

Environmental Restoration and Waste Management Five Year Plan
Activity Data Sheet FY 94-98
ALLA-2107

Date: 04/28/92

Time: 06:42:35

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Operations Office: ALLA ID No.: 2107

Last Update: 04/24/92

Activity Title: PROGRAMMATIC MANAGEMENT

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: RI NEPA: N/A

Category: ER Facility/WAG: N/A

% Overhead: 20

Cost LOC Req.: M Sched. LOC Req.: H Scope LOC Req.: M

WBS No.: 6.3.3 Level: 0

Line Item No.: TPC: 0 TEC: 0

Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: N HAZ: N SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y

NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 03/01/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER

2.

3.

CROSSWALK Old ADS Number: ALLA2106

Type of Change: ADS COMBINED

Reason for Change: Assessment and Remediation ADSs were combined. ADS2106 and ADS2107 is combined into ALLA-2107.

Old ADS Number: ALLA2107

Type of Change: ADS COMBINED

Reason for Change: Assessment and Remediation ADSs were combined. ADS2106 and ADS2107 are combined into ALLA-2107.

Tiger Team Finding Number: IWS/CF-01

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.



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Tiger Team Finding Number: IWS/CF-11

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 34M200

Req. Due Date: 09/30/92 Target Due Date: 09/30/92 Level: HQ Source:3004U
Title: FY92 PROGRAM MANAGEMENT
Compliance: HSWA MODULE
Description: This activity constitutes programmatic management for the LANL ER Program.

Milestone No. 34M205

Req. Due Date: 09/30/93 Target Due Date: 09/30/93 Level: HQ Source:3004U
Title: FY93 PROGRAM MANAGEMENT
Compliance: HSWA MODULE
Description: This activity constitutes programmatic management for the LANL ER Program.

Milestone No. 34M210

Req. Due Date: 09/30/94 Target Due Date: 09/30/94 Level: HQ Source:3004U
Title: FY94 PROGRAM MANAGEMENT
Compliance: HSWA MODULE
Description: This activity constitutes programmatic management for the LANL ER Program.

Milestone No. 34M215

Req. Due Date: 09/29/95 Target Due Date: 09/29/95 Level: HQ Source:3004U
Title: FY95 PROGRAM MANAGEMENT
Compliance: HSWA MODULE
Description: This activity constitutes programmatic management for the LANL ER Program.

Milestone No. 34M220

Req. Due Date: 09/30/96 Target Due Date: 09/30/96 Level: HQ Source:3004U
Title: FY96 PROGRAM MANAGEMENT
Compliance: HSWA MODULE
Description: This activity constitutes programmatic management for the LANL ER Program.

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Milestone No. 34M225
Req. Due Date: 09/30/97 Target Due Date: 09/30/97 Level: HQ Source:3004U
Title: FY97 PROGRAM MANAGEMENT
Compliance: HSWA MODULE
Description: This activity constitutes programmatic management for the LANL ER Program.

Milestone No. 34M230
Req. Due Date: 09/30/98 Target Due Date: 09/30/98 Level: HQ Source:3004U
Title: FY98 PROGRAM MANAGEMENT
Compliance: HSWA MODULE
Description: This activity constitutes programmatic management for the LANL ER Program.

Requirements Narrative

1. Technical Scope:

This activity data sheet (ADS) consists of management-related activities associated with implementing the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Program including preparing the ER Five-Year Plan, LANL Site-Specific Plan, administrative procedures, program management, weekly, monthly, and quarterly reports. Also included are community relations activities, quality assurance, health and safety assurance, resource planning, maintenance of the Management Information System (MIS) (including cost and schedule planning and reporting), and providing periodic briefings to the Department of Energy (DOE), Laboratory management, and the public.

2. Activities Completed to Date:

LANL assumed management of the Laboratory's ER Program in October, 1989.

3. Activity Term:

This will be a level-of effort activity continuing beyond FY98, extending through the assessment and the remediation tasks.

4. Current Year (FY 92) Description:

- * Program management continues during FY92.
- * This effort will require about 35.1 Direct Full Time Equivalents (FTEs).

5. Budget Year (FY 93) Description:

- * Program management continues during FY93.
- * This effort will require about 30.2 Direct FTEs.

6. Planning Year (FY 94) Description:

- * Program management continues during FY94.
- * This effort will require approximately 42.4 Direct FTEs.

7. Outyears (FY 95-FY98):

- * This level-of-effort activity will continue through FY95-FY98.
- * This effort requires approximately 42 Direct FTEs per year.

8. Key Assumptions:

The key assumption for completing this level-of-effort activity is adequate funding as needed.

Key assumptions for implementing the LANL ER Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability -- especially mixed waste, adequate funding as needed, timely review and approval of Hazardous Solid Waste Amendments (HSWA) documents by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the Resource Conservation and Recovery Act (RCRA) operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of OE only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3)

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General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

* Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually updated Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time.

The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or

modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004 (u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance there will be a further erosion of public confidence in both organizations.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- Alternate Water Supply
- Site Security Measures
- People Evacuated or Relocated
- Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	0	0	0	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

This ADS does not include potential waste sites.

Indicators Point of Contact: Bitner, K.
 Title: F.O. POC
 Phone Number: 5058454606

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ALLA-2110

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Operations Office: ALLA ID No.: 2110

Last Update: 04/24/92

Activity Title: ENVIRONMENTAL RESTORATION ANALYTICAL CHEMISTRY FACILITY
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 0
Cost LOC Req.: M Sched. LOC Req.: M Scope LOC Req.: M WBS No.: 6.7.2 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: N HAZ: N SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: Y FED: Y

F.O. POC: Bitner, K. FTS 845-4606 Reviewed Date: 03/01/92
HQ POC: Harris, R. FTS 233-8199
Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA2110
Type of Change: ADS SAME
Reason for Change: Same ADS as ADS2110.

MILESTONES Milestone No.
Req. Due Date: 05/04/92 Target Due Date: Level: HQ Source:FED
Title: FACILITY DESIGN
Compliance: HSWA MODULE
Description: Design needed for building to meet schedules for
characterization.

MILESTONES Milestone No.
Req. Due Date: 09/01/98 Target Due Date: Level: HQ Source:FED
Title: FACILITY CONSTRUCTION
Compliance: HSWA MODULE
Description: Building needed to meet schedules for characterization.

Requirements Narrative

1. Technical Scope:

A 39,000 sq. ft. facility is proposed for chemical analysis of radioactive and non-radioactive samples that are collected primarily for environmental restoration activities at Los Alamos National Laboratory. Current facilities are not adequate for the numbers and types of samples that must be analyzed for trace levels of hazardous constituents (contamination problems affect sample analyses). Private contractors will provide approximately 80% of chemical analyses. This facility will be used for highly radioactive, fast-turnaround, and split sample analysis. This new facility will be designed specifically for the specialized analyses of trace levels (i.e., nanogram and picogram amounts) of inorganic, organic, and radiochemical constituents in water, wastewater, soils, sludges and wastes. This facility will allow the Los Alamos National Laboratory (LANL) to meet current technical and schedule requirements and to develop new capabilities that will result in significant savings in analytical chemistry costs without sacrificing the validity of the data generated.

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2. Activities Completed to Date:

- * Preliminary conceptual design was completed January, 1991.

3. Activity Term:

- * Construction is scheduled to begin in late FY94 and be completed in late FY98, at which time, facility will be occupied and become operational (FY99). Construction Direct Full Time Equivalents (FTEs) at LANL are capitalized, therefore, Direct FTEs are not indicated.

4. Current Year (FY 92) Description:

- * Detailed Design Criteria will be developed for the selected architectural engineering firm.

5. Budget Year (FY 93) Description:

No activity due to constrained budget.

6. Planning Year (FY 94) Description:

- * Will entail the construction of the facility.
- * This project will be delayed commensurate with the delay in receiving funding or in receiving reduced funding.
- * Delay in operation of the facility will compromise plans for site characterization at LANL.

7. Outyears (FY95-98) Description:

- * The construction company will be selected.
- * The architectural-engineering firm for the design phase will be selected.
- * An environmental assessment on the building operation will be completed.
- * Title 1 and Title 2 will be completed.

8. Key Assumptions:

- * Funding estimates result from detailed cost estimates performed using the conceptual design of the facility.
- * The Laboratory will continue to be required to maintain compliance with operating permits, federal, state, and local regulatory requirements.
- * The Laboratory will continue to be required to sample radioactive and non-radioactive samples collected for analysis of trace levels of inorganic, organic, and radiochemical constituents.
- * Approximately 80% of samples generated by the Environmental Restoration (ER) Program at LANL will be contracted out to private laboratories. However, highly radioactive samples, fast turnaround samples and split (quality control) samples will be analyzed in this facility.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
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- * Direct/Indirect Full Time Equivalent (FTE) Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
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The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- Alternate Water Supply
- Site Security Measures
- People Evacuated or Relocated
- Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	0	0	0	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

This ADS does not include potential waste sites.

Indicators Point of Contact: Bitner, K.
Title: F.O. POC
Phone Number: 5058454606

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Operations Office: ALLA ID No.: 1157

Last Update: 04/24/92

Activity Title: TA-8,-9,-23,-69
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 2
Cost LOC Req.: L Sched. LOC Req.: M Scope LOC Req.: L WBS No.: 6.1.28 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 03/01/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER

2.

3.

CROSSWALK Old ADS Number: ALLA1157

Type of Change: ADS SAME

Reason for Change: Same ADS as ADS1157.

Tiger Team Finding Number: IWS/CF-01

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in teh May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

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Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 31M015

Req. Due Date: 05/23/93 Target Due Date: 06/01/93 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 31M095

Req. Due Date: 01/03/95 Target Due Date: 04/01/98 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 31M040

Req. Due Date: 09/09/97 Target Due Date: 03/19/01 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 31M045

Req. Due Date: 01/15/98 Target Due Date: 07/17/01 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 31M055

Req. Due Date: 04/01/98 Target Due Date: 10/01/01 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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Milestone No. 31M065
Req. Due Date: 09/30/99 Target Due Date: 01/30/03 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-
approved CMS plan.

Milestone No. 31M075
Req. Due Date: 12/17/99 Target Due Date: 06/04/03 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as
required by the operating permit.

Requirements Narrative

1. Technical Scope:

Technical Area-8 (TA-8) (Anchor Ranch) was originally used for ordnance and radioactive material storage and staging. Currently, TA-8 houses administrative and nondestructive testing for the Dynamic Testing Division and the Fabrication and Assembly Groups. TA-9 is operated by the Explosive Technology Group for developing and testing new explosives. TA-23 consisted of two lab buildings, a magazine, and an office building; it is currently abandoned (decommissioned) and part of TA-9. TA-69 houses a guard house, an inactive incinerator, and office space in the form of trailers. This operable unit (OU) consists of several potential release sites comprising approximately 38 acres. The sites consist of radiography facilities; septic systems, sumps, and outfalls; contaminated areas associated with explosive processing facilities; sanitary lagoon; firing sites; landfills; pits, and Material Disposal Areas M and Q. Potential contaminants include radionuclides, hazardous chemicals, lithium, asbestos, and high explosives. Potential remedial alternatives include selected removal followed by institutional controls capping, and the less likely alternative of removal and disposal of larger volumes. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCAs) for this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * Solid Waste Management Unit (SWMU) Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * During FY89, preliminary RFI scoping activities were conducted.
- * No activity during FY90 or FY91.

3. Activity Term:

- The RFI work plan will begin in early FY92 for transmittal to EPA in mid-FY93.
- * RFI field work/reports will be phased. Detailed phasing will be

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provided in the RFI work plan.

- * RFI field investigations will begin in early FY94.
- * The RFI Report will be transmitted to EPA and New Mexico Environment Department (NMED) during FY97.
- * The CMS plan will be completed in FY98.
- * Following approval of the CMS plan, the CMS will commence followed by CMI.
- * VCAs will be conducted, as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY92) Description:

- * With priority effort on the SWMUs listed in the Hazardous Solid Waste Amendments (HSWA) permit, preparation of the RFI work plan will be initiated.
- * Most Los Alamos National Laboratory (LANL) Full Time Equivalents (FTEs) (2.7) will be associated with RFI work plan preparation.

5. Budget year (FY93) Description:

- * Planned FY93 activities include:
 - Initiate assessment of SWMUs not characterized in FY92 (non-HSWA permitted SWMUs).
 - Complete EPA/NMED draft of RFI work plan.
- * VCAs will be conducted as appropriate.
- * Most LANL Direct FTEs (2.1) will be associated with RFI work plan preparation.

6. Planning Year (FY94) Description:

- * Information obtained in Phase 1 will be used to refine the sampling plans for Phase 2 of the RFI field work, including defining SWMUs for which no further action is necessary.
- * The development of the RFI report will be started.
- * VCAs will be conducted, as appropriate.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs projected at 1.7.

7. Outyears (FY95-FY98) Description:

- * Planned FY95-FY98 activities include:
 - Continuation of Phase 1 and Phase 2 field investigations into FY96,
 - Completion of EPA/NMED draft of RFI Phase 1 report in FY95,
 - Completion of EPA/NMED draft of RFI report in FY97,
 - Development and completion of CMS plan in FY98,
 - CMS work and CMS report started at end of FY98, and
 - VCA work depending on availability of funding and mixed waste disposal capacity.
- * The FY93-FY98 funding reflects significant sampling and analysis costs that continue to reflect the use of subcontracts.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs are projected to range from 1.2 to 4.3 from FY95-FY98.

3. Key Assumptions:

Key assumptions for implementing the LANL Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability -- especially mixed waste, adequate funding as needed, timely review and approval of HSWA documentation by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope,

assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU currently falls within the HSWA module 10-year window.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The

Decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

NEPA documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

Decontamination and decommissioning (D&D) schedules are not driven by ER Program regulatory requirements; however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

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EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	15700	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG

Classes Of Chemical Contaminants: A D E G I

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact:

Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

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Operations Office: ALLA ID No.: 1154

Last Update: 04/24/92

Activity Title: TA-57
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 19
Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L WBS No.: 6.1.27 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: N HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 03/01/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1154

Type of Change: ADS SAME

Reason for Change: Same ADS as ADS1154.

Tiger Team Finding Number: IWS/CF-01

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

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Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 30M010

Req. Due Date: 05/17/94 Target Due Date: 05/18/94 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program mangement, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 30M090

Req. Due Date: 01/19/96 Target Due Date: 04/09/98 Level: HQ Source:3004U

Title: EPA/NMED DRAFT PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 30M035

Req. Due Date: 09/22/98 Target Due Date: 02/08/01 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 30M040

Req. Due Date: 01/28/99 Target Due Date: 06/08/01 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 30M050

Req. Due Date: 04/14/99 Target Due Date: 08/23/01 Level: HQ Source:3004U

Title: EPA/NMED DRAFT CMS PLAN

Compliance: HSWA MODULES

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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Milestone No. 30M060
Req. Due Date: 07/31/00 Target Due Date: 12/13/02 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULES
Description: CMS activities will be performed in accordance with the EPA-
approved CMS plan.

Milestone No. 30M070
Req. Due Date: 10/13/00 Target Due Date: 03/04/03 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as
required by the operating permit.

Requirements Narrative

1. Technical Scope:

Technical Area-57 (TA-57) is the site where several very deep geothermal wells were drilled and tested near the Valle Caldera in the Jemez Mountains west of Los Alamos. The 20-acre development contains several support buildings. This operable unit (OU) consists of several potential release sites with an area of approximately one acre. The site consists of drilling mud and cuttings from the Fenton Hill geothermal sites. Potential contaminants include certain drilling muds which might be hazardous wastes. Possible remedial alternatives vary from selected removal to the less likely alternative of removal and disposal of larger volumes. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCAs) for this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987;
- * Solid Waste Management Unit (SWMU) Report submitted to the EPA Region VI and the New Mexico Environmental Improvement Division (NMEID), December 1988;
- * During FY89, preliminary RFI scoping activities were conducted;
- * No activity during FY90 or FY91.

3. Activity Term:

- * The RFI work plan preparation will begin in early FY93 for transmittal to EPA in mid-FY94.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * RFI field investigations will begin in early FY95 and progress beyond FY97.
- * CMS and CMI activities will follow the RFI.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

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4. Current Year (FY92) Description:

No activity scheduled; no funding requested.

