

Los Alamos National Laboratory

Federal Facility Compliance Order

*Annual Site Treatment Plan Update
for Fiscal Year 2011*

LA-UR-12-20199

March 30, 2012



TABLE OF CONTENTS

ACRONYMS1
INTRODUCTION1

PART I. BACKGROUND UPDATE2

1.0 INTRODUCTION2
2.0 AMOUNT OF EACH COVERED WASTE STORED AT LANL2
 2.1 *Mixed Low-Level Waste (MLLW) Inventory*..... 2
 2.2 *Mixed Transuranic (MTRU) Inventory Summary*..... 3
3.0 TREATMENT PROGRESS.....5
 3.1 *Offsite Treatment*..... 5
 3.2 *Offsite Recycling* 5
 3.3 *Onsite Treatment and Recycling*..... 5
 3.4 *Onsite Lead Decontamination* 5
 3.5 *Treatability Studies*..... 6
 3.6 *Administrative Adjustments and Corrections*..... 6
 3.6.1 *Adjustments to MLLW Inventory*..... 6
 3.6.2 *Adjustments to MTRU Inventory*..... 6
4.0 TREATMENT TECHNOLOGY DEVELOPMENT6
 4.1 *Treatment Technologies Being Evaluated* 6
 4.1.1 *Offsite Commercial Treatment Facilities*..... 6
 4.1.2 *Offsite DOE Treatment Facilities* 7
5.0 DOE FUNDING FOR STP-RELATED ACTIVITIES7
6.0 TREATMENT VARIANCES7
 6.1 *WIPP No-Migration Variance Petition/Land Withdrawal Act Amendments* 7
 6.2 *Other Treatment Variance(s)*..... 8
7.0 WIPP FACILITY CAPABILITIES8
 7.1 *Characterization Capabilities at WIPP*..... 8
 7.2 *MTRU Treatment Capabilities and Plans* 8

PART II. COMPLIANCE PLAN UPDATE9

1.0 INTRODUCTION9
2.0 CHANGES AND REVISIONS TO THE CP OCCURRING SINCE THE PREVIOUS ANNUAL UPDATE9
 2.1 *Activities Completed During FY11* 9
 2.2 *Expedited Shipment Letters* 9
 2.3 *Correspondence*..... 9
3.0 DESCRIPTION OF DELETED WASTE10
4.0 DOCUMENTATION OF NEW COVERED WASTE10
5.0 PROPOSED CHANGES TO THE COMPLIANCE PLAN SCHEDULE10
6.0 DETAILED DESCRIPTION OF THE PROPOSED REVISION10
 6.1 *Addition of New Covered Waste* 10
 6.1.1 *MLLW Additions*..... 10
 6.1.2 *MTRU Waste Additions*..... 11
 6.2 *Deletion of Covered Waste* 12
 6.2.1 *Deletion of MLLW* 12
 6.2.2 *Deletion of MTRU Waste* 12
 6.2.3 *Other Deletions of FY11 Waste* 12
 6.3 *Adjustments to the Original (October 4, 1995) STP-Covered MLLW Inventory* 12
 6.4 *Adjustments to MTRU Waste Inventory* 12
 6.5 *Establishment of New Milestone Activity Dates* 12
 6.6 *Additional Revisions*..... 13
7.0 RATIONALE FOR THE PROPOSED REVISION.....13

7.1	<i>Establishment of New Proposed Milestone</i>	13
7.2	<i>Addition of New Covered Waste</i>	13
7.3	<i>Deletion of Covered Waste</i>	13
7.4	<i>Adjustments to the Original (October 4, 1995) STP-Covered Waste Inventory</i>	13
8.0	ANTICIPATED LENGTH OF ANY DELAY IN PERFORMANCE	13
9.0	PLAN AND SCHEDULE FOR IMPLEMENTING ALL REASONABLE MEASURES	13
PART III. COMPLIANCE PLAN – PROPOSED REVISION 22.0		14
1.0	PURPOSE AND SCOPE OF THE COMPLIANCE PLAN	14
1.1	<i>Introduction</i>	14
1.2	STP Revisions and Amendments	14
2.0	COMPLIANCE SCHEDULES	14
2.1	<i>Categories of Activities for Compliance Dates</i>	14
2.1.1	<i>Plans Where Treatment Technology Exists</i>	14
2.1.2	<i>Plans Where Technology Must Be Developed</i>	15
2.2	<i>Primary Preferred Treatment</i>	15
2.3	<i>Plans for Mixed Waste to be Shipped Offsite for Treatment</i>	15
2.3.1	<i>Specific Site Requirements for Noncommercial Treatment Facilities</i>	16
2.4	<i>Requirements Pertaining to Radionuclide Separation</i>	17
2.5	<i>Plans Related to Other Mixed Waste Activities</i>	17
2.6	<i>Recycling/Re-Use</i>	18
2.7	<i>Onsite Radiological Decontamination</i>	18
3.0	MIXED LOW-LEVEL WASTE STREAMS	19
3.1	<i>Mixed Waste Streams</i>	19
3.1.1	<i>IPA Wastes and Scintillation Fluids</i>	20
3.1.2	<i>Lead Blankets, Soil with Heavy Metals, Environmental Restoration (ER) Soils</i>	20
3.1.3	<i>Aqueous Organic Liquids</i>	20
3.1.4	<i>Organic-Contaminated Combustible Solids</i>	21
3.1.5	<i>Combustible Debris, Activated or Inseparable Lead, Noncombustible Debris</i>	21
3.1.6	<i>Aqueous Wastes with Heavy Metals, Corrosive Solutions, Aqueous Cyanides, Nitrates, Chromates, and Arsenates</i>	21
3.1.7	<i>Water-Reactive Metal</i>	22
3.1.8	<i>Compressed Gases Requiring Scrubbing</i>	22
3.1.9	<i>Compressed Gases Requiring Oxidation</i>	22
3.1.10	<i>Elemental Mercury</i>	23
3.1.11	<i>Halogenated Organic Liquids, Nonhalogenated Organic Liquids, Bulk Oils, Polychlorinated Biphenyl (PCB) Wastes with RCRA Components, Liquid and Solid Oxidizers</i>	23
3.2	<i>Mixed Waste Requiring Further Characterization or for Which Technology Assessment Has Not Been Done</i>	24
3.3	<i>Plans for Other Types of Activities</i>	25
3.3.1	<i>Lead Decontamination</i>	25
3.3.2	<i>Sorting, Surveying, and Decontamination</i>	26
3.3.3	<i>Lead Requiring Sorting</i>	26
3.3.4	<i>10–100 nCi/g Waste</i>	26
3.4	<i>Management of “Missing” Items</i>	27
4.0	MIXED TRANSURANIC WASTE	28

