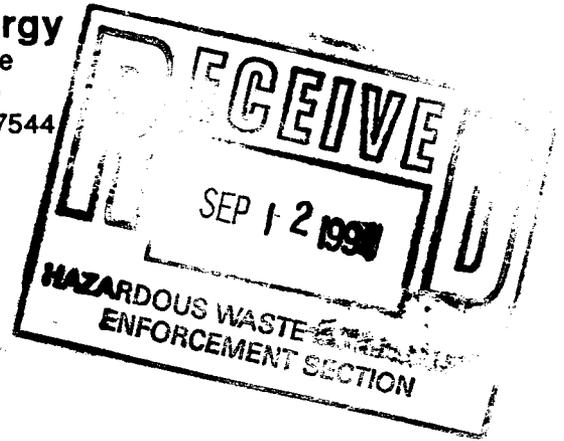




Department of Energy
 Field Office, Albuquerque
 Los Alamos Area Office
 Los Alamos, New Mexico 87544

SEP 09 1994



Mr. Joel Dougherty
 Hazardous Waste Management Division
 U. S. Environmental Protection Agency
 Region 6
 1445 Ross Avenue, Suite 1200
 Dallas, Texas 75202-2733

Dear Mr. Dougherty:

This letter transmits Los Alamos National Laboratory's (LANL) *Schedule for Upgrades to Interim Status Low-Level Mixed Waste (LLMW) Storage Facilities*. The Department of Energy's (DOE) submittal of this document to the Environmental Protection Agency (EPA) by September 12, 1994 is required to ensure compliance with milestone IFLL-200 in the Federal Facilities Compliance Agreement (FFCA). This FFCA was signed by the EPA and addresses hazardous and radioactive mixed wastes pursuant to the Resource Conservation and Recovery Act.

This document includes the current status and proposed schedule for upgrades to interim status LLMW facilities identified in the *Preconceptual Study to Identify Required Interim Status Low-Level Mixed Waste (LLMW) Storage Facilities/Upgrades* (Milestone IFLL 100). Some activities have been completed. The schedule for future activities includes submission of an application for changes during interim status to the New Mexico Environment Department, and development and submission of subsequent Part B permit applications.

Supporting documentation will be retained in DOE and LANL files to support the FFCA, and will be made available to EPA and the State of New Mexico upon request.

Please contact Jon Mack of my staff at (505) 665-5026 if you have any questions regarding this preconceptual study.

Sincerely,

Joseph C. Vozella
 Acting Asst. Area Manager
 Office of Environment and
 Projects

LAAMEP:9JM-095

Enclosure

cc:
 See page 2



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~~FOIA~~
 FFCO

SEP 09 1994

Mr. Joel Dougherty

2

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**IFLL 200
SCHEDULE FOR UPGRADES TO INTERIM STATUS
LOW-LEVEL MIXED WASTE
STORAGE FACILITIES**

FINAL

September 9, 1994

Submitted in partial fulfillment of the
requirements of the Federal Facility
Compliance Agreement addressing hazardous
and mixed waste under the Resource
Conservation and Recovery Act

Los Alamos Area Office
U. S. Department of Energy
528 35th Street
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PREFACE

This *Schedule for Upgrades to Interim Status Low-Level Mixed Waste (LLMW) Storage Facilities* (IFLL 200) is being submitted to the United States Environmental Protection Agency (EPA) by the Department of Energy (DOE) and Los Alamos National Laboratory (LANL) in fulfillment of DOE's commitment to EPA under the Federal Facility Compliance Agreement (FFCA) developed pursuant to the Land Disposal Restrictions (LDR) requirements of the Resource Conservation and Recovery Act (RCRA), as promulgated in 40 CFR Part 268. This *Schedule for Upgrades to Interim Status Low-Level Mixed Waste Storage Facilities* is provided as a deliverable in compliance with Milestone IFLL 200 in Appendix B of the FFCA.