5. Budget Year (FY93) Description:

- * Initiate RFI work plan preparation including: community relations plan, quality assurance project plan, management plan, health and safety plan, and sampling plan.
- * Conduct VCAs, as appropriate.
- * Most Los Alamos National Laboratory (LANL) Direct Full Time Equivalents (FTEs) (.5) will be associated with RFI work plan preparation.

6. Planning Year (FY94) Description

- * Complete EPA/New Mexico Environment Department (NMED) draft RFI work plan.
- * Conduct VCAs, as appropriate.
- * Most LANL Direct FTEs (1.0) will be associated with RFI work plan preparation.

7. Outyears (FY95-FY98)

- * Conduct RFI field work.
- * Complete EPA/NMED Draft RFI Report in September, 1998.
- * Begin development of CMS Plan (FY98).
- * Conduct VCAs, as appropriate.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs are projected to range from .7 to .9 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability -- especially mixed waste, adequate funding as needed, timely review and approval of Hazardous Solid Waste Amendments (HSWA) documentation by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to

account for differences in relative complexities of performance, design, and operational characteristics.

- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions. The RFI/CMS schedule for this OU currently exceeds the HSWA module 10-year window.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The HSWA module schedule must be modified to reflect available funds.

10. Regulatory Drivers/Consequences

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
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HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually updated Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties
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Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with CERCLA.

NEPA documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the

{RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	12203	cuyd
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG

Classes Of Chemical Contaminants: A D E G

Narrative:

No immediate/short-term actions required. Land disposal restrictions are not included in this analysis.

Indicators Point of Contact: Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

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Operations Office: ALLA ID No.: 1148

Last Update: 04/24/92

Activity Title: TA-51, 54
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 1
Cost LOC Req.: L Sched. LOC Req.: M Scope LOC Req.: L WBS No.: 6.1.26 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: Y TRU MIX: Y LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 03/01/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER

2.

3.

CROSSWALK Old ADS Number: ALLA1148

Type of Change: ADS SAME

Reason for Change: Same ADS as ADS1148.

Tiger Team Finding Number: IWS/CF-01

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

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Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 28M015

Req. Due Date: 05/14/92 Target Due Date: 05/14/92 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 28M095

Req. Due Date: 08/28/96 Target Due Date: 04/10/00 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 28M055

Req. Due Date: 02/01/00 Target Due Date: 06/04/04 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

Milestone No. 28M040

Req. Due Date: 06/29/00 Target Due Date: 09/10/03 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 28M045

Req. Due Date: 10/30/00 Target Due Date: 01/15/04 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI Will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

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Milestone No. 28M065
Req. Due Date: 03/15/01 Target Due Date: 09/21/05 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-approved CMS plan.

Milestone No. 28M075
Req. Due Date: 06/14/01 Target Due Date: 12/22/05 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as required by the operating permit.

Requirements Narrative

1. Technical Scope:

This operable unit (OU) consists of potential release sites comprising an area of approximately 70 acres. Technical Area-51 (TA-51) was an animal experimental and environmental research area. A dog holding facility and large animal buildings were used for toxicity studies. TA-54 is a currently active, solid waste disposal area at Los Alamos. The sites include material disposal areas (MDAs) L, H, G, and J. Radioactive (low-level and stored transuranic) wastes are handled at Area G. Area G also has buried pre-1973 transuranic mixed waste (6 trenches). Area L currently stores hazardous chemicals before shipment for treatment/disposal. Area L has old shafts augered into the tuff where hazardous chemicals were disposed. Area H consists of shafts with disposed waste. Area J consists of three trenches where flashed high-explosives inactive contaminated waste from TA-15 as well as other inactive non-hazardous wastes are disposed. Potential contaminants include hazardous wastes, radionuclides, and solvents. The most likely remedial alternative will be selected removal of small volumes with the less likely alternative of removal and disposal of larger volumes. A landfill cover will be designed and demonstrated at TA-54. This will determine a cost-effective optimized design for Los Alamos across the elevational and climatic gradient present at Los Alamos National Laboratory (LANL). This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCA) for this OU. Required Closure Activities at TA-54 have been integrated into the RFI/CMS/CMI process. CMI and VCA are not specified at this time except for the Area L plume.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * Solid Waste Management Unit Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * During FY89, preliminary RFI scoping activities were conducted. No activity during FY90.
- * Preparation of the RFI work plan was initiated during FY91.

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3. Activity Term:

- * Continue Vadose zone monitoring.
- * Including monitoring the volatile organic contaminant (VOC) plume in the subsurface surrounding MDA L, calibrating of a computer model that will identify data needs for remediation of the plume, and pilot studies at MDA G to develop caps for long-term stabilization of waste disposal trenches.
- * The RFI work plan will be completed in late FY92 and the RFI field investigations essentially completed by the end of FY97.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * The RFI report will be submitted in FY98 and, upon approval, CMS followed by CMI.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY92) Description:

- * Preparation of the RFI Work Plan will be completed during FY92.
- * The RFI work plan includes operable unit-specific sampling plans and plans to implement procedures for project management, quality assurance, health and safety, records management, and community relations.
- * The work plan will be submitted to EPA in May 1992.
- * Continue MDA G Pilot Studies to develop soil covers (caps) that will provide long-term stabilization of waste disposal trenches.
- * Continue collection and analysis of soil gas samples from monitor wells at MDA L.
- * Continue development of the computer program to model the migration of contaminants in the VOC plume.
- * Most Los Alamos National Laboratory (LANL) Full Time Equivalents (FTEs) (1.7) will be associated with RFI work plan preparation.

5. Budget Year (FY93) Description:

- * The RFI will be initiated in October 1992 at MDA L.
- * The collection and analyses of soil gas samples from monitor wells installed in the VOC plume at MDA L will continue.
- * Pilot studies will continue in FY93 at MDA G.
- * Conduct VCAs, as appropriate.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs projected at 1.4.

6. Planning Year (FY94) Description:

- * The RFI will continue in this FY with implementation of sampling plans at MDAs L, G, H, J, and four septic systems.
- * The VCA to remediate the VOC plume in the subsurface below and surrounding MDA L will be initiated this FY.
- * Conduct VCAs, as appropriate.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs projected at .6.

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7. Outyears (FY95-98):

- * The RFI Phase 1 report (prepared in FY95) will contain modified elements of the RFI work plan to address data needs identified from the Phase 1 investigation.
- * Phase 2 field investigations will be performed.
- * A draft of the RFI Report is scheduled for submittal to EPA and New Mexico Environment Department (NMED) in FY98.
- * Work on the CMS plan is scheduled to begin in the 3rd quarter of FY98.
- * The VCA to remediate the volatile organic contaminant plume includes final design of the full scale volatile extraction system by end of FY97, and remediation in FY98.
- * Pilot studies at MDA G continue in the outyears.
- * VCAs will be conducted based on availability of funding and waste disposal capacity.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs are projected to range from 1.4 to 24.2 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the LANL Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capacity -- especially mixed waste, adequate funding as needed, timely review and approval of the Hazardous Solid Waste Amendments (HSWA) documents by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops and a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new

conditions or estimating approaches.

- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU Project Leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for the OU currently exceeds the HSWA module 10-year window.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually updated Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

ursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing

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Business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

NEPA documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

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EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	300157	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG SOL AIR SEP
 Classes Of Chemical Contaminants: A D E G H

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal requirement

Indicators Point of Contact: Bitner, K.
 Title: F.O. POC
 Phone Number: 5058454606

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Operations Office: ALLA ID No.: 1147

Last Update: 04/24/92

Activity Title: TA-50
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 1
Cost LOC Req.: L Sched. LOC Req.: M Scope LOC Req.: L WBS No.: 6.1.25 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: Y TRU MIX: Y LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606 Reviewed Date: 03/01/92
HQ POC: Harris, R. FTS 233-8199
Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1147

Type of Change: ADS SAME
Reason for Change: Same ADS as ADS1147.

Tiger Team Finding Number: IWS/CF-01 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

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Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 27M010

Req. Due Date: 05/18/92 Target Due Date: 05/22/92 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 27M090

Req. Due Date: 10/31/94 Target Due Date: 07/31/96 Level: HQ Source:3004U

Title: EPA/NMED DRAFT PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 27M035

Req. Due Date: 07/11/97 Target Due Date: 05/17/01 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 27M040

Req. Due Date: 11/11/97 Target Due Date: 09/17/01 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 27M050

Req. Due Date: 02/02/98 Target Due Date: 12/05/01 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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Milestone No. 27M060
Req. Due Date: 05/19/99 Target Due Date: 03/27/03 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-
approved CMS plan.

Milestone No. 27M070
Req. Due Date: 08/03/99 Target Due Date: 06/10/03 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as
required by the operating permit.

Requirements Narrative

1. Technical Scope:

This operable unit (OU) consists of Technical Area-50 (TA-50) and Material Disposal Area (MDA) C. TA-50 consists of liquid and solid waste treatment facilities for processing radioactive liquids, incinerating mixed waste, and reducing the volume of transuranic (TRU) waste. The liquid waste treatment facility contributes most of the solid waste management units (SWMUs) at TA-50 and generates liquid, solid, and gaseous effluents that likely contaminate surrounding soils and sediments. In addition, potential leaks in the liquid waste transfer, treatment, and storage systems at TA-50 lead to the possibility for uncontrolled releases of contaminants. The treatment facilities at TA-50 occupy about 10 acres. Remediation alternatives include radionuclides, hazardous chemicals, mixed waste, and TRU waste. Area C is an 11.7-acre inactive landfill that has been used to dispose of radioactive, hazardous, mixed, and TRU waste in 6 pits and over 100 shafts. Remediation of this landfill could include no action, engineering controls to limit contaminant migration, or removal of problem sites within the landfill. Characterizing the distribution and transport of contaminants, evaluating health and environmental consequences, and selecting appropriate remediation technologies constitute the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCAs) for this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * Solid Waste Management Unit Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * During FY89, preliminary RFI scoping activities were conducted.
- * Preliminary work on preparing the RFI Work Plan began in FY90.
- * Draft RFI work plan completed in January 1992.

3. Activity Term:

- The final RFI Work Plan will be published in early FY93.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.

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- * The RFI field investigations will begin in mid-FY93 and completed in FY97/FY98.
- * The RFI report is scheduled for submittal to EPA and New Mexico Environment Department (NMED) in July, 1997.
- * Following approval of the report, CMS will commence followed by CMI as appropriate.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY 92) Description:

- * The RFI work plan will be submitted to EPA and NMED, May 1992.
- * The RFI work plan will include the sampling plan and plans for project management, quality assurance, health and safety, records management, and community relations as specified in the HSWA module of the RCRA operating permit.
- * Most Los Alamos National Laboratory (LANL) Full Time Equivalents (FTEs) (2.7) will be associated with RFI work plan preparation.

5. Budget Year (FY93) Description:

- * Work will begin to prepare for the field investigation including preparing contracts and permitting requirements.
- * Phase 1 sampling will begin by mid-FY93 with a focus on surface sampling and analysis of soils on both Area C and the treatment facilities areas.
- * Late in this Fiscal Year (FY), subsurface sampling will commence but will not be concluded until FY94.
- * VCAs will be conducted as appropriate.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs projected at 1.3.

6. Planning Year (FY 94) Description:

- * Phase 1 sampling and contaminant analyses will be completed, results summarized and a technical memoranda written describing the findings, additional data needs, and the plan for obtaining that data.
- * The RFI report development will also proceed as characterization data become available.
- * If so warranted, Phase 2 sampling activities will commence.
- * VCAs will be conducted as appropriate.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs projected at 0.9.

7. Outyears (FY 95-FY98):

- * The RFI will be completed later in FY97 or early FY98, including the RFI work plan.
- * Initial development of the CMS will begin in FY98, including pilot studies.
- * VCAs will be conducted based on availability of funds and waste disposal capacity.
- * Most sampling and analysis costs will be associated with subcontracts.

* LANL Direct FTEs are projected to range from 0.6 to 2.1 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the LANL Environmental Restoration (ER) Program as scheduled include: sufficient and timely subcontracting authority, sufficient analytical capacity -- especially mixed waste, timely FY funding availability, and timely review and approval of the Hazardous Solid Waste Amendments (HSWA) documentation by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
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- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$) and FTEs are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for the OU currently falls within the HSWA module 10-year window.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually updated Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management

unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

NEPA documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be further erosion of public confidence in both organizations.

Decontamination and decommissioning (D&D) schedules are not driven by ER Program regulatory requirements; however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

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EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	178755	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG SOL
 Classes Of Chemical Contaminants: A D E G H

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.
 Title: F.O. POC
 Phone Number: 5058454606

Environmental Restoration and Waste Management Five Year Plan
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ALLA-1144

Date: 04/28/92
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Operations Office: ALLA ID No.: 1144

Last Update: 04/24/92

Activity Title: TA-49
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 1
Cost LOC Req.: L Sched. LOC Req.: M Scope LOC Req.: L WBS No.: 6.1.24 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: Y TRU MIX: Y LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: N TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606 Reviewed Date: 03/01/92
HQ POC: Harris, R. FTS 233-8199
Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1144

Type of Change: ADS SAME
Reason for Change: Same ADS as ADS1144.

Tiger Team Finding Number: IWS/CF-01 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02 TTFN Date: 11/09/91

Type of Change:
Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 26M010

Req. Due Date: 05/22/92 Target Due Date: 05/22/92 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 26M030

Req. Due Date: 06/13/95 Target Due Date: 08/15/95 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 26M040

Req. Due Date: 09/21/00 Target Due Date: 12/28/01 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 26M050

Req. Due Date: 01/29/01 Target Due Date: 04/30/02 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 26M060

Req. Due Date: 04/13/01 Target Due Date: 07/16/02 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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Milestone No. 26M080
Req. Due Date: 07/31/02 Target Due Date: 10/31/03 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-approved CMS plan.

Milestone No. 26M085
Req. Due Date: 10/31/02 Target Due Date: 02/09/04 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as required by the operating permit.

Requirements Narrative

1. Technical Scope:

At Technical Area-49 (TA-49), underground hydronuclear experiments were conducted in 1960-1961. The experiments involved high explosives, plutonium, beryllium, and lead in nuclear weapon configurations to test weapon safety. A small radiochemistry facility also was built at the site to support the experiments. Most above-ground structures have been removed and the surface has been decommissioned and decontaminated (D&D). The site contains a leach field, surface radioactive contamination, and a landfill/trash burning area. This operable unit (OU) includes Material Disposal Area (MDA) AB which encompasses about seven acres. Potential remedial alternatives for mixed wastes existing at TA-49 vary from selective removal followed by capping to removal and disposal of larger volumes. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCAs) for this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * SWMU Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * Preliminary RFI scoping activities conducted during 1989.
- * RFI work plan development initiated late in FY90.
- * RFI work plan development conducted in FY91.

3. Activity Term:

- * The RFI work plan will be completed in late FY92 .
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * The RFI field investigation will be initiated in FY93.
- * Following approval of the RFI report, CMS will commence followed by CMI as appropriate.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY92) Description:

- * Submit draft work plan to EPA and New Mexico Environment Department (NMED) in May, 1992.
- * Write contracts for Phase 1 RFI field investigation.
- * Most LANL Direct Full Time Equivalents (FTEs) (1.8) will be associated with RFI work plan preparation.

5. Budget Year (FY93) Description:

- * Initiate RFI Phase I field investigation.
- * Initiate EPA/NMED technical report summarizing Phase I results.
- * VCAs will be conducted, as appropriate.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs projected at 1.1

6. Planning Year (FY94) Description:

- * Complete RFI Phase I investigation.
- * Prepare EPA/NMED report summarizing Phase 1 results.
- * VCAs will be conducted as appropriate.
- * Most sampling and analysis costs will be associated with subcontracts
- * LANL Direct FTEs projected at 0.9.

7. Outyears (FY95-98) Description:

- * Conduct RFI Phase II investigation.
- * Prepare RFI report.
- * Conduct VCAs, based on availability of funding and waste disposal capacity.
- * Most sampling and analysis costs will be associated with subcontracts
- * LANL Direct FTEs are projected to range from 0.6 to 0.9 from FY95-FY98

8. Key Assumptions:

Key assumptions for implementing the LANL Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability -- especially mixed waste, adequate funding as needed, timely review and approval of the Hazardous Solid Waste Amendments (HSWA) documentation by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct

labor, equipment, and overhead costs are derived and added thereto.

- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General material and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU currently exceeds the HSWA Module

10-year window.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

NEPA documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will a further erosion of public confidence in both organizations.