APPENDICES29

APPENDIX A. CURRENT YEAR MLLW INVENTORY DETAIL30

APPENDIX B. CURRENT YEAR MLLW SHIPMENT DETAIL33

APPENDIX C. CURRENT YEAR MLLW ADMINISTRATIVE ADJUSTMENTS34

APPENDIX D. PREVIOUS YEAR MLLW INVENTORY DETAIL35

APPENDIX E. CURRENT MTRU INVENTORY DETAIL.....38

APPENDIX F. FY11 MTRU WASTE SHIPMENTS TO WIPP.....41

APPENDIX G. CURRENT YEAR MTRU INVENTORY – ADMINISTRATIVE ADJUSTMENTS...42

APPENDIX H. MLLW TREATMENT FACILITIES.....45

APPENDIX I. CORRESPONDENCE46

APPENDIX J. HISTORY OF CHANGES TO THE CP AND FFCO48

REFERENCES51

LIST OF TABLES

Part I

Table 2.1-1: FY11 MLLW Inventory Summary3

Table 2.2-1: Covered MTRU Inventory Summary.....4

Part II

Table 2.1-1. FY10 FFCO and STP Milestones.....9

Table 6.1.1-1: Proposed Addition of New Covered MLLW Waste 11

Table 6.1.2-1: Proposed Addition of New Covered¹ MTRU Waste..... 11

Table 6.1.2-2: Proposed Addition of Waste Newly Characterized as MTRU 11

Table 6.5-1: Proposed Milestone Activity Compliance Dates..... 12

Part III

Table 2.1.1-1: Categories of Activities for Compliance for Mixed Waste with Existing Treatment Technologies 15

Table 2.1.2-1: Categories of Activities for Compliance Dates for Mixed Waste Without Existing Treatment Technologies 15

Table 2.3-1: Activities for Offsite Shipment for Treatment or Recycling at a Commercial Facility 16

Table 2.3-2: Activities for Shipment Offsite for Treatment or Recycling at a Noncommercial Facility..... 17

Table 2.4-1: Activities for Radionuclide Separation 17

Table 2.6-1: Requirements for Recycling..... 18

Table 2.7-1: Activities for Radiological Decontamination..... 19

Table 3.1.1-1: Treatability Groups for IPA Wastes and Scintillation Fluids.....20

Table 3.1.2-1: Treatability Groups for Lead Blankets, Soil with Heavy Metals, ER Soils20

Table 3.1.3-1: Treatability Groups for Aqueous Organic Liquids.....20

Table 3.1.3-2: Additional Treatability Groups for Aqueous Organic Liquids.....20

Table 3.1.4-1: Treatability Groups for Organic-Contaminated Combustible Solids21

Table 3.1.4-2: Treatability Groups for Organic-Contaminated Noncombustible Solids21

Table 3.1.5-1: Treatability Groups for Combustible Lead, Activated or Inseparable Lead, and Noncombustible Debris21

Table 3.1.6-1: Treatability Groups for Aqueous Wastes with Heavy Metals, Corrosive Solutions, Aqueous Cyanides, Nitrates, Chromates, and Arsenates	21
Table 3.1.7-1: Treatability Groups for Water-Reactive Metal.....	22
Table 3.1.8-1: Treatability Groups for Compressed Gases Requiring Scrubbing	22
Table 3.1.8-2: Activities and Compliance Dates for Compressed Gases Requiring Scrubbing	22
Table 3.1.9-1: Treatability Groups Requiring Oxidation.....	22
Table 3.1.10-1: Treatability Groups for Elemental Mercury	23
Table 3.1.11-1: Treatability Groups for Halogenated Organic Liquids, Nonhalogenated Organic Liquids, Bulk Oils, PCB Wastes with RCRA Components, Liquid and Solid Oxidizers	23
Table 3.1.11-2: Additional Treatability Groups	23
Table 3.2-1: Treatability Groups for Waste Requiring Characterization or Assessment.....	24
Table 3.2-2: Additional Wastes Requiring Characterization or Assessment.....	24
Table 3.2-3: Activities and Compliance Dates for Wastes Requiring Characterization or Assessment	25
Table 3.3.1-1: Treatability Groups for Lead Decontamination	25
Table 3.3.1-2: Additional Wastes for Lead Decontamination	25
Table 3.3.2-1: Treatability Groups for Sorting, Surveying, and Decontamination.....	26
Table 3.3.2-2: Additional Wastes for Sorting, Surveying, and Decontamination	26
Table 3.3.3-1: Treatability Groups for Lead Requiring Sorting	26
Table 3.3.4-1: Treatability Groups for 10–100 nCi/g Waste	26
Table 3.3.4-2: Activities and Compliance Dates for 10–100 nCi/g Waste	27
Table 3.4-1: Waste Category for “Missing Waste”	27