The purpose of the *Schedule for Upgrades to Interim Status LLMW Storage Facilities* is to provide a schedule for completing upgrade activities identified in the *Preconceptual Study to Identify Required Interim Low-Level Mixed Waste Storage Facilities/Upgrades* (IFLL 100). The upgrades include 40 CFR Part 264 Subpart I requirements for permitted storage facilities and best management practices (BMPs) identified in the preconceptual study. The schedule includes the activity of submission of an application to the New Mexico Environment Department (NMED) for changes during interim status. National Fire Protection Association (NFPA) requirements with potential relevance to facilities like waste storage facilities, will be reviewed and will be incorporated where appropriate. The information developed for IFLL 100 and for the completion of the schedule in this deliverable, will be used to support development of the RCRA Part B permit application for these units. Some upgrades to the LLMW storage facilities have already been completed. At TA-54, Area G, the upgrades to the signs and communication systems have been completed. At TA-54, Area L, the proposal and design phases of the upgrades and the approval from NMED for changes during interim status have been completed. The preparation of the Part B permit application for the Mixed Waste Receiving and Storage Facility has begun. A schedule for submittal of the application to NMED is also under development.

The following table discusses the LDR FFCA milestones that relate to IFLL 200 and the nature of that interrelationship.

PRIMARY MILESTONE	RELATED MILESTONE	NATURE OF INTERRELATIONSHIP
IFLL 200	HLL 100	Waste characterization data developed from the characterization plan for historical LLMW will impact storage area types and storage area volumes in the required interim LLMW storage facilities/upgrades.
	HLL 200	The formal plan for prioritizing LLMW treatment will influence the length of time waste is stored and waste segregation configurations in the interim LLMW storage facilities/upgrades.
	IFLL 100	The LLMW storage facilities upgrade options were identified in IFLL 100. The upgrades to be implemented are included in the schedule presented in IFLL 200.

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Appendix A Gantt Chart for Mixed Waste Storage Building, Area L 5

LIST OF ACRONYMS

ACIS	Automated Chemical Inventory Systems
AET	Applied Environmental Technologies
ALARA	As Low As Reasonably Achievable
ATLAS	Advanced Testing for Actinide Separations
BAT	Best Available Technology
BDAT	Best Demonstrated Available Technology
BEJ	Best Engineering Judgment
BIF	Boiler and Industrial Furnace
CAI	Controlled Air Incinerator
CAMs	Continuous Air Monitors
CFC	Chlorinated Solvents
CFR	Code of Federal Regulations
CLS	Analytical Chemistry Group
CWM	Chemical Waste Management, Inc.
CWDR	Chemical Waste Disposal Request
DOE	U.S. Department of Energy
DOE/AL	DOE Albuquerque Operations Office
DOT	Department of Transportation
DSSI	Diversified Scientific Services, Inc.
EPA	U.S. Environmental Protection Agency
ERC	Earth Resources Corporation
ES&H	Environmental Safety, And Health
FERC	Federal Energy Regulation Commission
FFCA	Federal Facility Compliance Agreement
FHA	Fire Hazard Analysis
FY	Fiscal Year
GCP	Gas Cylinder Project
GSA	General Services Administration
HEPA	High Efficiency Particulate Air Filter
HSWA	Hazardous and Solid Waste Amendments
HWFP	Hazardous Waste Facility Permit
HWTF	Hazardous Waste Treatment Facility
ICP	Inductively Coupled Plasma
IPC	Industrial Partnership Center
JCI	Johnson Control Incorporated
KOP	Knowledge of Process
LAMPF	Los Alamos Meson Physics Facility
LANL	Los Alamos National Laboratory
LAO	LANL Assessment Office
LDR	Land Disposal Restriction
LLMW	Low-Level Mixed Waste
LLW	Low-Level Radioactive Waste
LP	LANL Procedures
MSDS	Material Safety Data Sheets
MWRSF	Mixed Waste Receiving and Storage Facility
NEPA	National Environmental Policy Act
NESHAPS	National Emissions Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NMED	New Mexico Environmental Department
NPDES	National Pollutant Discharge Elimination System

LIST OF ACRONYMS
(Continued)

NRC	Nuclear Regulatory Commission
PPAC	Pollution Prevention Awareness Campaign
PRD	Program Required Document
PTS	Project Tracking System
PWA	Process Waste Assessment
QA	Quality Assurance
QAP	Quality Assurance Plan
RCRA	Resource Conservation and Recovery Act
R&D	Research and Development
R&M	Redistribution and Marketing Center
RES	Rollins Environmental Service
RMMA	Radioactive Material Management Area
RSWD	Radioactive Solid Waste Disposal Record
SOP	Standard Operating Procedures
SSP	Site Specific Plans
SWDA	Solid Waste Disposal Act
TA	Technical Area
TCLP	Toxicity Characteristic Leaching Procedures
TRU	Transuranic
TSCA	Toxic Substance Control Act
TSDF	Treatment, Storage, or Disposal Facility
UBC	Uniform Building Code
UL	Underwriters Laboratories
ULISSES	Uranium Line for Special Separation Sciences
WAC	Waste Acceptance Criteria
WBS	Work Breakdown Structure
WIPP	Waste Isolation Pilot Plant
WMC	Waste Management Coordinator
WMPO	Waste Minimization Program Office
WPF	Waste Profile Form