Decontamination and decommissioning (D&D) schedules are not driven by ER Program regulatory requirements; however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	38524	cuyd
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG SOL
 Classes Of Chemical Contaminants: E H

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.
 Title: F.O. POC
 Phone Number: 5058454606

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ALLA-1079

Date: 04/28/92
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Operations Office: ALLA ID No.: 1079

Last Update: 04/24/92

Activity Title: TA-10,31,32,45
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 2
Cost LOC Req.: M Sched. LOC Req.: M Scope LOC Req.: M WBS No.: 6.1.6 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 02/26/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1079

Type of Change: ADS SAME

Reason for Change: Same ADS as ADS1079.

Tiger Team Finding Number: IWS/CF-9

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL does not have a formal, consistent, and documented program for risk management to ensure continued protection of public health and the environment at inactive waste sites.

Tiger Team Finding Number: IWS/CF-01

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

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Tiger Team Finding Number: IWS/CF-11

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 08M005

Req. Due Date: 05/23/92 Target Due Date: 04/27/92 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF RFI WORK PLAN
Compliance: HSWA MODULE
Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 08M105

Req. Due Date: 04/26/93 Target Due Date: 04/26/93 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF PH1 REPORT
Compliance: HSWA MODULE
Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 08M110

Req. Due Date: 10/22/93 Target Due Date: 10/29/93 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF PH2 REPORT
Compliance: HSWA MODULE
Description: A draft phase two report will be submitted to EPA and NMED reporting the results of RFI phase two investigations.

Milestone No. 08M045

Req. Due Date: 05/27/97 Target Due Date: 05/17/00 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF RFI REPORT
Compliance: HSWA MODULE
Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 08M050

Req. Due Date: 09/24/97 Target Due Date: 09/15/00 Level: HQ Source:3004U
Title: RFI
Compliance: HSWA MODULE
Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

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Milestone No. 08M060
Req. Due Date: 02/20/98 Target Due Date: 02/12/01 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS PLAN
Compliance: HSWA MODULE
Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

Milestone No. 08M070
Req. Due Date: 06/15/99 Target Due Date: 06/06/02 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-approved CMS plan.

Milestone No. 08M080
Req. Due Date: 09/15/99 Target Due Date: 09/06/02 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as required by the operating permit.

Requirements Narrative

1. Technical Scope:

Operable unit (OU) 1079 incorporates Technical Areas (TAs) -10, 31, 32, and 45. Approximately 5 acres in TA-10 are included in this OU including firing sites, detonation sites, tanks, disposal pits, landfill, and decommissioned building areas. TA-10 is located in Bayo Canyon. The area was previously decontaminated and decommissioned (D&D) and transferred to Los Alamos County with restricted use agreements. This OU also includes a septic tank and a contaminated area associated with buildings approximately 1 acre in size at TA-31 (East Receiving Yard). The area is located in the Eastern Area near the Los Alamos Airport. Approximately seven acres in TA-32 are included in this OU. The sites include an old lab area, septic tanks and associated structures, and an incinerator. TA-31 and TA-32 are located outside the Laboratory boundaries; no records are available on the D&D of these facilities. This OU also consists of a site about 5 acres at former TA-45, which resulted from the former industrial liquid waste treatment plant effluent released to Acid Canyon. The site is located outside Laboratory boundaries; the plant was decontaminated and decommissioned in 1966. Contaminants which could possibly be found at these sites include radionuclides, high explosives, acids, heavy metals, organic chemicals, and petroleum products. Possible remediation ranges from limited removal followed by institutional controls to the less likely case of removal and disposal for the disposal pits. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CM1) and Voluntary Corrective Actions (VCAs) for this OU.

2 Activities Completed to Date:

* Preliminary Assessment/Site Inspection (PA/SI) document submitted to

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Environmental Protection Agency (EPA) Region VI, October 1987.

- * Solid Waste Management Unit Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * During FY89, preliminary RFI scoping activities were conducted.
- * Draft Sections for the RFI work plan were begun in FY90.
- * Work continued on the RFI work plan during FY91.

3. Activity Term:

- * The RFI work plan will be completed in late FY92.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * The RFI field investigations will be initiated in FY92 and progress through FY97.
- * The RFI report will be submitted in FY97 and, upon approval, CMS will commence followed by CMI.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY92) Description:

- * Complete preparation of draft RFI work plan in FY92.
- * The work plan includes the framework under which the RFI will take place.
- * RFI workplan also includes OU-specific plans to implement procedures for project management, quality assurance, health and safety, records management, and community relations.
- * Initiate Phase 1 pilot studies in TA-31 and TA-32.
- * Most LANL Direct Full Time Equivalents (FTEs) (3.2) are associated with RFI work plan preparation.

5. Budget Year (FY93) Description:

- * Complete Phase 1 field investigations in TA-10 and TA-45, and initiate Phase 2 field investigations at TA-31 and TA-32, if required.
- * Prepare and submit Phase 1 report/work plan modifications for activities in TA-31 and TA-32 to EPA for approval.
- * VCAs will be conducted, as appropriate.
- * Most sampling and analysis costs will be associated with subcontracts. LANL Direct FTEs projected at 3.9.

6. Planning Year (FY94) Description:

- * Complete Phase 2 field investigation at TA-10 and TA-45 if required.
- * Prepare and submit Phase 2 report/work plan modifications for activities in TA-10 and TA-45 to EPA for approval.
- * Prepare and submit Phase 2 report/work plan modifications for activities in TA-31 and TA-32 to EPA for approval.
- * Initiate any Phase 3 field investigations, as necessary.
- * VCAs will be conducted as appropriate.
- * Most sampling and analysis costs will be associated with subcontracts. LANL Direct FTEs projected at 1.8.

7. Outyears (FY95-98):

- * Complete all Phase 3 field investigations during FY95 and early FY96, as necessary.
- * Prepare the RFI report during FY96 and FY97.
- * Initiate development of the CMS plan in FY97 and FY98.
- * If the CMS is necessary and approved, corrective measures will be implemented in FY98.
- * VCAs will be conducted based on the availability of funding and waste disposal capacity.
- * Most of the remaining sampling and analysis costs will be associated with subcontracts. Much of the RFI report will be subcontracted. LANL Direct FTEs are projected to range from 0.6 to 2.6 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability --especially mixed waste, adequate funding as needed, timely review and approval of Hazardous Solid Waste Amendments (HSWA) documentation by the EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and

FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.

- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General Materials and Services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU is currently within the HSWA Module 10-year window.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

NEPA documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	2	2	1	739930	cuyd
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG THMO
 Classes Of Chemical Contaminants: A D E G I

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup if needed. Land disposal r

Indicators Point of Contact: Bitner, K.
 Title: F.O. POC
 Phone Number: 5058454606

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Operations Office: ALLA ID No.: 1078

Last Update: 04/24/92

Activity Title: TA-1
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 3
Cost LOC Req.: L Sched. LOC Req.: M Scope LOC Req.: L WBS No.: 6.1.5 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: Y TRU MIX: Y LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 02/26/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1078

Type of Change: ADS SAME

Reason for Change: Same ADS as ADS1078.

Tiger Team Finding Number: IWS/CF-01

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

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Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

Tiger Team Finding Number: IWS/CF-11

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

Tiger Team Finding Number: IWS/CF-9

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL does not have a formal, consistent, and documented program for risk management to ensure continued protection of public health and the environment at inactive waste sites.

MILESTONES

Milestone No. 07M005

Req. Due Date: 05/22/92 Target Due Date: 04/10/92 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF RFI WORK PLAN
Compliance: HSWA MODULE
Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 07M085

Req. Due Date: 07/20/94 Target Due Date: 07/21/94 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF PH1 REPORT
Compliance: HSWA MODULE
Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 07M030

Req. Due Date: 10/09/97 Target Due Date: 01/30/97 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF RFI REPORT
Compliance: HSWA COMPLIANCE
Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 07M035

Req. Due Date: 02/02/98 Target Due Date: 05/15/97 Level: HQ Source:3004U
Title: RFI
Compliance: HSWA MODULE
Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 07M045

Req. Due Date: 05/01/98 Target Due Date: 07/30/97 Level: HQ Source:3004U
Title: EPA/NMED DRAFT CMS PLAN
Compliance: HSWA MODULE
Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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Milestone No. 07M055
Req. Due Date: 09/29/99 Target Due Date: 04/06/99 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-
approved CMS plan.

Milestone No. 07M065
Req. Due Date: 01/06/00 Target Due Date: 11/05/99 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA COMPLIANCE
Description: The draft CMS report will be submitted to EPA and NMED, as
required by the operating permit.

Requirements Narrative

1. Technical Scope:

Technical Area-1 (TA-1) was the original uranium and plutonium processing area where the first atomic weapons were fabricated during World War II at the current Los Alamos Townsite. All of the original structures have been removed and extensive decommissioning and decontamination (D&D) have been done throughout the area. Some underground structures (i.e., sanitary waste lines) and contaminated soil may remain in the Townsite, even after extensive and thorough decommissioning and decontamination efforts, including removal of the acid sewer lines, manholes, and septic tanks, was accomplished. This operable unit (OU) consists of potential low concentration surface and subsurface contaminated areas which include hillside surface contamination, disposal areas, and soil associated with excavated acid sewer lines, manholes, septic tanks, storm drains, and outfalls. About 80 acres (owned by the Department of Energy [DOE], Los Alamos County, and private owners) may still contain very low levels of plutonium, uranium, fission products, and organic chemicals. Remediation is expected to include limited removal of small volumes of soil followed by disposal of these small volumes. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCAs) for this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * Solid Waste Management Unit (SWMU) Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * During FY89, preliminary RFI scoping activities were conducted.
- * Preliminary scoping for the RFI Work Plan began in FY90.
- * Archival searches completed and draft RFI work plan done.

3. Activity Term:

- * The RFI work plan will be completed in late FY92 and the RFI field investigations essentially completed by the end of FY97.

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- RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * The RFI report will be submitted in FY98 and, upon approval, CMS will commence followed by CMI.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY 92) Description:

- * Complete preparation of RFI work plan during FY92.
- * The RFI work plan provides the basic framework under which the RFI will take place over the 5 years following the completion of the plan.
- * Initiate RFI field investigation.
- * Most LANL Direct FTEs (2.3) associated with RFI work plan preparation.

5. Budget Year (FY 93) Description:

- * Continue RFI investigations which were started in late FY92.
- * VCAs will be conducted, as appropriate.
- * About 1.9 LANL Direct FTEs are anticipated for this task in FY93.
- * Most of the sampling and analysis costs will be associated with subcontractors.

6. Planning Year (FY 94) Description:

- * The RFI work continues, but is into the Phase 2 type investigation.
- * During this phase, more subsurface studies (if necessary) are being initiated on both the mesa top and hillside sites.
- * VCAs will be conducted as appropriate.
- * About 1.0 LANL Direct FTEs are anticipated for this task in FY94.
- * Most sampling and analysis costs will be associated with subcontracts.

7. Outyears (FY95-FY98):

- * From FY94 through FY98, the RFI will be completed and the RFI report completed. By the end of this period, the Program will be in a position to finalize the RFI report for submittal to EPA.
- * VCAs will be conducted as appropriate.
- * Projected LANL Direct FTE requirements range from 1.3 to 2.7 for FY95-FY98.
- * Most sampling and analysis costs will be associated with subcontracts.

8. Key Assumptions:

Key assumptions for implementing the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability --especially mixed waste, adequate funding as needed, timely review and approval of Hazardous Solid Waste Amendments (HSWA) documentation by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect

historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect Full Time Equivalent (FTE) Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General Materials and Services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.

- Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
 - * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU is currently within the HSWA Module 10-year window.

10. Regulatory Drivers/Consequences

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under

CRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

NEPA documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be further erosion of public confidence in both organizations.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	1	1	1	105960	cuyd
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG

Classes Of Chemical Contaminants: A D E G H

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup if needed. Land disposal r

Indicators Point of Contact: Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

Environmental Restoration and Waste Management Five Year Plan
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Operations Office: ALLA ID No.: 1071 Last Update: 04/24/92

Activity Title: TA-0, 19, 26, 73, 74
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 0
Cost LOC Req.: L Sched. LOC Req.: M Scope LOC Req.: L WBS No.: 6.1.4 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606 Reviewed Date: 02/25/92
HQ POC: Harris, R. FTS 233-8199
Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1071

Type of Change: ADS SAME
Reason for Change: Same ADS as ADS1071.

Tiger Team Finding Number: IWS/CF-01 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are, or may be, damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

Tiger Team Finding Number: IWS/CF-9

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL does not have a formal, consistent, and documented program for risk management to ensure continued protection of public health and the environment at inactive waste sites.

MILESTONES

Milestone No. 06M000

Req. Due Date: 05/22/92 Target Due Date: 06/16/92 Level: HQ Source:3004U

Title: RFI WORK PLAN COMPLETED

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 06M070

Req. Due Date: 09/26/95 Target Due Date: 04/01/98 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 06M025

Req. Due Date: 12/02/98 Target Due Date: 05/17/04 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 06M030

Req. Due Date: 03/21/99 Target Due Date: 09/15/04 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

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Milestone No. 06M040
Req. Due Date: 06/21/99 Target Due Date: 12/03/04 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS PLAN
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as required by the operating permit.

Milestone No. 06M050
Req. Due Date: 10/05/00 Target Due Date: 05/11/05 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-approved CMS plan.

Milestone No. 06M060
Req. Due Date: 01/12/01 Target Due Date: 11/01/05 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as required by the operating permit.

Requirements Narrative

1. Technical Scope:

Approximately 16 acres in Technical Area-0 (TA-0), mostly in the town site; about 1.5 acres in TA-19, about 1.5 acres at TA-26, the Los Alamos Airport (TA-73), and TA-74 (a buffer zone) are included in this operable unit (OU). Solid waste management units (SWMUs) and areas of concern (AOCs) include but are limited to a small arms firing range, county landfill, airport incinerator, mortar impact areas left by the Army, surface disposal sites, septic tanks, sewage disposal plants, vehicular maintenance site, fuel tanks, and outfall areas. The operable unit includes private property, Los Alamos and Santa Fe county land, U.S. Forest Service land, and General Accounting Office (GAO) land. Potential contaminants include radionuclides, unexploded ordnance, organic chemicals, heavy metals, high explosives, solvents, and hazardous chemicals. Potential remedial alternatives vary from selected removal to in situ remediation. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCA) for this OU.

2. Activities Completed to Date:

- * Preliminary assessment/site inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * SWMU report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * LANL draft of RFI work plan completed on September 15, 1991.
- * No activity during FY90.
- * RFI work plan initiated in FY91.

3. Activity Term

RFI work plan submitted to EPA and NMED in FY92.

- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * RFI completed in FY97, followed by CMS and CMI as appropriate.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY92) Description:

- * Complete preparation of draft RFI work plan in FY92.
- * The RFI work plan includes operable unit specific plans for sampling, project management, records management, health and safety, and community relations.
- * Most Los Alamos National Laboratory (LANL) Direct Full Time Equivalent (FTEs) (2.4) will be associated with RFI work plan preparation.

5. Budget Year (FY93) Description:

- * Complete preparations for RFI field work.
- * Begin RFI.
- * Conduct VCAs, as appropriate
- * Most Sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs projected at 1.4.

6. Planning Year (FY94) Description:

- * Continue RFI.
- * Conduct VCAs, as appropriate.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs projected at 1.3.

7. Outyears (FY95-98) Description:

- * Complete RFI and initiate CMS activities.
- * Conduct VCAs, as appropriate.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs are projected to range from 1.1 to 2.8 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the LANL Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability -- especially mixed waste, adequate funding as needed, timely review and approval of HSWA documentation by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.

- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A

consistent technical approach to site characterization is dependent on this guidance/information.

- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU currently exceeds the HSWA module 10-year window.

10. Regulatory Drivers/Consequences

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

NEPA documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will a further erosion of public confidence in both organizations.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	2	2	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	2	2	1	0	
Buildings/Structures	2	2	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	138858	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG

Classes Of Chemical Contaminants: A D E G I

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

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Operations Office: ALLA ID No.: 1067

Last Update: 04/24/92

Activity Title: RCRA MIXED WASTE STORAGE/DISPOSAL FACILITY

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: RI NEPA: N/D

Category: ER Facility/WAG: N/A

% Overhead: 10

Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L

WBS No.: 6.6.1 Level: 0

Line Item No.: TPC: 0 TEC: 0

Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: Y LLW: N LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y

NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 02/25/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1067

Type of Change: ADS SAME

Reason for Change: Same ADS as ADS1067.