Appendix Tables

Table A-1: FY11 MLLW Inventory ¹ Detailed Update by Treatability Group	30
Table B-1. MLLW Shipped Offsite for Treatment and Disposal in FY11	33
Table C-1. Administrative Adjustments	34
Table D-1: FY10 MLLW Inventory ¹ Detailed Update by Treatability Group	35
Table E-1. TA-54 MTRU Covered Inventory (by Treatability Group ^{1, 2}).....	38
Table E-2: MTRU Inventory at TA-55 and CMR	40
Table F-1: FY11 MTRU Shipments to WIPP	41
Table G-1: FY10 MTRU Administrative Adjustments to TA-54 Inventory	42
Table G-2: FY10 MTRU Administrative Adjustments for CMR and TA-55 Inventory	44
Table H-1: Commercial Facilities Contacted for Waste Treatment Capabilities	45
Table I-1: Expedited Shipment Letters.....	46
Table I-2: Correspondence	46
Table J-1: Summary of Changes to the CP and the FFCO	48

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 22.0).

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 FY11, STP-covered MLLW inventories increased from approximately 161 m³ to 176 m³. The increase was due to reclassifying more MTRU waste to MLLW (LA-W935) than could be shipped offsite for treatment. Because higher risk wastes were given shipment priority, less *10–100 nCi/g Waste* was shipped in FY10 and FY11 than in previous years. Although LANL shipped a portion of the newly reclassified *10-100 nCi/g Waste* in FY11, some of the FY11 reclassified waste 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*. Table 2.1-1 summarizes changes to the estimated STP-covered MLLW inventory for FY11. Approximately one cubic meter of newly generated waste from FY10 and 11 m³ of reclassified TRU waste became covered during FY11. Approximately 73 m³ of covered MLLW was treated, recycled, disposed of, or otherwise deleted during FY11.

Appendix A provides the detailed changes to the FY11 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 FY11. Table B-2 identifies other deleted waste. If any, administrative adjustments to the MLLW inventory are shown in Appendix C (Table C-1). The MLLW inventory reported in the FY10 Annual Update is included as Appendix D.

Table 2.1-1: FY11 MLLW Inventory Summary

Contribution	Volume (m³)¹
Estimated MLLW Inventory Reported in FY10 Annual Update	161.4693
Proposed Revision 22.0	
New Covered Waste	11.9055
Administrative Adjustments ²	75.5185
Offsite Treatment	-73.0323
Offsite Recycle	NA ³
Onsite Decontamination	NA
Treatability Study Use	NA
Estimated MLLW Inventory Reported in FY11 Annual Update	175.8610

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 FY11, STP-covered MTRU inventories increased from approximately 2847 m³ to 3119 m³. In FY11, quality control activities included verifying the volumes of many older, large waste containers and correcting the volumes shown in the MTRU database. This resulted in a large increase in the volume of MTRU waste in inventory. Despite decreases due to shipping, which reduced the number of MTRU containers onsite by more than 900, the waste volume increased above FY10 levels.

Table 2.2-1 summarizes changes to the estimated MTRU covered waste inventory for FY11. 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. 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. Appendix F (Table F-1) provides the history of 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.

¹ No MLLW was stored at CMR or TA-55 in FY11.

- LANL may correct waste data, such as volume or EPA codes, through quality control activities.
- MTRU waste that was formerly classified as transuranic (TRU) 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 FY10 (40.607 m ³ at CMR/TA-55 and 2806.516 m ³ at TA-54)	2847.123
New Covered MTRU Waste at TA-54	17.873
New Covered MTRU Waste at TA-55/CMR	2.912
Covered MTRU Waste Shipped to WIPP in FY11	-203.396
Net Administrative Adjustments for TA-54 in FY11	453.251
Net Administrative Adjustments for CMR/TA-55 in FY11	1.194
Covered MTRU Inventory at End of FY11	3118.957

3.0 TREATMENT PROGRESS

3.1 Offsite Treatment

During FY11, 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. M&EC became operational in September 2001.

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 FY11. Approximately 76 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 FY11.

3.3 Onsite Treatment and Recycling

LANL did not treat or recycle any STP-covered MLLW onsite in FY11.

3.4 Onsite Lead Decontamination

No LANL STP-covered MLLW was decontaminated onsite during FY11.

3.5 Treatability Studies

LANL conducted no treatability studies in FY11.

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). Other adjustments included removal of waste that had been shipped in previous fiscal years, recharacterization of some MLLW as MTRU waste, and removal of waste that was inadvertently included in the FY10 inventory.

3.6.2 Adjustments to MTRU Inventory

During the preparation of the FY11 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 FY11, 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 FY11 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 FY11 for shipment of mixed waste offsite for treatment and disposal at DOE and commercial facilities. Funding during FY12 is also sufficient to meet all compliance dates established in the STP. 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 FY11.

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 FY11;
 - 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 FY11

During FY11, no CP Activity milestones were scheduled.

Table 2.1-1. FY10 FFCO and STP Milestones

Table omitted

2.2 Expedited Shipment Letters

Expedited shipment letters are listed in Appendix I, Table I-1.

2.3 Correspondence

Between October 1, 2010, and March 31, 2012, LANL communicated with NMED on issues related to

- Revision 21.0 of the Annual STP Update, and
- FY10 and FY11 waste shipments

This correspondence is listed in Appendix I (Table I-2). Correspondence previously listed in Appendix I, Table I-2 of Revision 21.0 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 22.0 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 FY10 and were proposed to become covered wastes in FY11. 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

No changes to the compliance plan schedule 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 FY11 and other changes in the STP inventory.