IFLL 200
SCHEDULE FOR UPGRADES TO INTERIM STATUS
LOW-LEVEL MIXED WASTE STORAGE FACILITIES

1.0 INTRODUCTION

The Los Alamos National Laboratory (LANL) currently has over 4100 drums of low-level mixed wastes (LLMW) stored in Technical Area 54 (TA)-54 in interim status storage facilities. The lack of treatment and disposal facilities has resulted in noncompliance with the storage prohibitions of the Land Disposal Restrictions (LDR) requirements set forth in the Resource Conservation and Recovery Act (RCRA) for many of these wastes. During Federal Facility Compliance Agreement (FFCA) negotiations, U.S. Environmental Protection Agency (EPA) raised concerns that the current LLMW storage facilities should be reviewed and upgraded to permitted facility standards in advance of LANL's RCRA permit schedule, if interim modifications could be identified and approved. Of greatest concern were the 40 CFR Part 264, Subpart I secondary containment requirements and prevention of precipitation run-on at Area L. Upgrades to interim status LLMW storage facilities at TA-54 have been identified in a previous FFCA report, *Preconceptual Study to Identify Required Interim Low-Level Mixed Waste Storage Facilities/Upgrades* (IFLL 100). Upgrades to address 40 CFR Part 264 Subpart I requirements and best management practices (BMPs) were identified. The schedule for the upgrades identified in IFLL 100 is contained in this deliverable, which is provided to comply with milestone IFLL 200 of the FFCA with the EPA, Region VI.

Low-level mixed waste is currently stored at TA-54 in Areas G and L. Solid LLMW is stored at Area G in Building 49. This facility contains a bermed (curbed) asphalt pad with a tension support dome structure. Containers stored in this building consist primarily of 55-gallon Department of Transportation (DOT)-approved steel drums stacked two and three high on pallets in rows. The rows are separated by a minimum aisle space of two feet. Some non-RCRA-regulated low-level radioactive wastes are also stored in this area. Several of the upgrades identified in IFLL 200 have been completed including upgrades to no smoking signs, communication systems, and a demonstration of stability and inspection of triple stacked drums. The Part B permit application for TA-54, Area G mixed waste interim status units is scheduled to be completed in FY95. Other LLMWs are stored in TA-54-153 and in storage sheds adjacent to TA-54-49.

Liquid LLMW is currently stored at TA-54, Area L adjacent to the gas cylinder storage area. The containers, primarily 30 and 55-gallon DOT-approved polyethylene and steel containers, and 85-gallon DOT-approved overpacks, are stacked two and three high on pallets in rows separated by a minimum aisle space of two feet. Some non-RCRA-regulated low-level radioactive wastes are also stored in this area. Several of the upgrades identified in the preconceptual study have been completed or begun. The proposal and design phases of the dome structure to enclose the liquid LLMW storage area are completed, as well as the approval from the New Mexico Environment Department (NMED) for changes during interim status.

The proposed Mixed Waste Receiving and Storage Facility (MWRSF) has been designed to support the Hazardous Waste Treatment Facility by providing storage, repackage, and/or overpack facilities for mixed waste. At present, the MWRSF is designed to accommodate mixed wastes generated by existing and future operations at LANL and legacy wastes already stored at LANL. The facility is not designed or expected to manage wastes from sources other than these. This facility is projected to replace the LLMW storage at TA-54 Areas G and L. The Part B permit application for the MWRSF and the schedule for submitting the application to NMED are under development.

2.0 DESCRIPTION OF THE LLMW STORAGE AREAS UPGRADES AND SCHEDULE

The IFLL 100 described those options to be evaluated for upgrading the Area L and G LLMW storage areas. Some of the options identified in IFLL 100 were not required under 40 CFR Part 264, Subpart I, but were BMPs.