MILESTONES Milestone No. 05M010

Req. Due Date: 10/03/91 Target Due Date: 10/03/91 Level: HQ Source: RCRA

Title: SITE SELECTION

Compliance: HSWA MODULE

Description: Complete evaluation of potential sites for MWSDF and obtain LANL approval on recommended site.

Milestone No. 05M015

Req. Due Date: 02/28/92 Target Due Date: 02/28/92 Level: HQ Source: RCRA

Title: ENGINEERING STUDY REPORT

Compliance: HSWA MODULE

Description: Complete conceptual design of MWSDF on the approved site. Report shall include updated cost and schedule for design and construction.

Milestone No. 05M020

Req. Due Date: 08/04/92 Target Due Date: 08/04/92 Level: HQ Source: RCRA

Title: MWSDF DESIGN CRITERIA DOCUMENT

Compliance: HSWA MODULE

Description: Complete Report presenting the design criteria upon which to base the Title I Design.

Milestone No. 05M025

Req. Due Date: 07/27/93 Target Due Date: 07/27/93 Level: HQ Source: RCRA

Title: TITLE I DESIGN

Compliance: HSWA MODULE

Description: Complete preliminary design of MWSDF, doing engineering trade-off studies to determine preferred facility parameters to serve as a basis for final (Title II) design.

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Milestone No. 05M030
Req. Due Date: 03/20/95 Target Due Date: 03/20/95 Level: HQ Source:RCRA
Title: TITLE II DESIGN-RECEIVE RCRA PERMIT
Compliance: HSWA MODULE
Description: Complete detailed design of MWSDF and complete permitting process with the state of New Mexico. Both of these are required prior to start of construction.

Milestone No. 05M035
Req. Due Date: 10/16/96 Target Due Date: 10/16/96 Level: HQ Source:RCRA
Title: FACILITY CONSTRUCTION
Compliance: HSWA MODULE
Description: Complete MWSDF construction activities. Facility ready for operational use.

Requirements Narrative

1. Technical Scope:

The Mixed Waste Storage Disposal Facility (MWSDF) will provide Los Alamos with an on-site facility for the disposal of mixed wastes generated during Resource Conservation and Recovery Act (RCRA) closures, RCRA corrective actions, interim remedial actions, and decontamination and decommissioning (D&D) remedial actions activities at Los Alamos. The technical scope of this activity is to design and construct this facility. The main feature of this facility will be the double-lined, RCRA-approved disposal pit(s).

The pit(s) will be provided with a waste handling system, two leachate collection systems, monitoring system, and an operational cover to protect the operations from the weather. Other features of the site include a monitoring and alarm system for detecting the release of gaseous or liquid contaminants, decontamination and leachate treatment facility, and temporary waste storage enclosure. Normal site requirements such as roads, utilities, parking areas, office buildings are also provided. Other activities within the scope of this project include completing the necessary documentation for safety (Preliminary Safety Analysis Report (PSAR) and Final Safety Analysis Report (FSAR)), National Environmental Policy Act (NEPA) (Environmental Assessment (EA) and/or Environmental Impact Statement (EIS)), permits (Part B and construction permits) and performance assessment. The NEPA activities are funded out of ADS 1066.

2. Activities Completed to Date:

- * Activities completed up through FY91 include MWSDF Alternative Design Studies, design guidance for preparation of the Engineering Study (Conceptual Design Report), potential MWSDF site surveys and evaluation, MWSDF site selection, quality assurance plan, draft of project management plan, and draft outlines for performance assessment report, Part A and B Permit applications, and waste volume and certification studies.
- * Work was started on the Engineering Study.

Activity Term:

MWSDF design activities will be continued through the completion of the

inal design (Title II) package (FY95) which will be used for facility construction. Other activities that will be conducted in parallel with the design and must be approved prior to the start of construction include the Preliminary Safety Analysis Report, the Part B Permit application and the construction permit. During the construction phase, the Final Safety Analysis Report will be prepared. FSAR approval is required prior to operational start-up of the facility (FY97).

4. Current Year (FY 92) Description:

- * Complete MWSDF Project Management Plan.
- * Complete MWSDF Engineering Study and Design Criteria Report and initiate Pit Liner Modeling and Validation Study and Title I Design.
- * Complete Phase 2 Site Characterization.
- * Initiate Preparation of Waste Certification Plan.
- * Initiate Preparation of Performance Assessment Document.
- * Initiate Preparation of PSAR.
- * Initiate NEPA Activities.
- * This effort requires Los Alamos National Laboratory (LANL) 2.6 Direct Full Time Equivalents (FTEs).

5. Budget Year (FY 93) Description:

The cost and FTE levels increase in FY93 as the project moves into the Title I Design Phase and related project activities. Activities during FY93 include:

- * Complete Waste Certification Plan and Update Waste Inventory
- * Complete Title I Design and Pit Liner Modeling and Validation Study and initiate Monitoring and Alarm System.
- * Complete Performance Assessment.
- * Procure Tower for Collecting Site Meteorologic Data.
- * Continue Preparation of PSAR.
- * Direct FTEs estimated at 6.7.

6. Planning Year (FY 94) Description:

Activities during FY94 include:

- * Complete Modeling and Alarm System Validation Study and initiate Title II Design.
- * Complete installation of Meteorologic Tower and initiate Drilling Deep Well(s) for Site Monitoring.
- * Update Waste Certificate Plan and Waste Inventory.
- * Continue Preparation of PSAR.
- * Conduct Baseline Site Survey.
- * Complete Part B Permit Application and Submit to State for Review.
- * Complete Phase 3 Detailed Site Characterization.
- * Direct FTEs estimated at 4.5.

7. Outyears (FY 95-FY98):

Project costs increase significantly in FY95 due to construction procurements and the start of construction, and costs peak in FY96 due to

Construction activities. Activities during this time period include:

- * Complete Title II Design.
- * Complete RCRA Permitting Process with State.
- * Complete PSAR and FSAR.
- * Obtain Construction Permit.
- * Complete Construction Site Survey.
- * Procure Construction Materials.
- * Conduct Site Preparation for Roads, Utilities, etc.
- * Construct Pit(s), Waste Handling System, Pit Operational Cover.
- * Install Pit(s) and Site Monitoring and Alarm System.
- * Construct Buildings: Offices, Warehouse, Temporary Waste Storage, Maintenance, and Waste Treatment and Decontamination.
- * Area Cleanup.
- * MWSDF Ready for Operational Start-up (10/97).
- * LANL Direct FTEs are projected to range from 0.1 to 3.7 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Program as scheduled (which includes construction/operation of the MWSDF) include: sufficient subcontracting capacity, sufficient analytical capability--especially mixed waste, adequate funding as needed, timely review and approval of Hazardous Solid Waste Amendments (HSWA) documentation by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Specific to the MWSDF, the following are required: funding as requested; timely completion of permitting process; and timely review and approval of NEPA documentation.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.

Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.

- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General Materials and Services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support is also a significant key issue.
- * The HSWA module schedule must be modified to reflect available funds if schedules are compromised by availability of the MSWDF.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

If activities are not funded as scheduled, the Laboratory will risk not having a facility available to receive mixed waste when remedial measures begin, including VCAs. This could lead to noncompliance with the Laboratory's RCRA operating permit.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- Alternate Water Supply
- Site Security Measures
- People Evacuated or Relocated
- Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	0	0	0	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

ADS is for MWSDF. Not applicable.

Indicators Point of Contact:

Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

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Operations Office: ALLA ID No.: 1066 Last Update: 04/24/92

Activity Title: NEPA DOCUMENTATION FOR DISPOSAL FACILITY

Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 0
Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L WBS No.: 6.7.3 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: Y LLW: N LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606 Reviewed Date: 02/25/92
HQ POC: Harris, R. FTS 233-8199
Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1066
Type of Change: ADS SAME
Reason for Change: Same ADS as ADS1066.

MILESTONES Milestone No. 04M025
Req. Due Date: 09/02/94 Target Due Date: 12/19/94 Level: HQ Source: NEPA
Title: DRAFT EIS
Compliance: NEPA
Description: Appropriate NEPA documentation is required for the MWSDF.

Milestone No. 04M030
Req. Due Date: 12/29/94 Target Due Date: 02/14/96 Level: HQ Source: NEPA
Title: FINAL EIS
Compliance: NEPA
Description: Appropriate documentation is required for the MSWDF.

Requirements Narrative

1. Technical Scope:

An Environmental Impact Statement (EIS) is anticipated to be required for National Environmental Policy Act (NEPA) compliance for the Resource Conservation and Recovery Act (RCRA) Mixed Waste Storage/Disposal Facility (MWSDF). It is anticipated that the EIS will also support corrective measures of the Environmental Restoration (ER) Program by analyzing cumulative impacts of alternatives. A technical support document is being prepared to provide the necessary data for input to the EIS.

2. Activities Completed to Date:

- * An outline of the contents of the proposed Technical Support Document has been completed.
- * A Department of Energy (DOE) Environmental Checklist has been submitted to DOE to provide information for DOE to determine the appropriate level of NEPA documentation required for the RCRA MWSDF.

Activity Term:

- * Prepare NEPA documentation for RCRA MWSDF.
- * Activity as scoped includes preparation of an EIS to be completed with a Record of Decision by December 1994.

4. Current Year (FY 92) Description:

- * Initial drafts of the following Technical Support Document sections are expected to be completed: waste characterization and geologic/hydrologic characterization of site.
- * Initial biological and cultural surveys of the site will be completed.
- * Minimal Los Alamos National Laboratory (LANL) Direct Full Time Equivalent (FTEs) (0.1) because work effort will be subcontracted.

5. Budget Year (FY 93) Description:

- * Initial drafts of the following Technical Support Documents sections are expected to be completed:
 - facility disposal options.
 - storage characterization.
 - treatment characterization
 - releases and exposures from routine operational releases.
 - accident scenarios, releases and exposures
 - cumulative impacts.
- Initial draft of Technical Support document completed.
- Biological and cultural surveys and initial pre-operational survey will be completed.
- * Reports on cultural resources submitted to State Historic Preservation Officer.
- * Reports on biological resources submitted to U.S. Fish and Wildlife.
- * Minimal LANL Direct FTEs (0.3) because most effort will be subcontracted by LANL or DOE.

6. Planning Year (FY 94) Description:

- * Revised draft of Technical Support Document to be completed.
- * DOE makes decision to prepare an EIS and selects a contractor.
- * Contractor conducts scoping meetings, prepares Implementation plan, and prepares draft of EIS.
- * Minimal LANL Direct FTEs (0.2) because most effort will be subcontracted by LANL or DOE.

7. Outyears (FY 95-FY98):

- * Additional revisions to Technical Support Document as needed to support the EIS preparation.
- * Contractor completes final EIS in FY95 DOE issues Record of Decision.
- * Minimal LANL Direct FTEs (0.6 in FY95) because most effort will be subcontracted by LANL or DOE.

Key Assumptions:

Key assumptions for implementing the NEPA activities as scheduled in this

Activity Data Sheet (ADS) include that a timely determination is made by DOE on the need for an EA or EIS; that a MWSDF is totally funded by ER; that adequate funding is provided; and that DOE provides timely review and approval of NEPA and technical support documents.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General Materials and Services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

The key issue needing resolution in order to meet the established milestones is DOE's determination of the level of NEPA documentation (EA

r EIS) for the facility and the ER Program.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver the ER Program is the Hazardous Solid Waste Amendments (HSWA) module of DOE/Los Alamos National Laboratory (LANLs) RCRA operating permit, which requires corrective actions under RCRA Section 3004(u) and (v). The Mixed Waste Disposal Facility will be required to complete the remedial measures mandated in the permit. The primary driver of this ADS is DOE Order 5440.1D, NEPA, which requires that a NEPA document be prepared in the early planning stages of a project so that environmental impacts can be included in the decision-making process needed to support those corrective actions.

11. Other Consequences:

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f the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- Alternate Water Supply
- Site Security Measures
- People Evacuated or Relocated
- Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	0	0	0	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

ADS for NEPA. Not applicable.

Indicators Point of Contact:

Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

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Date: 04/28/92
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Operations Office: ALLA ID No.: 1063

Last Update: 04/24/92

Activity Title: INTERIM REMEDIAL MEASURES
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RA NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 0
Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L WBS No.: 6.1.3 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0
Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: N HAZ: N SANT: N GTCC: N
Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606 Reviewed Date: 02/25/92
HQ POC: Harris, R. FTS 233-8199
Auxiliary Fields: 1. ER 2. 3.

MILESTONES Milestone No. N/A
Req. Due Date: 09/30/92 Target Due Date: Level: HQ Source:3004U
Title: INTERIM REMEDIAL MEASURES REMEDIATION
Compliance: HSWA MODULE
Description: Interim remedial measures remediation is conducted as needed.
Underground tank removal is scheduled under this ADS. This ADS
will not exist after FY92.

Requirements Narrative

1. Technical Scope:

In the past, similar remedial actions have been carried out by the interim waste management program addressing old radioactive waste disposal sites and potential or suspected disposal sites at any technical area (TA) where construction takes place prior to planned assessment and remediation. The activity constitutes interim remedial action remediation under the Hazardous Solid Waste Amendments (HSWA) module. This activity will be phased out because the remediations will be integrated with planned work in each operable unit as appropriate.

2. Activities Completed to Date:

One interim remedial measure has occurred to date. Additionally, several underground storage tanks have been removed.

3. Activity Term:

This activity is being phased out in FY92.

4. Current Year (FY 92) Description:

- * Continue conducting interim remedial measures remediation during FY92, as needed.
- * About .6 Direct FTEs will be consumed for this Fiscal Year as ADS 1063 is phased out.

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* FY91 carry over provides for funding.

5. Budget Year (FY 93) Description:

N/A

6. Planning Year (FY 94) Description:

N/A

7. Outyears (FY 95-FY98):

N/A

8. Key Assumptions:

N/A

9. Key Issues:

N/A

10. Regulatory Drivers/Consequences:

N/A

11. Other Consequences:

N/A

EM-40 Progress Indicators :

Immediate/Short Term Action:

- Alternate Water Supply
- Site Security Measures
- People Evacuated or Relocated
- Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	0	0	0	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

ADS is being phased out. Not applicable.

Indicators Point of Contact:

Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

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Operations Office: ALLA ID No.: 1049 Last Update: 04/24/92

Activity Title: CANYONS
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/A
Category: ER Facility/WAG: N/A % Overhead: 15
Cost LOC Req.: L Sched. LOC Req.: M Scope LOC Req.: L WBS No.: 6.1.1 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: Y TRU MIX: Y LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606 Reviewed Date: 02/25/92
HQ POC: Harris, R. FTS 233-8199
Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1049
Type of Change: ADS SAME
Reason for Change: Same ADS as ADS1049.

Tiger Team Finding Number: IWS/CF-9 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL does not have a formal, consistent, and documented program for risk management to ensure continued protection of public health and the environment at inactive waste sites.

Tiger Team Finding Number: IWS/CF-01 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are, or may be, damaged from inactive waste sites.

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Tiger Team Finding Number: IWS/CF-11

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 01M010

Req. Due Date: 07/05/96 Target Due Date: 03/18/97 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OR RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 01M090

Req. Due Date: 01/21/99 Target Due Date: 01/22/01 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 01M035

Req. Due Date: 03/07/01 Target Due Date: 03/08/05 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 01M040

Req. Due Date: 07/05/01 Target Due Date: 09/06/05 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 01M050

Req. Due Date: 09/18/01 Target Due Date: 09/19/05 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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Milestone No. 01M060
Req. Due Date: 12/04/01 Target Due Date: 10/12/05 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-
approved CMS plan.

Milestone No. 01M075
Req. Due Date: 09/30/02 Target Due Date: 05/02/06 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as
required by the operating permit.

Requirements Narrative

1. Technical Scope:

The canyon effort addresses the impact to the watershed and to the Rio Grande as well as the shallow alluvial aquifers in each of 19 canyons. Facilities on top of the mesas may impact the canyons from outfalls along the canyon rims. Some facilities and firing sites are located in the canyons. There are potential release sites (mainly effluent receiving areas) with radioactive isotopes, beryllium, unexploded ordnance, heavy metals, and high explosive contaminants. Most contamination is expected to be very low level and, therefore, limited removal and institutional controls would be sufficient remediation. It is unlikely that soils and alluvium would be removed and disposed of as mixed or hazardous wastes. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCAs) for this operable unit (OU).