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 Covered 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 1.3027 m³ of new-covered² *Noncombustible Debris* (LA-W922), and 10.6028 m³ of LA-W935 waste that was previously managed in the TRU inventory (Appendix C).

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

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>	1.3027
3.3.4	LA-W935	<i>10-100 nCi/g Waste</i>	10.6028
Total			11.9055

6.1.2 MTRU Waste Additions

The volume of new covered MTRU waste that is requested for addition is 17.873 m³ (Table 6.1.2-1). LANL also requests the addition of 71.400 m³ of *Combustible-Noncombustible Waste* and 21.216 m³ of *Noncombustible Waste* that was previously managed in the TRU inventory (Appendix G, Table G-1). Table 6.1.2-2 identifies waste that is proposed for addition following quality control activities that identified waste in the TRU inventory as MTRU.

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

CP Section	Treatability Group	Volume (m ³)
4.0	<i>Cemented Sludge</i>	4.368
4.0	<i>Combined Combustible-Noncombustible Waste</i>	7.507
4.0	<i>Combustible Waste</i>	2.254
4.0	<i>Solidified Inorganic and Organic Waste</i>	3.744
Total TA-54 New Covered		17.873
4.0	<i>Combined Combustible-Noncombustible Waste at CMR</i>	0.208
4.0	<i>Combined Combustible-Noncombustible Waste at TA-54</i>	2.080
4.0	<i>Noncombustible Waste at TA-54</i>	0.624
Total CMR and TA-55 New Covered		2.912
Total New Covered Waste		20.785

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

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

CP Section	Treatability Group	Volume (m ³)
4.0	<i>Combined Combustible-Noncombustible Waste</i>	3.234
4.0	<i>Combustible Waste</i>	6.776
4.0	<i>Metallic Waste</i>	11.486
4.0	<i>Noncombustible Waste</i>	1.570
4.0	<i>Solidified Inorganic and Organic Waste</i>	2.704
Total Newly Characterized MTRU		25.770

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 73.0323 m³ (Appendix B, Table B-1).

6.2.2 Deletion of MTRU Waste

LANL is requesting that a total of 203.396 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. LANL also requests deletion of 3.328 m³ of MTRU waste that was included in the FY10 inventory but had not been in storage for one year (Appendix G, Table G-1). This waste was shipped offsite within one year and, therefore, did not become part of the STP inventory.

6.2.3 Other Deletions of FY11 Waste

No waste is proposed for deletion due to recycling or onsite treatment in FY11. 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 not requesting any new compliance milestones.

Table 6.5-1: Proposed Milestone Activity Compliance Dates

Table omitted.

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

No new milestones are proposed.

7.2 Addition of New Covered Waste

Waste that was newly generated in FY10, which was not treated within 12 months of generation, became new covered waste during FY11 (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 FY11. Deletion of this covered waste is proposed in order to more accurately reflect the LANL STP inventory as of the end of FY11.

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 FY11.

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 22.0

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 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)
<i>IPA Wastes</i>	LA-W901	D001, D009, F002, F003, F005	0.00
<i>Scintillation Fluids</i>	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)
<i>Lead Blankets</i>	LA-W903	D007, D008	0.00
<i>Soil With Heavy Metals</i>	LA-W904	D004, D005, D006, D007, D008, D009, D010, D011	0.00
<i>ER Soils</i>	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)
<i>Aqueous Organic Liquids</i>	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)
<i>Aqueous Organic Liquids</i>	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)
<i>Organic-Contaminated Combustible Solids</i>	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)
<i>Organic-Contaminated Noncombustible Solids</i>	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)
<i>Combustible Debris</i>	LA-W912	D001, D002, D003, D005, D006, D007, D008, D009, D011, D035, F001, F002, F003, F005	0.00
<i>Activated Or Inseparable Lead</i>	LA-W921	D008	0.00
<i>Noncombustible Debris</i>	LA-W922 LA-W922-17 LA-W922-22	D001, D002, D004, D005, D006, D007, D008, D009, D010, D011	0.00
Totals			0.00

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

Treatability Group	MWIR Waste ID	RCRA Codes	Net Volume (m ³)
<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	1.2492
Totals			1.2492

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)
<i>Compressed Gases Requiring Oxidation</i>	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)
<i>Elemental Mercury</i>	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)
<i>Halogenated Organic Liquids</i>	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
<i>Nonhalogenated Organic Liquids</i>	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
<i>Bulk Oils</i>	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
<i>PCB Wastes With RCRA Components</i>	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)
<i>Liquid And Solid Oxidizers</i>	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)
<i>Lead Wastes - TBD</i>	LA-W924	D003, D008	0.00
<i>Mercury Wastes - TBD</i>	LA-W925-0	D007, D008, D009, F001	0.00
<i>Compressed Gases - TBD</i>	LA-W926	D001, D007, D009, D022, P056, U080, U226	0.00
<i>Biochemical Laboratory Wastes</i>	LA-W927	D001, D003	0.00
<i>Dewatered Treatment Sludge</i>	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)
<i>Lead Wastes - TBD</i>	LA-W924-15	D003, D008	0.00
	LA-W924-16		0.00
	LA-W924-17		0.00
<i>Mercury Wastes – TBD</i>	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		
<i>Explosives</i>	LA-W932	D003	0.00
<i>Labpacks</i>	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		
<i>High Activity Waste</i>	LA-W934	D001, D003, D008, D009	1.5153
	LA-W934-16		
	LA-W934-19		
	LA-W934-20		
Totals			1.5153