2.1 Area G LLMW Storage Upgrades

The following is a summary of identified options to upgrade the interim status storage at TA-54-49 (Area G Dome 49) to 40 CFR Part 264, Subpart I requirements, or to implement BMPs:

- Placement of no smoking signs at the facility near the reactive storage area.
- Installation of an additional telephone at the entrance to the facility.
- Determination of whether the existing fire control systems and equipment require upgrades.
- Demonstration of stability and inspection of triple stacked drums.
- Evaluation of short-term relocation of nonregulated uranium chips and turnings before treatment.

The following is the status and schedule for implementation of the selected upgrade options:

- No smoking signs were installed in TA-54-49 in the fall of 1993.
- A Work Order was placed for installation of the additional telephone at the entrance to the building. This project is awaiting scheduling.
- Fire Hazard Analyses (FHAs) are being performed for all the existing and planned dome structures for Areas G and L. The preparation of the FHA for TA-54-49 will follow the initiation of the FHA for the Area L Dome (Appendix A).
- Drum stability concerns regarding container stacking were addressed by the installation of 4-inch-by-4-inch support beams into the existing pallet's framework.
- Inspections are conducted of all three container layers in accordance with the existing RCRA inspection plan, and ladders are used as needed to inspect the upper portions of the containers.
- The evaluation of options for relocating the non-regulated uranium chips and turnings will be completed by June 1995. A final determination of the management option for the uranium chips and turnings will occur by November 1995.

For TA-54-49, no changes under interim status were required for the upgrade activities. However, a Part B permit application for Area G is being development along with a schedule for submission of the application to NMED. The application will include the Area G Solid LLMW storage area TA-54-49, and additional RCRA-regulated units within Area G.

2.2 Area L LLMW Storage Upgrades

The following is a summary of identified options to upgrade the existing Area L liquid LLMW storage area to 40 CFR Part 264, Subpart I requirements and to implement BMPs:

- Enclose the storage area to protect the containers from ignition sources (e.g., radiant heat and lightning), wind, corrosion caused by weathering, and prevention of precipitation run-on and accumulation. Installation of lightning protection.
- Revise the container storage configuration with a minimum of 24 inches between wall and pallets.
- Install an active ventilation system to ensure adequate ventilation inside the dome.
- Conduct a review of the fire control systems and equipment in the planned facility to determine if additional fire protection equipment is necessary.
- Store liquid mixed waste drums on portable containment pallets which serve as secondary containment units. A total of 4 drums will be stored on each pallet.
- Erect the dome structure using a durable fabric treated with inhibitors to prevent degeneration from ultraviolet rays of the sun. This fabric is fire retardant and meets the requirements of NFPA 701. The structure will be capable of withstanding winds up to 130 mph and the snow loads encountered at Los Alamos. Similar structures have demonstrated satisfactory performance at Area G and at other DOE facilities.
- Upgrade the electrical service which will be placed below ground. Fire protection, telephone, and evacuation alarm systems will be connected to Building 54-37. Fire water supply is available from an existing hydrant located on the east side of Mesita Del Buey Road between Buildings 54-37 and 54-51. Upgrades to the water system are also planned.

The following is the status of and schedule for implementation of the selected upgrade options:

- The schedule for the upgrades for the LLMW storage unit at Area L is presented in Appendix A. The Table also presents the previous design activities already completed and planned construction activities. The Title I and II design activities were completed on June 10, 1994. Construction will commence following the award of a contract to construct the facility. A contract is expected to be awarded by May, 1995. Construction activities should begin by June, 1995 and are expected to be completed by November, 1995, provided the contract is awarded as expected.
- The FHA for the dome was begun on August 29, 1994 and should be completed by November 30, 1994. Information generated as part of the FHA will be used in selecting the appropriate fire suppression system.
- Construction of a loading dock at Area L, to assist in the movement of drums during the construction phase of the project, is underway and expected to be completed by October, 1994.
- Electrical upgrades, which include replacement and removal of the overhead electrical lines at Area L, are scheduled to be completed by October, 1994.
- To facilitate the completion of the upgrades to the Area L liquid LLMW storage area, an application was made to NMED for changes under interim status. Coordination with NMED has included discussions and written communications concerning changes under interim status. On June 14, 1994, DOE sent NMED a letter requesting the aforementioned changes under interim status and approval to commence with those plans. The NMED responded on July 22, 1994, approving the changes and activities under interim status.
- The Part B permit application for the Area L liquid LLMW storage area and a schedule for submission of the application to NMED are under development.