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to the Environmental Protection Agency (EPA) Region VI, October 1987.
- * Solid Waste Management Unit (SWMU) Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * During FY89, preliminary RFI scoping activities were conducted.
- * Seven special permit conditions required by the HSWA module were initiated in FY90. Four of the seven conditions were completed in FY90 and FY91.

3. Activity Term:

- * Special permit conditions will be continued as required. These activities include: monitoring of the surface and ground waters through the annual surveillance program, maintenance of the sediment traps in Mortandad Canyon, and protection of the aquifer through engineering control of the well construction.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.

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The RFI work plan will be completed in FY95 and the RFI field investigations progress beyond the end of FY98.

- * CMS, CMI, and VCA activities will be conducted, as appropriate, following the RFI.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY92) Description:

- * Continue conducting special permit conditions as required by the HSWA module during FY92.
- * Initiate the National Environmental Policy Act (NEPA) documentation required to support the field activities beginning in FY93.
- * Utilize a projected 0.2 direct FTE for the OU.

5. Budget Year (FY93) Description:

- * Begin scoping activities for the RFI work plan. These activities include compilation and evaluation of all existing data for the canyons, preparation of Data Quality Objectives (DQOs) to support a preliminary assessment sampling plan, and completion of all NEPA support documentation.
- * Begin preparation of the RFI work plan.
- * VCAs will be conducted, as appropriate.
- * Most LANL Direct FTEs (2.9) will be associated with RFI work plan preparation.

6. Planning Year (FY94) Description:

- * Prepare and implement preliminary assessment sampling plans, evaluate data, and perform a preliminary risk assessment to further scope the RFI activities for the canyons.
- * Initiate site-wide studies related to geology, hydrology, and geochemistry as relevant to conduct the RFI.
- * Continue RFI work plan preparation.
- * VCAs will be conducted, as appropriate.
- * Most LANL Direct FTEs (2.8) will be associated with RFI work plan preparation.

7. Outyears (FY95-FY98):

- * Submit RFI work plan in FY95.
- * Initiate Phase 1 RFI field investigations in FY96, which progress beyond FY98. These investigations include field sampling for contaminant distribution within the OU.
- * All the sampling is phased such that when sufficient data for a corrective measures decision are available, sampling can be halted.
- * VCAs will be conducted based on availability of funding and waste disposal capacity.
- * Most sampling cost will be associated with subcontracts.
- * LANL Direct FTEs are projected to range from 1.9 to 5.3 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability (especially mixed waste), adequate funding as needed, timely review and approval of Hazardous Solid Waste Amendments (HSWA) documentation by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical data bases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect Full Time Equivalent (FTE) Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope,

assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU currently exceeds the HSWA 10-year window.

10. Regulatory Drivers/Consequences

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII D # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The

Decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

NEPA documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	4	9997100	CUYD
Groundwater	4	3	4	0	
Surface Water	2	2	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG SOL SDC PTO
 Classes Of Chemical Contaminants: A D E G H

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.
 Title: F.O. POC
 Phone Number: 5058454606

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ALLA-1062

Date: 04/28/92
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Operations Office: ALLA ID No.: 1062

Last Update: 04/24/92

Activity Title: INTERIM REMEDIAL MEASURES
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RA NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 0
Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L WBS No.: 6.1.2 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: N HAZ: N SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 02/25/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1062
Type of Change: ADS SAME
Reason for Change: Same ADS as ADS1062.

MILESTONES Milestone No. N/A
Req. Due Date: 09/30/92 Target Due Date: Level: HQ Source:3004U
Title: INTERIM REMEDIAL MEASURES, ETC., ASSESSMENT
Compliance: HSWA MODULE
Description: Interim remedial measures assessment is conducted as needed.
This ADS will not exist after FY92.

Requirements Narrative

1. Technical Scope:

This activity constitutes interim remedial action assessments under the Hazardous Solid Waste Amendments (HSWA) Module. In the past, remedial assessments have been carried out by the interim waste management program addressing old radioactive waste disposal sites at any Technical Area (TA) where construction takes place prior to planned assessment and remediation. Priority will be given to investigating potential solid waste management units (SWMUs) in construction areas off Laboratory property if public health and safety is a concern. This activity will be phased out because the assessments will be integrated with the planned work in each operable unit as appropriate.

2. Activities Completed to Date:

Several interim remedial measures assessments have occurred to date. One remedial measure has resulted from the assessments conducted.

3. Activity Term:

This activity is being phased out in FY92.

4. Current Year (FY 92) Description:

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- * Continue conducting interim remedial measures assessments during FY92.
- * This effort will consume about 4.3 Direct FTEs as ADS 1062 is phased out.

5. Budget Year (FY 93) Description:

N/A

6. Planning Year (FY 94) Description:

N/A

7. Outyears (FY 95-FY98):

N/A

8. Key Assumptions:

N/A

9. Key Issues:

N/A

10. Regulatory Drivers/Consequences:

N/A

11. Other Consequences:

N/A

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- Site Security Measures
- People Evacuated or Relocated
- Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	0	0	0	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

ADS is being phased out. Not applicable.

Indicators Point of Contact:

Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

Environmental Restoration and Waste Management Five Year Plan
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ALLA-1130

Date: 04/28/92
Time: 06:42:35
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Operations Office: ALLA ID No.: 1130

Last Update: 04/24/92

Activity Title: TA-36,68,71
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 5
Cost LOC Req.: L Sched. LOC Req.: M Scope LOC Req.: L WBS No.: 6.1.19 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 03/01/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER

2.

3.

CROSSWALK Old ADS Number: ALLA1130

Type of Change: ADS SAME

Reason for Change: Same ADS as ADS1130.

Tiger Team Finding Number: IWS/CF-01

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

MILESTONES

Milestone No.	21M015				
Req. Due Date:	05/22/93	Target Due Date:	04/27/93	Level:	HQ Source:3004U
Title:	EPA/NMED DRAFT OF RFI WORK PLAN				
Compliance:	HSWA MODULE				
Description:	The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.				
Milestone No.	21M095				
Req. Due Date:	07/26/94	Target Due Date:	04/24/96	Level:	HQ Source:3004U
Title:	EPA/NMED DRAFT OF PH1 REPORT				
Compliance:	HSWA MODULE				
Description:	A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.				
Milestone No.	21M040				
Req. Due Date:	04/21/97	Target Due Date:	04/05/00	Level:	HQ Source:3004U
Title:	EPA/NMED DRAFT OF RFI REPORT				
Compliance:	HSWA MODULE				
Description:	The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.				
Milestone No.	21M045				
Req. Due Date:	08/19/97	Target Due Date:	08/03/00	Level:	HQ Source:3004U
Title:	RFI				
Compliance:	HSWA MODULE				
Description:	This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.				
Milestone No.	21M055				
Req. Due Date:	11/04/97	Target Due Date:	02/26/01	Level:	HQ Source:3004U
Title:	EPA/NMED DRAFT OF CMS PLAN				
Compliance:	HSWA MODULE				
Description:	The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.				

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Milestone No. 21M065
Req. Due Date: 03/11/99 Target Due Date: 06/24/02 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-
approved CMS plan.

Milestone No. 21M075
Req. Due Date: 06/10/99 Target Due Date: 09/24/02 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as
required by the operating permit.

Requirements Narrative

1. Technical Scope:

ADS 1130 consists of Technical Areas (TAs) -36, -68, and -71, covering 7 sq. miles. TA-36 consists of several firing sites in and near Potrillo Canyon and is operated by the Explosives Application Group to understand high-explosive detonation phenomenon. This operable unit (OU) consists of several potential release sites including firing sites, a chamber for containment and recovery of shots at firing site, septic systems, landfill (explosive disposal area at Lower Slobbovia), burning pits and a sump. Potential contaminants include nitric acid, high explosives, depleted uranium, other heavy metals, and hazardous wastes. Potential remedial alternatives vary from selected removal followed by institutional controls (stabilization in place) to the less likely removal and disposal for larger volumes. TA-68 has been a buffer zone under institutional control throughout the history of the Laboratory and the Laboratory has never conducted any experiment there. TA-71 has never been used by the Laboratory to conduct any experiment. At one time, it was open to public access. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMS) and Voluntary Corrective Actions (VCAs) for this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * Solid Waste Management Unit (SWMU) Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * During FY89, preliminary RFI scoping activities were conducted.
- * No activity during FY90 and FY91.

3. Activity Term:

- * The RFI Work Plan will begin in early FY92 for transmittal to EPA in May 1993.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * RFI field investigations will begin in April 1993 and progress into

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FY95.

- * The RFI Report will be transmitted to EPA in April 1997.
- * The CMS plan will be submitted in November 1997.
- * The CMS work will start in March 1998.
- * The CMI will follow the CMS as appropriate.
- * VCAs will be conducted based on availability of waste disposal capacity.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY 92) Description:

- * The RFI work plan is being developed during FY92.
- * The RFI work plan will detail the scope, schedule, and costs for the RFI.
- * Ancillary RFI plans on project management, quality assurance, health and safety, records management, and community relations are also included.
- * Most LANL Direct Full Time Equivalents (FTEs) (2.4) will be associated with RFI work plan preparation.

5. Budget Year (FY 93) Description:

- * The RFI work plan will be submitted to EPA and the New Mexico Environment Department (NMED) in early FY93.
- * Work will begin to prepare for the field investigation including preparing contracts and permitting requirements.
- * VCAs will be conducted as appropriate.
- * Most LANL Direct FTEs (1.4) will be associated with RFI work plan preparation.

6. Planning Year (FY 94) Description:

- * RFI field work, Phase 1 sampling, will begin in FY94 with a focus on sampling of inactive firing sites.
- * Development of an RFI phase report will begin late this FY as analytical results become available.
- * VCAs will be conducted as appropriate.
- * Most sampling and analysis cost will be associated with subcontracts.
- * LANL Direct FTEs projected at 0.8.

7. Outyears (FY 95-FY98):

- * Phase 1 and, as needed, Phase 2 field work will be completed in FY95, FY96 and early FY97. Sample analysis and data assessment will also be conducted.
- * The RFI report will be completed in FY97.
- * Initial development of the CMS will begin in FY98 including pilot studies.
- * VCAs will be conducted based on availability of funding and waste disposal capacity.
- * Most sampling and analysis cost will be associated with subcontracts.
- * LANL Direct FTEs are projected to range from 0.7 to 1.8 from FY95-FY98.

3. Key Assumptions:

Key assumptions for implementing the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability--especially mixed waste, adequate funding as needed, timely review and approval of Hazardous Solid Waste Amendments (HSWA) documentation by the EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by the EPA in the Resource Conservation and Recovery Act (RCRA) operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of

he same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU is currently within the HSWA Module 10-year window.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and

provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

National Environmental Policy Act (NEPA) documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

Decontamination and Decommissioning (D&D) schedules are not driven by ER Program regulatory requirements; however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

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EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	74399	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG

Classes Of Chemical Contaminants: A D E G I

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

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ALLA-1132

Date: 04/28/92
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Operations Office: ALLA ID No.: 1132

Last Update: 04/27/92

Activity Title: TA-39
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 1
Cost LOC Req.: L Sched. LOC Req.: M Scope LOC Req.: L WBS No.: 6.1.20 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606 Reviewed Date: 03/01/92
HQ POC: Harris, R. FTS 233-8199
Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1132

Type of Change: ADS SAME
Reason for Change: Same ADS as ADS1132.

Tiger Team Finding Number: IWS/CF-01 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations

Tiger Team Finding Number: IWS/CF-02 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

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Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 22M010

Req. Due Date: 06/08/93 Target Due Date: 05/14/93 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 22M090

Req. Due Date: 11/13/96 Target Due Date: 03/06/00 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 22M035

Req. Due Date: 01/13/00 Target Due Date: 07/22/03 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 22M040

Req. Due Date: 04/19/00 Target Due Date: 11/24/00 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 22M050

Req. Due Date: 08/01/00 Target Due Date: 02/11/04 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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Milestone No. 22M060
Req. Due Date: 04/02/01 Target Due Date: 07/21/04 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-
approved CMS plan.

Milestone No. 22M070
Req. Due Date: 06/14/01 Target Due Date: 12/11/05 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as
required by the operating permit.

Requirements Narrative

1. Technical Scope:

This operable unit (OU) consists of several potential release sites which comprise an area of approximately 35.2 acres. The sites include firing sites, a waste disposal pit, Material Disposal Area Y, and a septic tank. Since 1953, Technical Area-39 (TA-39) (Ancho Canyon Site) has been operated by the Shockwave Physics Group and consists of five firing points and several gun sites. Potential contaminants include radionuclides, high explosives, heavy metals, and hazardous chemicals. Possible remedial alternatives vary in scope from selected removal followed by institutional controls to removal and disposal of larger volumes. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCAs) for this operable unit (OU).

2. Activities Completed to Date:

- * Preliminary Assessment/Site Investigation (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * Solid Waste Management Unit (SWMU) Report submitted to EPA Region IV and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * During FY89, preliminary RFI scoping activities were conducted.
- * No activity during FY90.
- * No activity during FY91.

3. Activity Term:

- * The RFI Work Plan will begin in early FY92 for transmittal to EPA in mid-FY93.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * RFI field investigations will begin in early FY94 and progress beyond FY97.
- * The RFI report will be submitted in FY99 and, upon approval, CMS will commence followed by CMI as appropriate.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be

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integrated with the RFI/CMS process.

4. Current Year (FY 92) Description:

- * Initiate preparation of RFI work plan including: community relations plan, records management plan, project management plan, quality assurance plan, and sampling plan.
- * Most Los Alamos National Laboratory (LANL) Direct Full Time Equivalents (FTEs) (2.1) will be associated with RFI work plan preparation.

5. Budget Year (FY 93) Description:

- * Development of the RFI work plan will continue during FY93.
- * The draft RFI work plan will be submitted to EPA and New Mexico Environment Department (NMED) in May, 1993.
- * Contracts for Phase 1 RFI will be initiated.
- * A pilot study of surface stabilization of firing sites will begin.
- * Most LANL Direct FTEs (2.2) will be associated with RFI work plan preparation.

6. Planning Year (FY 94) Description:

- * The Surface Stabilization pilot study will continue.
- * RFI Phase 1 is scheduled to begin early in FY94.
- * Development of the RFI report will begin.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs projected at .2.

7. Outyears (FY 95-FY98):

- * The pilot study will be completed in FY95.
- * Field investigations will be completed in FY99.
- * VCAs will be conducted based on availability of funding and waste disposal capacity.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs are projected to range from 1.2 to 26.4 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the LANL Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability -- especially mixed waste, adequate funding as needed, timely review and approval of HSWA documentation by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops an historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings

or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.

- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of OE only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 by the ER and guidance/information provided to the OU Project Leader. A consistent technical approach to site characterization is dependent

on this guidance/information.

- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU currently exceeds the HSWA module 10-year window.

10. Regulatory Drivers/Consequences

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually updated Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

NEPA documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will a further erosion of public confidence in both organizations.

Decontamination and Decommissioning (D&D) schedules are not driven by ER Program regulatory requirements; however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

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EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	471145	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG

Classes Of Chemical Contaminants: A D E G I

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

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Operations Office: ALLA ID No.: 1135

Last Update: 04/24/92

Activity Title: TA-40 SCRAP DETONA. SITE CLOSURE

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: RD NEPA: CE

Category: ER Facility/WAG: N/A

% Overhead: 0

Cost LOC Req.: M Sched. LOC Req.: M Scope LOC Req.: M

WBS No.: 6.1.21 Level: 0

Line Item No.: TPC: 0 TEC:

0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: N HAZ: N SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y

NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 03/01/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1135

Type of Change: ADS SAME

Reason for Change: Same ADS as ADS1135.

MILESTONES Milestone No. 23M005

Req. Due Date: 08/03/92 Target Due Date: 08/03/92 Level: HQ Source:RCRA

Title: CLOSURE

Compliance: CLOSURE PLAN

Description: This element involves implementation of site characterization and remediation activities as detailed in the TA-40 Scrap Detonation Site Closure Plan.

Milestone No. 23M015

Req. Due Date: 01/22/93 Target Due Date: 01/22/93 Level: HQ Source:RCRA

Title: CLOSURE CERTIFICATION AND REPORT

Compliance: RCRA PERMIT

Description: This element involves the preparation of a Closure Report and Certification of Closure by an independent engineer.