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

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)
<i>Lead For Surface Decontamination</i>	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)
<i>Lead For Surface Decontamination</i>	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)
<i>Nonradioactive or Suspect Waste Items To Be Surveyed</i>	LA-W929-0(1)	0.00
<i>Nonradioactive or Suspect Waste Items To Receive RCRA and Radiological Characterization</i>	LA-W929-0(2)	0.00
<i>Nonradioactive or Suspect Waste Items That Cannot or Should Not Be Sampled</i>	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)
<i>Nonradioactive or Suspect Waste Items</i>	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)
<i>Lead Requiring Sorting</i>	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)
<i>10-100 nCi/g</i>	LA-W935 LA-W935-19 LA-W935-20 LA-W935-21 LA-W935-22	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	173.1088
Totals			173.1088

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	12/31/13
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

3.4 Management of “Missing” Items

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

Category	MWIR Waste ID	Net Volume (m ³)
<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.

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.

APPENDICES

APPENDIX A. CURRENT YEAR MLLW INVENTORY DETAIL

Table A-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

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 B. CURRENT YEAR MLLW SHIPMENT DETAIL

Table B-1. MLLW Shipped Offsite for Treatment and Disposal in FY11

CP Section	MWIR No.	Treatability Group	Manifest Number	Destination	Date Shipped	Date NMED Notified	Volume (m ³)
3.1.5	LA-W922	<i>Noncombustible Debris</i>	00368697JJK	Perma-Fix/FL	4/25/2011	5/31/2011 (ENV-ES-11-109)	1.3027
LA-W922 Total							1.3027
3.1.8	LA-W917	<i>Compressed Gases Requiring Scrubbing</i>	007042905JJK	Perma-Fix/M&EC	9/19/2011	12/9/2011 (ENV-ES-11-0285)	2.2902
LA-W917 Total							2.2902
3.2	LA-W934	<i>High Activity Waste</i>	00704285JJK	Perma-Fix/M&EC	8/29/2011	9/30/2011 (ENV-RRO-11-0210)	0.2392
3.2	LA-W934	<i>High Activity Waste</i>	00704285JJK	Perma-Fix/M&EC	8/29/2011	9/30/2011 (ENV-RRO-11-0210)	0.4164
LA-W934 Total							0.6556
3.3.4	LA-W935	<i>10-100 nCi/g Waste</i>	000368685JJK	Perma-Fix/NW	4/14/2011	5/20/2011 (ENV-ES-11-101)	24.1098
3.3.4	LA-W935	<i>10-100 nCi/g Waste</i>	000368972JJK	Perma-Fix/NW	6/22/2011	7/25/2011 (ENV-ES-11-0153)	9.4800
3.3.4	LA-W935	<i>10-100 nCi/g Waste</i>	007042787JJK	Perma-Fix/NW	9/15/2011	10/28/2011 (ENV-ES-11-0234)	3.4093
3.3.4	LA-W935	<i>10-100 nCi/g Waste</i>	007042788JJK	Perma-Fix/NW	9/15/2011	10/28/2011 (ENV-ES-11-0234)	5.8446
3.3.4	LA-W935	<i>10-100 nCi/g Waste</i>	007042926JJK	Perma-Fix/NW	9/22/2011	10/28/2011 (ENV-ES-11-0234)	12.6978
3.3.4	LA-W935	<i>10-100 nCi/g Waste</i>	007042784JJK	Perma-Fix/NW	9/27/2011	10/28/2011 (ENV-ES-11-0234)	10.6852
3.3.4	LA-W935	<i>10-100 nCi/g Waste</i>	0070442790JJK	Perma-Fix/NW	9/27/2011	10/28/2011 (ENV-ES-11-0234)	1.7561
LA-W935 Total							68.7938
Grand Total							73.0323

APPENDIX C. CURRENT YEAR MLLW ADMINISTRATIVE ADJUSTMENTS

Table C-1. Administrative Adjustments

CP Section	MWIR Number	Administrative Adjustment	Volume (m ³)
3.1.8	LA-W917	Removal of MLLW STP WIPP-prohibited items due to recharacterization as MTRU prohibited items	-0.6246
Total Net Adjustments for LA-W917			-0.6246
3.2	LA-W934	Database correction: adjustment of container volumes	-0.0074
Total Net Adjustments for LA-W934			-0.0074
3.3.4	LA-W935	Transferred into LA-W935 from MTRU STP Inventory	77.3051 ¹
		FY10 inventory included 0.3218 m ³ that should not have been in the inventory	-0.3218
		Deletion of 10–100 nCi/g Waste that had been shipped as <i>High Activity Waste</i> (0.8496 m ³) in FY10 (ENV-RRO-10-020)	-0.6246
		Deletion of 10–100 nCi/g Waste that had been shipped offsite in FY07 (ENV-RCRA-07-254) but was still included in the FY10 inventory	-0.2082
Total Net Adjustments for LA-W935			76.1505
Total Net Adjustments			75.5185

¹ Due to differences in the way the MTRU and MLLW databases record volumes, the equivalent volume removed from the MTRU Inventory was 77.310 m³.