3.0 MIXED WASTE RECEIVING AND STORAGE FACILITY

The MWRSF is designed for those mixed wastes currently stored at TA-54 Areas G and L and new mixed wastes generated within LANL. Wastes received at the facility will be inventoried, characterized (if required), and stored for later processing. Stored waste will be prepared for treatment or size reduction at other LANL facilities, such as the Controlled Air Incinerator or the Hazardous Waste Treatment Facility. The preliminary (Title I) design specifications for the MWRSF are under development. The Part B permit application and schedule for submission to NMED also are under development. The schedule for construction of the MWRSF will be determined upon completion of detailed design (Title II), and will be contingent upon receipt of a RCRA permit from NMED.

APPENDIX A

GANTT CHART FOR MIXED WASTE STORAGE BUILDING, AREA L

MIXED WASTE STORAGE BUILDING, TA-54, AREA L

ID	Name	Duration	Start	Finish	Predec	3	Qtr 4, 1993				Qtr 1, 1994				Qtr 2, 1994				Qtr 3, 1994				Qtr 4, 1994				Qtr 1, 1995				Qtr 2, 1995				Qtr 3, 1995				Qtr 4, 1995				Qtr 1, 1996			
						Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun				
						Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun				
1	Mixed Waste Storage Building	568.5d	9/17/93	11/24/95			[Summary bar from 9/17/93 to 11/24/95]																																							
2	Proposal Phase	42d	9/17/93	11/15/93			[Progress bar from 9/17/93 to 11/15/93]																																							
3	Kick-off meeting	1d	9/17/93	9/17/93			9/17 9/17																																							
4	Submit Proposal	0d	9/17/93	9/17/93	3		◇ 9/17																																							
5	Review/discuss proposal	23d	9/22/93	10/22/93	4		9/22 [Progress bar] 10/22																																							
6	Submit revised proposal	0d	10/25/93	10/25/93	5		◇ 10/25																																							
7	Receive NTP	16d	10/25/93	11/15/93	8		10/25 [Progress bar] 11/15																																							
8	Design Phase	149d	11/16/93	6/10/94			[Summary bar from 11/16/93 to 6/10/94]																																							
9	Design kick-off meeting	0.5d	11/16/93	11/16/93			11/16 11/16																																							
10	Field investigation	0.5d	11/16/93	11/16/93	9		11/16 11/16																																							
11	Project stopped by LANL	1d	11/18/93	11/18/93	10		11/18 11/18																																							
12	Project started by LANL	1d	12/20/93	12/20/93	11		12/20 12/20																																							
13	Design progress	9d	1/8/94	1/18/94	12		1/8 [Progress bar] 1/18																																							
14	Working meeting	1d	1/19/94	1/19/94	13		1/19 1/19																																							
15	50% documents draft	12d	1/20/94	2/4/94	14		1/20 [Progress bar] 2/4																																							
16	LH Q/A review	2d	2/7/94	2/8/94	15		2/7 2/8																																							
17	50% documents final	4d	2/9/94	2/14/94	16		2/9 [Progress bar] 2/14																																							
18	Submit to LANL	0d	2/15/94	2/15/94	17		◇ 2/15																																							
19	LANL review	5d	2/16/94	2/22/94	18		2/16 [Progress bar] 2/22																																							
20	Design review meeting	1d	2/23/94	2/23/94	19		2/23 2/23																																							
21	95% documents draft	1d	3/9/94	3/9/94	20		3/9 3/9																																							
22	Team review/final design	5d	3/10/94	3/18/94			3/10 [Progress bar] 3/18																																							
23	LH Q/A review	1d	3/29/94	3/29/94	22		3/29 3/29																																							
24	95% documents final	1d	4/28/94	4/28/94	23		4/28 4/28																																							
25	Submit to LANL	0d	4/28/94	4/28/94	24		◇ 4/28																																							

Project: MWBSB, CST-7, CMWDO
Date: 9/8/94

Critical [Hatched bar] Progress [Solid bar] Summary [Arrow bar]
 Noncritical [Dotted bar] Milestone [Diamond] Rolled Up [Diamond]