Requirements Narrative

1. Technical Scope:

Technical Area-40 (TA-40) Scrap Detonation Site, an inactive site used to detonate scrap high explosives, is to be closed. The original closure plan was submitted to the New Mexico Environmental Improvement Division (NMEID), now New Mexico Environment Department (NMED), in September 1985. The closure plan was updated in FY90, including plans for sampling of the site and detonation area to determine the extent of contamination. Contaminated soil, if any is found, may need to be removed/treated/disposed of as hazardous waste. The Closure Plan was approved by NMED.

2. Activities Completed to Date:

* A closure plan was submitted to NMED in September 1985.

The plan was updated in FY90, along with plans for sampling to determine the extent of contamination.

3. Activity Term:

- * Site investigation activities began January, 1991.
- * Closure of the site is expected to occur by late FY92.

4. Current Year (FY92) Description:

- * Conduct field work activities
- * Conduct data assessment
- * Remediate site based on results of site investigations
- * Verify results of remedial actions
- * Most LANL Direct Full Time Equivalents (FTEs) (2.6) will be associated with preparation of the closure plan and sampling of the site.

5. Budget Year (FY93) Description:

- * Publish Final Closure Report
- * Obtain Closure Certification
- * Most LANL Direct Full Time Equivalents (FTEs) (0.5) will be associated with preparing the final closure report.

6. Planning Year (FY94) Description:

No activity; no funding requested.

7. Outyears (FY95-FY98):

No activity; no funding requested.

8. Key Assumptions

Key assumptions for implementing the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Program as scheduled include:

- timely review and approval of closure documents/activities by NMED;
- sufficient funding during FY92 to support the field work and data analysis/reduction efforts.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical data

bases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.

- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect Full Time Equivalent (FTE) Assumptions: (1) Direct and Indirect FTEs are a part of operating expenses (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues

None.

10. Regulatory Drivers/Consequences:

The primary regulatory driver for this activity is the RCRA closure requirement. However, the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v) is also appropriate. Additionally, the Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually updated Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

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Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

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EM-40 Progress Indicators :

Immediate/Short Term Action:

- Alternate Water Supply
- Site Security Measures
- People Evacuated or Relocated
- Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	1	1	1	0	cuyd
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

No immediate/short-term actions required. No remediation is anticipated to complete closure.

Indicators Point of Contact:

Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

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Operations Office: ALLA ID No.: 1136

Last Update: 04/24/92

Activity Title: TA-43
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 16
Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L WBS No.: 6.1.22 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606 Reviewed Date: 03/01/92
HQ POC: Harris, R. FTS 233-8199
Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1136

Type of Change: ADS SAME
Reason for Change: Same ADS as ADS1136.

Tiger Team Finding Number: IWS/CF-01 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

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Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 24M010

Req. Due Date: 05/23/94 Target Due Date: 06/16/94 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 24M095

Req. Due Date: 01/31/96 Target Due Date: 05/08/97 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 24M035

Req. Due Date: 11/04/98 Target Due Date: 10/15/95 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 24M040

Req. Due Date: 03/12/99 Target Due Date: 02/22/99 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 24M050

Req. Due Date: 05/26/99 Target Due Date: 06/01/98 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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Milestone No. 24M060
Req. Due Date: 09/28/00 Target Due Date: 11/03/98 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-
approved CMS plan.

Milestone No. 24M070
Req. Due Date: 04/20/01 Target Due Date: 10/06/00 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as
required by the operating permit.

Requirements Narrative

1. Technical Scope:

Technical Area-43 (TA-43) is the Health Research Laboratory (HRL) near the Los Alamos Medical Center. HRL was first occupied in 1953 by groups doing biomedical and industrial hygiene research. Current operations are more diverse with research in toxicology, genetics, pathology, biophysics, and neurobiology. This operable unit (OU) consists of several potential release sites covering an area of approximately 1 acre. The area is potentially contaminated from past outfalls. Potential contaminants include radioactive waste and corrosion inhibitors. Possible remedial alternatives vary from selected removal of small volumes to the less likely alternative of removal and disposal of larger volumes. This activity constitutes the Resource Conservation and Recover Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCAs) for this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * Solid Waste Management Unit (SWMU) Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * During FY89, preliminary RFI scoping activities were conducted.
- * No activity during FY90 and FY91.

3. Activity Term:

- * Start of the RFI work plan preparation is scheduled for October 1, 1992, with completion in FY94.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * Field investigation is scheduled to begin in FY95.
- * The RFI report will be submitted in FY99 and, upon approval, CMS will commence followed by CMI.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be

integrated with the RFI/CMS process.

4. Current Year FY92 Description:

- * No activity.

5. Budget Year FY93 Description:

- * Preparation of the RFI work plan will begin, with major progress toward completion of all sections of the draft document by FY94.
- * VCAs will be conducted as appropriate.
- * Most LANL Direct Full Time Equivalents (FTEs) (0.2) will be associated with RFI work plan preparation.

6. Planning Year (FY 94) Description:

- * Submittal of the work plan to EPA will occur in this fiscal year.
- * The draft work plan will be modified as necessary after its review.
- * VCAs will be conducted as appropriate.
- * Most LANL Direct FTEs (0.5) will be associated with RFI work plan preparation.

7. Outyears (FY95-FY98):

- * Preparation will be completed for field work.
- * Field investigations will begin.
- * Field investigations should be completed during this period.
- * The RFI report development will proceed as characterization data become available.
- * RFI phase reports will be written to describe the results of analyses, additional data needs, and the plan for obtaining the data.
- * VCAs will be conducted based on availability of funding and waste disposal capacity.
- * Most sampling and analysis cost will be associated with contracts.
- * LANL Direct FTEs are projected to range from 0.6 to 1.3 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability -- especially mixed waste, adequate funding as needed, timely review and approval of Hazardous Solid Waste Amendments (HSWA) documentation by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops an historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to

perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.

- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical data bases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on this guidance/information.

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- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU currently exceeds the HSWA module 10-year window.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

National Environmental Policy Act (NEPA) documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- Alternate Water Supply
- Site Security Measures
- People Evacuated or Relocated
- Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	386	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG

Classes Of Chemical Contaminants: A D E G I

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

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Operations Office: ALLA ID No.: 1140

Last Update: 04/24/92

Activity Title: TA-46 ASSESSMENT
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 3
Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L WBS No.: 6.1.23 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606 Reviewed Date: 03/01/92
HQ POC: Harris, R. FTS 233-8199
Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1140
Type of Change: ADS SAME
Reason for Change: Same ADS as ADS1140.

Tiger Team Finding Number: IWS/CF-01 TTFN Date: 11/08/91
Type of Change:
Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02 TTFN Date: 11/08/91
Type of Change:
Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7 TTFN Date: 11/08/91
Type of Change:
Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10 TTFN Date: 11/08/91
Type of Change:
Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11 TTFN Date: 11/08/91
Type of Change:
Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

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Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 25M010

Req. Due Date: 05/23/93 Target Due Date: 08/18/93 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 25M090

Req. Due Date: 01/04/95 Target Due Date: 04/01/99 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 25M035

Req. Due Date: 09/17/97 Target Due Date: 12/09/02 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 25M040

Req. Due Date: 01/29/98 Target Due Date: 05/09/02 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 25M050

Req. Due Date: 04/15/98 Target Due Date: 07/25/02 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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Milestone No. 25M060
Req. Due Date: 08/06/99 Target Due Date: 11/12/03 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-
approved CMS plan.

Milestone No. 25M070
Req. Due Date: 11/08/99 Target Due Date: 02/19/04 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The CMS plan will be prepared and submitted to the EPA and NMED
in compliance with the HSWA Module.

Requirements Narrative

1. Technical Scope:

Technical Area-46 (TA-46) was originally used for nuclear-reactor rocket (Rover) research and development (R&D). Currently, R&D activities conducted at TA-46 include: lasers, chemistry, photochemistry, fuel-cells, particle-accelerators, and surveillance. This operable unit (OU) comprises several potential release sites including septic tanks and associated drain fields, chemical- and waste-storage areas, sanitary lagoons, sewer-system outfall from a metallurgical-polishing lab, building-sink, -sump, and -floor-drain outfalls, and a material fill at the head of Canyon del Buey. Potential contaminants include hazardous chemicals, heavy metals, and radionuclides. Potential remedial alternatives include selected removal of large or small volumes of material. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VOC) for this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * Solid Waste Management Unit (SWMU) Report submitted to EPA Region VI and New Mexico Environment Division (NMED), December 1988.
- * During FY89 preliminary RFI scoping activities were conducted.
- * No activity during FY90.
- * Started RFI Work Plan October 1, 1991.

3. Activity Term:

- * The TA-46 assessment is an on-going activity.
- * The RFI Work Plan will be complete by May, 1993; the RFI will start in FY93 and be completed in FY98.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * The RFI report will be submitted in FY97 and, upon approval, CMS will commence followed by CMI.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be

integrated with the RFI/CMS process.

4. Current Year (FY92) Description:

- * Initiate preparation of RFI work plan (WP), analyze existing data, and develop data quality objectives.
- * Most Los Alamos National Laboratory (LANL) Direct Full Time Equivalent (FTEs) (2.6) will be associated with RFI work plan preparation.

5. Budget Year (FY93) Description:

- * Complete RFI work plan including: sampling plan, community relations plan, records management plan, and management plan.
- * Plan/initiate RFI field work if possible.
- * VCAs will be conducted as appropriate
- * Most LANL Direct FTEs (2.9) will be associated with RFI work plan preparation.

6. Planning Year (FY94) Description:

- * Begin RFI report.
- * Conduct RFI Phase 1 field work-related activities.
- * Write RFI Phase 1 report.
- * VCAs will be conducted as appropriate.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs projected at 1.3.

7. Outyears (FY95-FY98) Description:

- * Complete RFI field investigations.
- * Complete EPA/NMED Draft RFI Report in FY97.
- * CMS planning will start in FY98 followed by CMI as appropriate.
- * VCAs will be conducted based on availability of fundings and waste disposal capacity.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs are projected to range from 0.9 to 2.9 for FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the LANL Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability -- especially mixed waste, adequate funding as needed, timely review and approval of Hazardous Solid Waste Amendments (HSWA) documentation by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops an historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings

or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.

- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the Indirect cost per FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General M&S is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on this guidance/information.

* The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU falls within the HSWA Module 10-year window.

10. Regulatory Drivers/Consequences

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually updated Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with CERCLA.

NEPA documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will a further erosion of public confidence in both organizations.

Decontamination and Decommissioning (D&D) schedules are not driven by ER Program regulatory requirements; however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- Alternate Water Supply
- Site Security Measures
- People Evacuated or Relocated
- Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	4	5	1	0	
Other TOTAL	0	0	0	9221	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG SEP
 Classes Of Chemical Contaminants: A D E G I

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.
 Title: F.O. POC
 Phone Number: 5058454606

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ALLA-1127

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Operations Office: ALLA ID No.: 1127

Last Update: 04/24/92

Activity Title: TA-35 WASTE OIL STORAGE PIT ETC.

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: RD NEPA: CE

Category: ER Facility/WAG: N/A

% Overhead: 0

Cost LOC Req.: H Sched. LOC Req.: M Scope LOC Req.: H WBS No.: 6.1.17 Level: 0

Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: N HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y

NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 03/01/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1127

Type of Change: ADS SAME

Reason for Change: Same ADS as ADS1127.

MILESTONES Milestone No.

Req. Due Date: 12/20/91 Target Due Date: 12/20/91 Level: HQ Source: RCRA

Title: CLOSURE CERTIFICATION AND REPORT

Compliance: RCRA PERMIT

Description: This element involved the preparation of the Closure Certification and Report.

Requirements Narrative

1. Technical Scope:

Two surface impoundments at Technical Area-35 (TA-35) which were used to collect spilled or leaked oil from associated buildings have been closed. The final closure report will be prepared.

2. Activities Completed to Date:

During FY90, contaminated soil was removed from this site. Some residual contamination remained requiring a revision of the closure plan. Closure Certification and Report were submitted to New Mexico Environmental Department (NMED) in December 1991. All activities are completed with the exception of the final closure report.

3. Activity Term (Life-Cycle):

* No activities remain.

4. Current Year (FY 92) Description:

* Final closure report will be prepared and submitted to NMED for approval.

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5. Budget Year (FY 93) Description:

* No activity.

6. Planning Year (FY 94) Description:

* No activity.

7. Outyears (FY 95-FY98):

* No activity.

8. Key Assumptions:

The key assumption to completing activities scheduled for this Activity Data Sheet (ADS) was NMED approval of the revised closure plan.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical data bases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based in FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years'

facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	1	1	1	673	cuyd
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG INC
 Classes Of Chemical Contaminants: A D

Narrative:

Risk-based closure completed. Organic compounds primary driver for risk-based cleanup.

Indicators Point of Contact: Bitner, K.
 Title: F.O. POC
 Phone Number: 5058454606

major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

None.

10. Regulatory Drivers/Consequences:

The primary regulatory driver for this activity is the RCRA Closure requirement. However, the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v) is also applicable. Additionally, the Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually updated Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the

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Operations Office: ALLA ID No.: 1129 Last Update: 04/24/92

Activity Title: TA-4,5,35,42,48,52,55,63,66
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 4
Cost LOC Req.: L Sched. LOC Req.: M Scope LOC Req.: L WBS No.: 6.1.18 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: Y TRU MIX: Y LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606 Reviewed Date: 03/01/92
HQ POC: Harris, R. FTS 233-8199
Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1129
Type of Change: ADS SAME
Reason for Change: Same ADS as ADS1129.

Tiger Team Finding Number: IWS/CF-01 TTFN Date: 11/08/91
Type of Change:
Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02 TTFN Date: 11/08/91
Type of Change:
Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-4 TTFN Date: 11/08/91
Type of Change:
Reason for Change: The LANL ER Program did not comply with NMUSTR when performing two petroleum UST removals in FY91. In addition, the ER Program has not performed internal appraisals of the UST Program.

Tiger Team Finding Number: IWS/CF-7 TTFN Date: 11/08/91
Type of Change:
Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10 TTFN Date: 11/08/91
Type of Change:
Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

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Tiger Team Finding Number: IWS/CF-11

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 20M100

Req. Due Date: 05/29/92 Target Due Date: 05/29/92 Level: HQ Source:3004U

Title: EPA/NMED DRAFT RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module

Milestone No. 20M180

Req. Due Date: 07/31/95 Target Due Date: 12/03/97 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 20M125

Req. Due Date: 09/08/97 Target Due Date: 04/20/01 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 20M130

Req. Due Date: 12/12/97 Target Due Date: 08/20/01 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 20M140

Req. Due Date: 05/08/98 Target Due Date: 12/15/02 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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Milestone No. 20M150
Req. Due Date: 04/06/99 Target Due Date: 05/02/03 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-
approved CMS plan.

Milestone No. 20M160
Req. Due Date: 06/30/99 Target Due Date: 08/04/03 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as
required by the operating permit.

Requirements Narrative

1. Technical Scope:

Operable Unit (OU) 1129 is comprised of nine Technical Areas (TAs): former TA-4; TA-5; TA-35; former TA-42; TA-48; TA-52; TA-55; TA-63; and TA-66. The entire OU is within the boundaries of the Laboratory, and all OU 1129 land is under control of the Department of Energy (DOE). All TAs in OU 1129 are currently or were previously used by DOE for Laboratory operations. A variety of solid waste management unit (SWMUs) types are found in OU 1129, including firing sites, disposal areas, above and below ground storage tanks, septic systems, outfalls, waste lines, lagoons, oil spills, container storage areas, waste oil and wastewater treatment facilities, and radioactive liquid waste spills.

This assessment addresses all SWMUs and areas of concern (AOCs) located within OU 1129. These SWMUs and AOCs are contained on about 66 acres of potential surface and subsurface release sites. The sites have the potential for a variety of contaminants. Remediation is expected to consist of removal and disposal of contaminants and institutional control of the facilities. These activities constitute the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCAs) for this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) submitted to the Environmental Protection Agency (EPA) Region VI, in October 1987.
- * SWMU Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), in December 1988.
- * During FY89, preliminary RFI scoping activities were conducted.
- * No activities were completed during FY90.

3. Activity Term:

- * The RFI Work Plan will be completed and submitted to EPA/NMED in May, 1992.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.