APPENDIX D. PREVIOUS YEAR MLLW INVENTORY DETAIL

Table D-1: FY10 MLLW Inventory¹ Detailed Update by Treatability Group

CP* Sec.	MWIR* Waste ID and Treatability Group/Category	FY09 Annual Update (m ³) ¹	Proposed Revision 21.0 (m ³)	Comments ²	FY10 Annual Update (m ³)	Projection FY11–FY15 (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>	0.2082	-0.2082	Shipped offsite for treatment/disposal	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		0	1.3000
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

CP* Sec.	MWIR* Waste ID and Treatability Group/Category	FY09 Annual Update (m³)¹	Proposed Revision 21.0 (m³)	Comments²	FY10 Annual Update (m³)	Projection FY11–FY15 (m³)
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>	0	4.1640	Administrative Adjustment (prohibited items from MTRU STP inventory ³ added from MTRU inventory)	4.1460	0
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	FY09 Annual Update (m ³) ¹	Proposed Revision 21.0 (m ³)	Comments ²	FY10 Annual Update (m ³)	Projection FY11–FY15 (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>	31.5012	-29.3303	Shipped offsite for treatment/disposal	2.1709	0.1000
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>	14.2128	187.1618	Administrative Adjustment	155.1344	460.0000 ⁴
			-46.2402	Shipped offsite for treatment/disposal		
3.4	<i>Missing/ Nonexistent/TBV category</i>	0	0		0	N/A
	TOTALS	45.9222			161.4693	

* 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 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^{1,2})

Treatability Group	FY10 Annual Update (m ³)	Proposed Revision 21.0 (m ³)	Comments ³	FY11 Annual Update (m ³)	Projection FY12-FY16 (m ³)
<i>Cemented Sludge</i>	742.278				
		4.368	New Covered		
		-17.236	Shipped Offsite		
		-66.588	Administrative Adjustments		
			FY10 Subtotal <i>Cemented Sludge</i>	662.822	0
<i>Combustible - Noncombustible Waste</i>	1771.174				
		7.507	New Covered		
		-173.888	Shipped Offsite		
		400.751	Administrative Adjustments		
			FY10 Subtotal <i>Combustible-Noncombustible Waste</i>	2005.544	100
<i>Combustible Waste</i>	18.334				
		2.254	New Covered		
		-2.080	Shipped Offsite		
		1.952	Administrative Adjustments		
			FY10 Subtotal <i>Combustible Waste</i>	20.460	0
<i>Glass Waste</i>	0.208				
		0	New Covered		
		0	Shipped Offsite		
		0	Administrative Adjustments		
			FY10 Subtotal <i>Glass Waste</i>	0.208	0
<i>Leaded Glovebox Waste</i>	0				
		0	New Covered		
		0	Shipped Offsite		
		0	Administrative Adjustments		
			FY10 Subtotal <i>Leaded Glovebox Waste</i>	0	0
<i>Metallic Waste</i>	48.758				
		0	New Covered		
		-0.208	Shipped Offsite		
		70.438	Administrative Adjustments		
			FY10 Subtotal <i>Metallic Waste</i>	118.988	0

Treatability Group	FY10 Annual Update (m³)	Proposed Revision 21.0 (m³)	Comments³	FY11 Annual Update (m³)	Projection FY12-FY16 (m³)
<i>Noncombustible Waste</i>	81.700				
		0	New Covered		
		-5.824	Shipped Offsite		
		49.476	Administrative Adjustments		
			FY10 Subtotal <i>Noncombustible Waste</i>	125.352	100
<i>Solidified Inorganic and Organic Waste</i>	144.064				
		3.744	New Covered		
		-4.160	Shipped Offsite		
		-2.778	Administrative Adjustments		
			FY10 Subtotal <i>Solidified Inorganic and Organic Waste</i>	140.870	10
TOTAL FY10:	2806.516		Total FY11 Inventory:	3074.244⁴	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 in the Administrative Adjustments in Table G-1.

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

Location	FY10 MTRU Inventory (m ³) ¹	Treatability Group	Proposed Revision 22.0 (m ³)	Comments ¹	FY11 MTRU Inventory (m ³)
CMR	3.356	Combustible-Noncombustible Waste	0.208	New Covered	
Total FY11 CMR Inventory					3.564
TA-55	1.930	Combustible-Noncombustible Waste	2.080	New Covered	
		Combustible-Noncombustible Waste	1.796	Administrative Adjustment	
FY11 TA-55 Combustible-Noncombustible Waste Inventory					5.802
TA-55	31.987	Metallic Waste			
FY11 TA-55 Metallic Waste Inventory					31.987
TA-55	3.126	Noncombustible Waste	0.624	New Covered	
			-0.602	Administrative Adjustment	
FY11 TA-55 Noncombustible Waste Inventory					3.148
TA-55	0.208	Solid Organic and Inorganic Waste			
FY11 TA-55 Solidified Organic and Inorganic Waste Inventory					0.208
Total FY11 TA-55 Inventory					41.149
	40.607	Total FY11 CMR/TA-55 Inventory			44.713

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. FY11 MTRU WASTE SHIPMENTS TO WIPP

