i> . Extended compliance date for CP Activities 3.1.8(A) and 3.1.9(A) to 8/28/12. Proposed a new milestone of 12/31/2010 for 3.1.4(A) and a new milestone 3.3.4(C) for 10-100 nCi/g Waste.

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Action	Document Modified	Effective Date	Effect on FFCO/STP
Rev 20.0	STP/CP	11/8/10	Added and deleted volumes reported in FY09 Annual Update. Proposed an extended compliance date for CP Activity 3.2(J).
Rev 21.0	STP/CP	3/21/12	Added and deleted volumes reported in FY10 Annual Update. Proposed new compliance date for CP Activity 3.1.8(A).
Rev 22.0	STP/CP	12/10/12	Added and deleted volumes reported in FY11 Annual Update.
Rev 23.0	STP/CP	TBD	Added and deleted volumes reported in FY12 Annual Update

REFERENCES

1. *Federal Facility Compliance Order (Los Alamos National Laboratory)*, New Mexico Environment Department (October 4, 1995).
2. Congress, 1996. Text of Public Law 104-201, Congressional Record dated September 23, 1996, Amendment to Public Law 102-579, 1992 *Waste Isolation Pilot Plant Land Withdrawal Act (106 Stat. 4777)*.
3. 40 CFR Part 194, Criteria for the Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations: Certification Decision; Proposed Rule (Federal Register V.62, No. 210, Oct. 30, 1997, pp. 58792–58838).