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- * Planning for the RFI field investigations will start in October, 1992.
- * Field investigations are estimated to be completed by March, 1995.
- * The RFI work plan will guide the field investigation over the next 3 years to characterize the SWMUs located in OU 1129.
- * The CMS work plan is and the CMS report will be completed by September, 1998.
- * CMI will follow the CMS.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY92) Description:

- * The draft RFI work plan will be delivered to EPA/New Mexico Environment Department (NMED) by May 22, 1992.
- * Initiate preliminary planning for the field investigation phase.
- * Most LANL Direct Full Time Equivalents (FTEs) (3.1) will be associated with RFI work plan preparation.

5. Budget Year (FY93) Description:

- * Activities to initiate field investigations occur during the 1st quarter of FY93.
- * Field screening activities begin during 2nd quarter FY93.
- * Phase 1 field sampling plans are started during 3rd quarter FY93.
- * Conduct VCAs as appropriate.
- * Most sampling and analysis cost will be associated with subcontracts.
- * LANL Direct FTEs projected at 2.1.

6: Planning Year (FY94) Description:

- * Phase 1 field sampling plans are completed 2nd quarter FY94.
- * Begin Phase 2 field sampling plans during 3rd quarter FY94.
- * Los Alamos National Laboratory (LANL) internal draft of the RFI Report completed July, 1994.
- * Conduct VCAs as appropriate.
- * Most sampling and analysis cost will be associated with subcontracts.
- * LANL Direct FTEs projected at 1.9.

7: Outyears (FY95-FY98) Description:

- * The draft RFI Report is planned to be delivered to EPA/NMED by March 3, 1995.
- * The draft CMS Work Plan is planned to be delivered to EPA/NMED by November 21, 1995.
- * The draft CMS Report is planned to be delivered to EPA/NMED by October 5, 1998.
- * CMI will follow CMS.
- * VCAs will be conducted based on availability of funding and waste disposal capacity.
- * Most sampling and analysis cost will be associated with subcontracts.
- * LANL Direct FTEs are projected to range from 2.9 to 4.6 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the LANL ER Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability--especially mixed waste, adequate funding as needed, timely review and approval of Hazardous Solid Waste Amendments (HSWA) documents by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated

to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU Project Leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU is currently within the HSWA Module 10-year window.

10. Regulatory Drivers/Consequences

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	1305483	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG

Classes Of Chemical Contaminants: A D E G H

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with CERCLA, specified in DOE Order 5400.4.

NEPA documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

Decontamination and Decommissioning (D&D) schedules are not driven by ER Program regulatory requirements; however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

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Operations Office: ALLA ID No.: 1122

Last Update: 04/24/92

Activity Title: TA-33
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 0
Cost LOC Req.: L Sched. LOC Req.: M Scope LOC Req.: L WBS No.: 6.1.16 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 02/28/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER

2.

3.

CROSSWALK Old ADS Number: ALLA1122

Type of Change: ADS SAME

Reason for Change: Same ADS as ADS1122.

Tiger Team Finding Number: IWS/CF-01

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 18M005

Req. Due Date: 05/21/92 Target Due Date: 05/15/92 Level: HQ Source:3004U

Title: EPA/NMED DRAFT WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 18M085

Req. Due Date: 03/22/95 Target Due Date: 05/23/97 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 18M025

Req. Due Date: 06/08/98 Target Due Date: 05/21/01 Level: HQ Source:3004U

Title: EPA/NMED DRAFT RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 18M030

Req. Due Date: 10/06/98 Target Due Date: 09/19/01 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 18M040

Req. Due Date: 01/05/99 Target Due Date: 12/07/01 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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Milestone No. 18M050
Req. Due Date: 04/21/00 Target Due Date: 03/31/03 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-
approved CMS plan.

Milestone No. 18M060
Req. Due Date: 07/24/00 Target Due Date: 06/30/03 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as
required by the operating permit.

Requirements Narrative

1. Technical Scope:

This operable unit (OU) consists of buildings, outfalls, sumps, drains, septic tanks, magazines, firing sites and shafts, gun firing areas, drain lines, trenches, and inactive Material Disposal Areas (MDAs) D, E, and K. These structures are associated with the now-abandoned Technical Area (TA)-33 gun firing and tower/firings sites areas where munitions and weapons components were tested. The structures, debris areas, and associated outfalls may contain depleted uranium, beryllium, mercury, tritium, acids, organic chemicals, heavy metals, high explosives residues, and plutonium. These potential release sites cover about 152 acres. Remedial actions will probably consists of limited removal of contaminants and institutional controls. Removal and disposal could be possible at a few debris areas. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCA) for this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * Solid Waste Management Unit (SWMU) Report submitted EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * During FY89, preliminary RFI scoping activities were conducted.
- * Preliminary work on preparing the RFI work plan began in FY90.
- * Preparation of a draft RFI work plan continued in FY91.

3. Activity Term:

- * The RFI work plan will be completed in FY92.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * The RFI field investigations essentially completed by the end of FY97.
- * The RFI report will be submitted in FY98, and upon approval, CMS will commence followed by CMI.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY92) Description:

- * Develop management plan for RFI work plan.
- * Write final quality assurance, health and safety, community relations, and records management plans.
- * Submit draft work plan to New Mexico Environmental Department (NMED) and EPA.
- * Write Phase 1 contracts to conduct RFI field work.
- * Most LANL Direct Full Time Equivalents (FTEs) (2.4) will be associated with RFI work plan preparation.

5. Budget Year (FY93) Description:

- * Detailed field work planning.
- * Mobilize for RFI field work.
- * Conduct Phase 1 RFI field work.
- * Start developing RFI report.
- * VCAs will be conducted as appropriate.
- * Most sampling and analysis cost will be associated with subcontracts.
- * LANL Direct FTEs projected at 1.2.

6. Planning Year (FY94) Description:

- * Conduct Phase 1 RFI field work/analysis/assessments.
- * Write Phase I RFI report.
- * Write Phase 2 contract for field work.
- * Mobilize for Phase 2 field work.
- * Conduct Phase 2 field work/sample analysis/data assessment.
- * Conduct VCAs as appropriate.
- * Most sampling and analysis cost will be associated with subcontracts.
- * LANL Direct FTEs projected at 1.3.

7. Outyears (FY95-FY98) Description:

- * Complete field work, sample analysis, and data assessment in FY97.
- * Submit RFI report to EPA/NMED in June, 1998.
- * Submit CMS plan to EPA/NMED in January, 1999.
- * Conduct bench and pilot studies.
- * Conduct VCAs based on availability of funding and waste disposal capacity.
- * Most sampling and analysis cost will be associated with subcontracts.
- * LANL Direct FTEs are projected to range from .9 to 4.4 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementation of the LANL ER Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capacity -- especially mixed waste, adequate funding as needed, timely review and approval of Hazardous Solid Waste Amendments (HSWA) documents/activities by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops, a historical record of these activities, funding will be

adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is

also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.

- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU Project Leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU currently exceeds the HSWA Module 10-year window.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually updated Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

National Environmental Policy Act (NEPA) documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

Decontamination and Decommissioning (D&D) schedules are not driven by ER Program regulatory requirements; however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	53113	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG SOL
 Classes Of Chemical Contaminants: A D E G I

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.
 Title: F.O. POC
 Phone Number: 5058454606

Environmental Restoration and Waste Management Five Year Plan
Activity Data Sheet FY 94-98
ALLA-1114

Date: 04/28/92
Time: 06:42:35
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Operations Office: ALLA ID No.: 1114

Last Update: 04/24/92

Activity Title: TA-3,59,60, 61, 64
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 6
Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L WBS No.: 6.1.15 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: Y TRU MIX: Y LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 02/28/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER

2.

3.

CROSSWALK Old ADS Number: ALLA1114

Type of Change: ADS SAME

Reason for Change: Same ADS as ADS1114.

Tiger Team Finding Number: IWS/CF-01

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

Environmental Restoration and Waste Management Five Year Plan
Activity Data Sheet FY 94-98
ALLA-1114

Date: 04/28/92
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Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 17M005

Req. Due Date: 05/18/93 Target Due Date: 05/18/93 Level: HQ Source:3004U

Title: EPA/NMED DRAFT RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program mangement, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 17M110

Req. Due Date: 02/19/97 Target Due Date: 03/23/01 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 17M050

Req. Due Date: 08/05/99 Target Due Date: 03/10/04 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 17M055

Req. Due Date: 12/08/99 Target Due Date: 07/08/04 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 17M065

Req. Due Date: 02/28/00 Target Due Date: 09/22/04 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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Milestone No. 17M075
Req. Due Date: 02/15/01 Target Due Date: 01/12/06 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-approved CMS plan.

Milestone No. 17M085
Req. Due Date: 05/17/01 Target Due Date: 04/14/06 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as required by the operating permit.

Requirements Narrative

1. Technical Scope:

This operable unit (OU) consists of cooling tower blowdown, lagoons, pits, landfills, outfalls, contaminated areas, fuel oil storage tanks, oil sump, floor drain, septic tanks, well, burn pits, chemical waste sumps and tanks, explosive manufacturing area, firing sites, vacuum pump repair shop, and septic tank cesspool. Technical Area-3 (TA-3) was originally South Mesa Site with firing sites. Currently TA-3 is the largest administrative and research area of the Laboratory. The main shop areas fabricate uranium, the CMR building provides plutonium and uranium chemical support, and numerous operational areas include accelerators and other specialized Research and Development (R&D) equipment. TA-59 is the site of the Health and Safety (HS) Division complex which contains the chemical analysis laboratory and the Environmental Management (EM) Division. About 41 acres are associated with these areas with potential contaminants including asbestos, organic chemicals, fluoride, chromium, high explosives, heavy metals, beryllium, acids, bases and radionuclides. Possible remedial actions include selected removal followed by institutional controls with removal and disposal of larger volumes less likely. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measure Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCA) for this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * Solid Waste Management Unit (SWMU) Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * No activity in FY89 or FY90.
- * Started RFI Work Plan, 1 October 1991.

3. Activity Term:

- * The RFI Work Plan will be complete by May, 1993.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.

- * RFI field investigations will continue beyond the end of FY98.
- * The RFI Report will be started in mid-FY97.
- * The RFI report will be submitted in FY99 and, upon approval, CMS will commence followed by CMI as appropriate.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY92) Description:

- * The majority of the effort will be confined to the SWMUs identified in Tables A and B of the Hazardous Solid Waste Amendments (HSWA) Permit.
- * Prepare RFI work plan including:
 - Sampling Plan.
 - Community Relations Plan.
 - Records Management Plan.
 - Quality Assurance (QA) Project Plan.
 - Health & Safety Plan.
 - Develop Data Quality Objectives.
- * Most LANL Direct Full Time Equivalents (FTEs) (3.3) will be associated with RFI work plan preparation.

5. Budget Year (FY93) Description:

- * Initiate ADS 1114 Assessment for SWMUs not listed in Tables A and B of the HWSA permit.
- * Complete EPA/NMED Draft RFI Work Plan.
- * Conduct VCAs as appropriate.
- * Most LANL Direct FTEs (3.0) will be associated with RFI work plan preparation.

6. Planning Year (FY94) Description:

- * Continue RFI process for additional SWMUs not listed in Tables A and B of the Hazardous Solid Waste Amendments (HWSA) permit and report progress in annual Technical Memorandum.
- * Conduct RFI Phase I Field Work for SWMUs addressed in FY92 and FY93 and prepare the Phase 1 Report.
- * Conduct VCAs as appropriate.
- * Most sampling and analysis cost will be associated with subcontracts.
- * LANL Direct FTEs projected at 1.3.

7. Outyears (FY95-FY98) Description:

- * Field investigations will continue into FY99.
- * CMS planning will be completed for EPA review by August, 1999.
- * CMS and CMI will be conducted as appropriate.
- * VCAs depending on availability of funding and waste disposal capacity.
- * Most sampling and analysis cost will be associated with subcontracts.
- * LANL Direct FTEs are projected to range from 2.1 to 19.7 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Program as scheduled include: the generic logic used for scheduling and costing is correct, sufficient subcontracting capacity, sufficient analytical capacity--especially mixed waste; adequate funding as needed; timely review and approval of HSWA documents by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated

to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105, and guidance/information provided to the OU Project Leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU currently exceeds the HSWA Module 10-year window.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually updated Installation Work Plan.	Notice of ID # Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all

Information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as specified in DOE Order 5400.4.

National Environmental Policy Act (NEPA) documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

Decontamination and Decommissioning (D&D) schedules are not driven by ER Program regulatory requirements; however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	560485	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG

Classes Of Chemical Contaminants: A D E G H

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

Environmental Restoration and Waste Management Five Year Plan
Activity Data Sheet FY 94-98
ALLA-1106

Date: 04/28/92
Time: 06:42:35
Page: 1

Operations Office: ALLA ID No.: 1106

Last Update: 04/24/92

Activity Title: TA-21
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 10
Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L WBS No.: 6.1.13 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: Y TRU MIX: Y LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606 Reviewed Date: 02/28/92
HQ POC: Harris, R. FTS 233-8199
Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1106
Type of Change: ADS SAME
Reason for Change: Same ADS as ADS1106.

Tiger Team Finding Number: IWS/CF-01 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

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Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 15M004

Req. Due Date: 10/08/96 Target Due Date: 07/30/97 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF PH1 REPORT
Compliance: HSWA MODULE
Description: A draft phase one report will be submitted to EPA and NMED reporting the results of the RFI phase one investigations.

Milestone No. 15M010

Req. Due Date: 10/14/98 Target Due Date: 12/07/00 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF RFI REPORT
Compliance: HSWA MODULE
Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 15M003

Req. Due Date: 02/22/99 Target Due Date: 04/11/01 Level: HQ Source:3004U
Title: RFI
Compliance: HSWA MODULE
Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 15M020

Req. Due Date: 02/25/99 Target Due Date: 06/26/01 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS PLAN
Compliance: HSWA MODULE
Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

Milestone No. 15M040

Req. Due Date: 06/12/00 Target Due Date: 10/11/02 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-approved CMS plan.

Milestone No. 15M045
Req. Due Date: 11/08/00 Target Due Date: 05/09/02 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as required by the operating permit.

Requirements Narrative

1. Technical Scope:

Technical Area-21 (TA-21) was the plutonium processing, recovery, and fabrication facility at Los Alamos until 1978 when operations were transferred to TA-55. TA-21 was partially decommissioned and decontaminated in 1977-1980. Most of the contaminated buildings, exterior duct work, and underground structures still remain at the site. This operable unit (OU) consists of storage tanks, seepage pits, drain lines, septic tanks, sumps, pits, manholes, inactive Material Disposal Areas (MDAs) A, B, T, U, V; surface disposal areas; and outfalls. Material Disposal Area B has been used since 1984 to study alternative cover designs potentially applicable for remediation of Los Alamos National Laboratory (LANL) sites. The objective of the study is to design a trench cover system which maximizes waste site integrity by minimizing erosion and infiltration and maximizing water storage capacity. About 105 acres are associated with these areas with potential contaminants being acids, organic chemicals, uranium, americium, and plutonium, and heavy metals. Remediation is expected to consist of partial removal followed by institutional controls with removal and disposal possible. As appropriate, Environmental Restoration (ER) activities will be coordinated with building decontamination and decommissioning (D&D) at DP West. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study (RFI/CMS) and Voluntary Corrective Actions (VCAs) for this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * Solid Waste Management Unit (SWMU) Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), in December, 1988.
- * During FY89, preliminary RFI scoping activities were conducted.
- * Draft sections of the RFI work plan were prepared in FY90 and FY91.

3. Activity Term:

- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * The RFI work plan was approved by EPA in January 1992. The RFI field investigations will commence in mid-FY92 with the RFI Report being finalized in early FY97 and the CMS Plan being submitted to EPA in late FY97.
- * Upon approval of the CMS plan, the CMS will commence followed by CMI.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be

integrated with the RFI/CMS process.

4. Current Year (FY 92) Description:

- * Planning for initiation of field work.
- * RFI field work scheduled to begin in March 1992 with surface soil contamination.
- * Initiate general geologic characterization activities.
- * Monitor MDA B capping pilot study.
- * Most sampling and analysis costs will be associated with subcontracts.
- * Los Alamos National Laboratory (LANL) Direct Full Time Equivalent (FTEs) projected at 8.8.

5. Budget Year (FY 93) Description:

- * Initiate/continue drilling for subsurface vadose zone characterization and MDA V contaminant characterization.
- * Initiate characterization of outfall contamination.
- * Submit first RFI Phase report (technical memorandum).
- * Monitor MDA B capping pilot study.
- * As appropriate, ER activities will be coordinated with building D&D at DP West.
- * As appropriate, VCAs will be undertaken.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs projected at 8.9.