Table F-1: FY11 MTRU Shipments to WIPP

FY11 Quarter	Treatability Group	FY11 Inventory Volume (m³)	New Covered Volume (m³)	Total Removed from Inventory (m³)	Total Volume Shipped (m³)
	<i>Cemented Sludge Total</i>	4.032	0	4.032	3.120
	<i>Combustible Waste Total</i>	0.208	0	0.208	0.208
	<i>Combustible-Noncombustible Waste Total</i>	23.504	0	23.504	23.504
	<i>Noncombustible Waste Total</i>	1.040	0	1.040	1.040
	<i>Solidified Inorganic and Organic Waste Total</i>	2.080	0	2.080	2.080
Q1 Total		30.864	0	30.864	29.952
	<i>Cemented Sludge Total</i>	7.132	0	7.132	6.448
	<i>Combustible Waste Total</i>	0.624	0	0.624	0.624
	<i>Combustible-Noncombustible Waste Total</i>	28.496	0.832	29.328	29.328
	<i>Metallic Waste Total</i>	0.208	0	0.208	0.208
	<i>Noncombustible Waste Total</i>	1.456	0	1.456	1.456
	<i>Solidified Inorganic and Organic Waste Total</i>	0.832	0.208	1.040	1.040
Q2 Total		38.748	1.040	39.788	39.104
	<i>Cemented Sludge Total</i>	5.334	0	5.334	4.992
	<i>Combustible Waste Total</i>	0.832	0	0.832	0.832
	<i>Combustible-Noncombustible Waste Total</i>	70.304	0.208	70.512	70.512
	<i>Noncombustible Waste Total</i>	0.416	0	0.416	0.416
	<i>Solidified Inorganic and Organic Waste Total</i>	0	0.416	0.416	0.416
Q3 Total		76.886	0.624	77.510	77.168
	<i>Cemented Sludge Total</i>	0.738	0	0.738	0.624
	<i>Combustible Waste Total</i>	0.416	0	0.416	0.416
	<i>Combustible-Noncombustible Waste Total</i>	49.296	1.248	50.544	50.544
	<i>Noncombustible Waste Total</i>	2.912	0	2.912	2.912
	<i>Solidified Inorganic and Organic Waste Total</i>	0.208	0.416	0.624	0.624
Q4 Total		53.570	1.664	55.234	55.120
Grand Total		200.068	3.328	203.396	201.344

APPENDIX G. CURRENT YEAR MTRU INVENTORY – ADMINISTRATIVE ADJUSTMENTS

Table G-1: FY11 MTRU Administrative Adjustments to TA-54 Inventory

Treatability Group	Administrative Adjustment	Volume (m³)
<i>Cemented Sludge</i>	Reclassified as MLLW (LA-W935) ¹	0
	Repacked into 51.376 m ³ <i>Combustible-Noncombustible Waste</i>	-68.676
	Database correction (quality control activities resulted in correction of database volumes)	2.088
<i>Cemented Sludge Net Adjustment</i>		-66.588
<i>Combustible-Noncombustible Waste</i>	Reclassified as MLLW (LA-W935) ¹	-67.830
	Added as a result of recharacterizing TRU inventory as MTRU during repacking	71.400
	Repacked into 51.448 m ³ <i>Combustible-Noncombustible Waste</i> and 17.888 m ³ <i>Noncombustible Waste</i>	-64.378
	Additional covered inventory transferred from TA-55 covered inventory	3.356
	Added as a result of repacking <i>Cemented Sludge</i> waste	51.376
	Added as a result of repacking <i>Combustible-Noncombustible Waste</i>	51.448
	Added as a result of repacking <i>Combustible Waste</i>	3.952
	Added as a result of repacking <i>Metallic Waste</i>	0.416
	Added as a result of repacking <i>Noncombustible Waste</i>	0.416
	Added as a result of repacking <i>Solidified Inorganic and Organic Waste</i>	5.616
	MTRU WIPP-prohibited items reclassified as <i>Noncombustible Waste</i>	-0.832
	Adjustment for rounding	-0.001
	Database correction (containers should not have appeared in FY10 end-of-year inventory)	-2.912
	Database correction (quality control activities resulted in recoding waste as MTRU)	3.234
Database correction (container volumes were validated and database corrections made)	345.490	
<i>Combustible-Noncombustible Net Adjustment</i>		400.751
<i>Combustible Waste</i>	Reclassified as MLLW (LA-W935) ¹	0
	Repacked into 3.952 m ³ <i>Combustible-Noncombustible Waste</i> and 3.952 m ³ <i>Noncombustible Waste</i>	-4.824
	Quality control activities resulted in recoding waste as MTRU	6.776
<i>Combustible Waste Net Adjustment</i>		1.952
<i>Metallic Waste</i>	Reclassified as MLLW (LA-W935) ¹	0
	Repacked into 0.416 m ³ <i>Combustible-Noncombustible Waste</i> and 0.208 m ³ <i>Noncombustible Waste</i>	-0.416
	Database correction (quality control activities resulted in recoding waste as MTRU)	11.486
	Database correction (container volumes were validated and database corrections made)	59.368
<i>Metallic Waste Net Adjustment</i>		70.438
<i>Noncombustible Waste</i>	Reclassified as MLLW (LA-W935) ¹	-9.480
	Repacked into 0.416 m ³ <i>Combustible-Noncombustible Waste</i> and 0.832 m ³ <i>Noncombustible Waste</i>	-0.832
	Added as a result of repacking <i>Combustible-Noncombustible Waste</i>	17.888
	Added as a result of repacking <i>Noncombustible Waste</i>	0.832
	Added as result of repacking <i>Combustible Waste</i>	3.952

Treatability Group	Administrative Adjustment	Volume (m ³)
	Added as result of repacking <i>Metallic Waste</i>	0.208
	Added as result of repacking <i>Solidified Inorganic and Organic Waste</i>	3.328
	Added as a result of reclassifying <i>Combustible-Noncombustible Waste</i> WIPP-prohibited items to <i>Noncombustible Waste</i>	0.832
	Added as a result of accumulating MTRU WIPP-prohibited items	0.832
	Added as a result of recharacterizing TRU inventory as MTRU during repacking	21.216
	Database correction (quality control activities resulted in correction of database volumes)	9.130
	Database correction (quality control activities resulted in recoding waste as MTRU)	1.570
<i>Noncombustible Waste Net Adjustment</i>		49.476
<i>Solidified Inorganic and Organic Waste</i>	Reclassified as MLLW (LA-W935) ¹	0
	Database correction (containers should not have appeared in FY10 end-of-year inventory)	-0.416
	Repacked into 5.616 m ³ <i>Combustible-Noncombustible Waste</i> and 3.328 m ³ <i>Noncombustible Waste</i>	-5.616
	Database correction (quality control activities resulted in recoding waste as MTRU)	2.704
	Database correction (container volumes were validated and database corrections made)	0.550
<i>Solidified Inorganic and Organic Waste Net Adjustment</i>		-2.778
<i>Total Net TA-54 Adjustment</i>		453.251

¹ The MTRU volume removed from the STP inventory was calculated using the MTRU standard conversion (55-gallon container = 0.2080 m³); when that volume is recalculated in the MLLW inventory using the MLLW conversion (55-gallon container = 0.2082 m³ and 85-gallon container = 0.3218 m³), the total volume transferred increases from 140.407 m³ to 140.5406 m³ (as shown in Appendix C).

**Table G-2: FY11 MTRU Administrative Adjustments
for CMR and TA-55 Inventory**

Location	Treatability Group	Administrative Adjustment	Volume (m³)
CMR	<i>Combustible-Noncombustible Waste</i>	No changes	0
Net Adjustment CMR Inventory			0
TA-55	<i>Combustible-Noncombustible Waste</i>		0
		One container (0.602 m ³) added as a result of recategorizing <i>Noncombustible Waste</i>	0.602
		Added due to overpacking waste (1.358 m ³) into Standard Waste Boxes	6.242
		One container (0.208 m ³) was omitted from the FY10 inventory	0.208
		Transferred in FY10 and included in TA-54 FY10 inventory	-1.900
		Transferred to TA-54 and assigned to <i>Combustible-Noncombustible Waste</i> in the TA-54 inventory	-3.356
Net Adjustment TA-55 <i>Combustible-Noncombustible Waste</i>			1.796
TA-55	<i>Noncombustible Waste(metev56(.602))</i>	One container (0.602 m ³) recategorized to <i>Combustible-Noncombustible Waste</i>	-0.602
Net Adjustment TA-55 <i>Noncombustible Waste</i>			-0.602
Net Adjustment TA-55 Inventory			1.194
Total Net TA-55/CMR Adjustment			1.194

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

Request for Expedited Shipment Letter Date	STP Section	MWIR* Waste ID	Treatability Group	Volume Proposed to be Shipped (m ³)	Reference
5/31/2011	3.1.5	LA-W922	<i>Noncombustible Debris</i>	1.3027	ENV-ES-11-109
5/20/2011	3.3.4	LA-W935	<i>10–100nCi/g Waste</i>	10.6028	ENV-ES-11-101

*MWIR is Mixed Waste Inventory Report

Table I-2: Correspondence

Letter Date	Description	Letter Number	Revision Reference	Listed in Revision 21.0 (Appendix I)
10/7/2011	Response to September 21, 2011 Notice of Disapproval of the STP FY10 Update and Rev 21.0 Proposal	ENV-ES-11-0222	21.0	Yes
11/2/2010	Notice of Completion of OffSite Waste Shipment Activity and Completion of Milestone 3.1.4 (A and B)	ENV-ES-10-214	21.0	Yes
11/2/2010	Notice of Completion of OffSite Waste Shipment Activity 4.0, FY 10 Q4	ENV-ES-10-213	21.0	Yes
2/1/2011	Notice of Completion of OffSite Waste Shipment Activity 4.0, FY 11 Q1	ENV-ES-11-024	22.0	No
3/10/2011	Correction of Offsite Waste Shipment Notifications, Activity 4.0, FY10 Q1 (ENV-RRO-10-007) and FY10 Q3 (ENV-ES-10-142)	ENV-ES-11-037	21.0	Yes
3/31/2011	Submittal of FY10 STP Annual Update and Revision 22.0 Proposal	ENV-ES-11-0063	21.0	Yes
5/8/2011	Notice of Completion of OffSite Waste Shipment Activity 4.0, FY11 Q2	ENV-ES-11-004	22.0	No
5/20/2011	Notice of Completion of OffSite Waste Shipment Activity 3.3.4	ENV-ES-11-101	22.0	No
5/31/2011	Notice of Completion of Expedited Waste Shipment Activities 3.1.5	ENV-ES-11-109	22.0	No
6/10/2011	Resubmittal of FY10 STP Annual Report (Revision 1) and Proposed Revision 21.0	ENV-ES-11-0134	21.0	Yes
7/25/2011	Notice of Completion of OffSite Waste Shipment Activity 3.3.4	ENV-ES-11-0153	22.0	No
7/28/2011	Notice of Completion of OffSite Waste Shipment Activity 4.0, FY11 Q3	ENV-ES-11-0168	22.0	No

Letter Date	Description	Letter Number	Revision Reference	Listed in Revision 21.0 (Appendix I)
7/28/2011	Correction of Notice of Completion of OffSite Waste Shipment Activity 4.0, FY11 Q2	ENV-ES-11-0169	22.0	No
9/30/2011	Notice of Completion of OffSite Waste Shipment Activity 3.2	ENV-ES-11-0210	22.0	No
10/17/2011	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	No
11/5/2011	Notice of Completion of OffSite Waste Shipment Activity 4.0, FY11 Q3	ENV-ES-11-0257	22.0	No
12/9/2011	Notice of Completion of OffSite Waste Shipment Activity 3.1.8	ENV-ES-11-0285	22.0	No
3/30/2012	Submittal of FY11 STP Annual Report and Proposed Revision 22.0	ENV-ES-12-0059	22.0	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 20 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	TBD	Added and deleted volumes reported in FY11 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).