6. Planning Year (FY 94) Description:

- * Continue RFI field work initiated in FY92.
- * Completion of an RFI Phase Report addressing Vadose Zone and MDA V subsurface characterization.
- * Data assessment for geologic studies (i.e., geomorphology, faults/fractures, mineralogy).
- * Mobilization and field work for subsurface investigations at MDA T and MDA U.
- * Surface investigations at MDAs.
- * VCAs will be conducted as appropriate.
- * As appropriate, ER activities will be coordinated with building D&D at DP West.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs projected at 11.7.

7. Outyears (FY 95-FY98):

- * Continue RFI field work, completing initial investigations of all SWMUs, and, where needed, conducting subsequent investigations.
- * As appropriate, voluntary corrective actions (VCAs) will be undertaken.
- * ER activities will be coordinated with building D&D at DP West.
- * Most sampling and analysis costs will be associated with subcontracts.
- * LANL Direct FTEs are projected to range from 9.6 to 14.3 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the LANL ER Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability -- especially mixed waste, adequate funding as needed, timely review and approval of Hazardous Solid Waste Amendments (HSWA) documentation by the EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$) and FTEs are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated

to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU currently exceeds the HSWA Module 10-year window and the EPA approved OU RFI work plan schedule.

10. Regulatory Drivers/Consequences

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all

information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

Current FY93 dollars are insufficient to meet schedule requirements contained in approved TA-21 RFI Work Plan. Fines or renegotiation of the schedule will be required in FY93.

National Environmental Policy Act (NEPA) documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will a further erosion of public confidence in both organizations.

D&D schedules are not driven by ER Program regulatory requirements; however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	810782	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG SOL
 Classes Of Chemical Contaminants: A D E G H

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.
 Title: F.O. POC
 Phone Number: 5058454606

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Operations Office: ALLA ID No.: 1082

Last Update: 04/24/92

Activity Title: TA-11,13,16,24,25,28,37
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 1
Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L WBS No.: 6.1.7 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 02/27/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1082

Type of Change: ADS SAME

Reason for Change: Same ADS as ADS1082.

Tiger Team Finding Number: IWS/CF-01

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES	Milestone No.					
	09M010					
Req. Due Date:	03/24/93	Target Due Date:	06/09/93	Level:	HQ	Source:3004U
Title:	EPA/NMED DRAFT OF RFI WORK PLAN					
Compliance:	HSWA Module					
Description:	The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.					
	Milestone No.					
	09M090					
Req. Due Date:	02/13/97	Target Due Date:	04/03/00	Level:	HQ	Source:3004U
Title:	EPA/NMED DRAFT OF PH1 REPORT					
Compliance:	HSWA MODULE					
Description:	A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.					
	Milestone No.					
	09M030					
Req. Due Date:	11/07/00	Target Due Date:	09/17/03	Level:	HQ	Source:3004U
Title:	EPA/NMED DRAFT OF RFI REPORT					
Compliance:	HSWA MODULE					
Description:	The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.					
	Milestone No.					
	09M035					
Req. Due Date:	02/15/01	Target Due Date:	12/23/04	Level:	HQ	Source:3004U
Title:	RFI					
Compliance:	HSWA Module					
Description:	This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.					
	Milestone No.					
	09M045					
Req. Due Date:	05/04/01	Target Due Date:	04/08/04	Level:	HQ	Source:3004U
Title:	EPA/NMED DRAFT OF CMS PLAN					
Compliance:	HSWA MODULE					
Description:	The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.					

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Milestone No. 09M055
Req. Due Date: 04/16/02 Target Due Date: 07/26/05 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-approved CMS plan.

Milestone No. 09M065
Req. Due Date: 06/19/02 Target Due Date: 10/26/05 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as required by the operating permit.

Requirements Narrative

1. Technical Scope:

Technical Area-11 (TA-11) was originally used for weapon mockup testing at various firing sites and now is used for high explosives drop tests. TA-13 was originally used for X-ray work with explosive testing and is currently part of TA-16. TA-16 produces, tests, and assembles high explosive components for weapons research and development (R&D). There are about 200 structures at TA-16. TA-24 (T-site) was originally a service area for X-ray examination of high explosive and for high explosive storage; it is now nonoperational and part of TA-16. TA-25 (V-site) was also a high explosive process area and is now nonoperational and part of TA-16. Approximately five acres of outfall areas at TA-11, 13, 16, 24, and 25 are potentially contaminated. Sites consist of outfalls, sumps, sump pits, septic tanks, drain lines, and waste tanks. The operable unit (OU) also includes about 27 acres of potential release sites at TA-11, 13, 16, and 25 including filter/drying beds, burn areas, open landfills, burning pits, firing sites, and Material Disposal Area R. The OU also includes approximately three acres of potentially contaminated ponds, pits, dry wells, and storage tanks at TA-16, 24, and 25. Potential contaminants include high explosives, organic chemicals, heavy metals, radionuclides, and asbestos. Most sites are expected to require selected removal of small volumes and are less likely to be remediated by removal and disposal of larger volumes. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCAs) for this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * Solid Waste Management Unit (SWMU) Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * During FY89, preliminary RFI scoping activities were conducted.
- * No activity during FY90.
- * No activity during FY91.

3. Activity Term:

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- * The RFI work plan will be completed for transmittal to EPA in mid-FY93.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * RFI field investigations will begin in early FY94 and continue into FY99.
- * The RFI report will begin in mid-FY97.
- * The RFI report will be submitted in FY98 and, upon approval, CMS will commence followed by CMI.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY 92) Description:

- * The following FY92 RFI work plan activities will include:
 - Delineate potential release sites.
 - Draft existing data report.
 - Write records management plan.
 - Write community relations plan.
- * Most LANL Direct Full Time Equivalents (FTEs) (5.1) will be associated with RFI work plan preparation.

5. Budget Year (FY 93) Description:

- * The following RFI activities will be conducted:
 - Initiate RFI process for SWMUs not listed in Tables A and B of the Hazardous Solid Waste Amendments (HSWA) Module of the RCRA operating permit.
 - Complete EPA/NMED draft RFI work plan.
 - Start RFI.
- * VCAs will be conducted as appropriate.
- * Most LANL Direct FTEs (4.8) will be associated with RFI work plan preparation.

6. Planning Year (FY 94) Description:

- * Continue RFI Work Plan process on additional SWMU not listed in the HSWA Module of the RCRA operating permit Tables A and B and report in the Phase 1 report.
- * Conduct RFI Phase 1 field work, sample analysis, data assessment, and write RFI Phase 1 Report.
- * Most sampling and analysis cost will be associated with subcontracts.
- * LANL Direct FTEs are projected at .5.

7. Outyears (FY 95-FY98):

- * Field investigations will continue.
- * The RFI report will be completed during FY99.
- * The FY95-FY98 funding reflects significant sampling and analysis costs and continued use of subcontracts.
- * VCAs, depending on availability of funding and mixed waste disposal capacity.
- * Most sampling and analysis cost will be associated with subcontracts.

LANL Direct FTEs are projected to range from 1.9 to 30.8 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability--especially mixed waste, adequate funding as needed, timely review and approval of HSWA documentation by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical data bases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU currently exceeds the HSWA Module 10-year window.

10. Regulatory Drivers/Consequences

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste

management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

NEPA documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

Decontamination and Decommissioning (D&D) schedules are not driven by ER Program regulatory requirements; however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	2661235	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG SOL THMO
 Classes Of Chemical Contaminants: A D E G I

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.
 Title: F.O. POC
 Phone Number: 5058454606

Operations Office: ALLA ID No.: 1100

Last Update: 04/24/92

Activity Title: TA-20, 53, 72
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 16
Cost LOC Req.: L Sched. LOC Req.: M Scope LOC Req.: L WBS No.: 6.1.12 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0
Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N
Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606 Reviewed Date: 02/28/92
HQ POC: Harris, R. FTS 233-8199
Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1100

Type of Change: ADS SAME
Reason for Change: Same ADS as ADS1100.

Tiger Team Finding Number: IWS/CF-01 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: ISW/CF-10 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

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Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 14M010

Req. Due Date: 05/23/94 Target Due Date: 05/18/94 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 14M090

Req. Due Date: 05/01/96 Target Due Date: 02/03/00 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 14M035

Req. Due Date: 03/15/99 Target Due Date: 01/15/03 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 14M040

Req. Due Date: 07/13/99 Target Due Date: 05/15/03 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 14M050

Req. Due Date: 09/27/99 Target Due Date: 12/03/03 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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Milestone No. 14M060
Req. Due Date: 01/19/01 Target Due Date: 01/19/05 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-approved CMS plan.

Milestone No. 14M070
Req. Due Date: 04/20/01 Target Due Date: 04/20/05 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as required by the operating permit.

Requirements Narrative

1. Technical Scope:

Technical Area-20 (TA-20), located below TA-53 in current TA-72, in Sandia Canyon, was a World War II testing and firing area for weapon initiators. TA-20 has been decontaminated and decommissioned (D&D) and is currently abandoned. TA-53 is the LAMPF (Los Alamos Meson Physics Facility), which is a proton accelerator producing many secondary particles used in a wide range of experimental programs. The LAMPF is the third largest facility complex at Los Alamos. This operable unit (OU) consists of several potential release sites: disposal pits, firing sites, a cooling tower outfall area, and lagoons and outfall areas. These sites comprise an area of approximately 14.5 acres. Potential contaminants include activation products, high explosives, hazardous chemicals, radionuclides, and beryllium. Potential remedial alternatives for these sites include selected removal followed by institutional controls to the likely removal and disposal for larger volumes. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCAs) for this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * Solid Waste Management Unit (SWMU) Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * During FY89, preliminary RFI scoping activities were conducted.
- * No activity during FY90 and FY91.

3. Activity Term:

- * The RFI work plan preparation will begin in early FY93 for transmittal to EPA in mid-FY94.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * RFI field investigations will begin in early FY95 and progress beyond FY98.
- * The RFI report will be submitted in FY99 and, upon approval, CMS will

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commence followed by CMI.

- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY 92) Description:

- * Not applicable to this project; no funding requested.

5. Budget Year (FY 93) Description:

- * Begin development of RFI work plan.
- * Develop work plan scope, conduct archival search, determine data needs, draft data report, write records management, community relations, and health and safety plans, as needed.
- * Perform VCAs, as appropriate.
- * Most Los Alamos National Laboratory (LANL) Direct Full Time Equivalent (FTEs) (3.8) will be associated with RFI work plan preparation.

6. Planning Year (FY 94) Description:

- * The RFI work plan will be finalized for submittal to EPA on May 23, 1994.
- * VCAs will be conducted as appropriate.
- * Most LANL Direct FTEs (2.3) will be associated with RFI work plan preparation.

7. Outyears (FY95-FY98):

- * RFI field work will begin in FY95.
- * The sampling will be phased such that when sufficient data for a corrective measures decision are available, sampling can be halted.
- * VCAs will be conducted based on availability of funding and waste disposal capacity.
- * RFI report will be prepared during FY98 and will be submitted to EPA/NMED in March, 1999.
- * Most sampling and analysis cost will be associated with subcontracts in FY95-FY97.
- * LANL Direct FTEs are projected to range from 0.8 to 3.1 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the LANL Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability--especially mixed waste, adequate funding as needed, timely review and approval of the Hazardous Solid Waste Amendments (HSWA) documentation by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are

presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.

* Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on this guidance/information.

* The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU currently exceeds the HSWA Module 10-year window.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

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National Environmental Policy Act (NEPA) documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

Decontamination and Decommissioning (D&D) schedules are not driven by ER Program regulatory requirements; however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	4	5	1	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	38725	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG SEP
 Classes Of Chemical Contaminants: A D E G I

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.
 Title: F.O. POC
 Phone Number: 5058454606

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Operations Office: ALLA ID No.: 1098 Last Update: 04/24/92

Activity Title: TA-2, 41
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 4
Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L WBS No.: 6.1.11 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606 Reviewed Date: 02/27/92
HQ POC: Harris, R. FTS 233-8199
Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1098
Type of Change: ADS SAME
Reason for Change: Same ADS as ADS1098.

Tiger Team Finding Number: IWS/CF-01 TTFN Date: 11/08/91
Type of Change:
Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02 TTFN Date: 11/08/91
Type of Change:
Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on eR Program involvement in LANL construction projects at solid waste mangement unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7 TTFN Date: 11/08/91
Type of Change:
Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10 TTFN Date: 11/08/91
Type of Change:
Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natrual resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11 TTFN Date: 11/08/91
Type of Change:
Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 13M010

Req. Due Date: 05/23/93 Target Due Date: 03/22/93 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 13M030

Req. Due Date: 03/28/95 Target Due Date: 09/21/98 Level: HQ Source:3004U

Title: EPA/NMED DRAFT PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 13M040

Req. Due Date: 02/04/98 Target Due Date: 12/01/00 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 13M050

Req. Due Date: 05/20/98 Target Due Date: 03/22/01 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 13M060

Req. Due Date: 08/19/98 Target Due Date: 06/20/01 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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Milestone No. 13M080
Req. Due Date: 12/09/99 Target Due Date: 10/07/02 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-
approved CMS plan.

Milestone No. 13M085
Req. Due Date: 03/15/00 Target Due Date: 01/14/03 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as
required by the operating permit.

Requirements Narrative

1. Technical Scope:

Technical Area-2 (TA-2) is the Omega West Reactor which is an 8MW-water cooled reactor fueled by ninety-three percent uranium-235. Two other reactors, a water boiler reactor and a fast reactor called Clementine, were also operated and decommissioned at TA-2. This operable unit (OU) consists of potential release sites comprising approximately 24.3 acres. The sites include contaminated areas associated with buildings, an oil storage area, burn pits, septic tanks, drain fields, outfall areas, sumps and lines, and effluents. Potential contaminants include fission products, heavy metals, potassium dichromate, and PCB-contaminated oil. Potential remedial alternatives may vary from selected removal followed by institutional controls to the less likely alternative of removal and disposal of larger volumes. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Action (VCAs) for this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * Solid Waste Management Unit Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * During FY89, preliminary RFI scoping activities were conducted.
- * No activity during FY90 and FY91.

3. Activity Term:

- * The RFI work plan will begin in early FY92 for transmittal to EPA in mid-FY93.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * RFI field investigations will begin in early FY94 and continue into FY98.
- * The RFI Report will begin in mid-FY97.
- * The RFI report will be submitted in FY98 and, upon approval, CMS will commence followed by CMI as appropriate.
- * VCAs will be conducted as appropriate.

* National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY 92) Description:

- * The RFI work plan will be written this FY. This work plan includes sampling plans, data quality objectives, and solid waste management unit (SWMU) descriptions.
- * Ancillary plans are also included on project management, quality assurance, health and safety, records management, and community relations as specified in the Hazardous Solid Waste Amendments (HSWA) module of the Resource Conservation and Recovery Act (RCRA) operating permit.
- * Most LANL Direct Full Time Equivalents (FTEs) (3.0) will be associated with RFI work plan preparation.

5. Budget Year (FY 93) Description:

- * The RFI work plan will be submitted to EPA, and the New Mexico Environment Department (NMED).
- * VCAs will be conducted as appropriate.
- * Most LANL Direct FTEs (2.2) will associated with RFI work plan preparation.

6. Planning Year (FY 94) Description:

- * Work will begin to prepare for field investigations including preparing contracts and permitting requirements.
- * Phase 1 sampling will begin by mid-FY94 with a focus on surface and groundwater sampling and analyses of soils and sediments at TA-2.
- * Late in this FY, subsurface sampling will begin.
- * VCAs will be conducted as appropriate
- * Most sampling and analysis cost will be associated with subcontracts.
- * LANL Direct FTEs projected at 1.0.

7. Outyears (FY95-FY98):

- * Phase 1 sampling and contaminant analyses will be completed, results summarized, and a report written describing results, additional data needs, and the plan for obtaining the data and information.
- * The RFI report development will proceed as characterization data becomes available.
- * Phase 2 sampling activities will start with preparations for field investigations, collection and analysis of samples, and continued work on the RFI report.
- * The RFI will be completed FY98.
- * VCAs will be conducted based on availability of funding and waste disposal capacity.
- * Most sampling and analysis cost will be associated with subcontracts.
- * LANL Direct FTEs are projected to range from 0.8 to 3.3 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability--especially mixed waste, adequate funding as needed, timely review and approval of the HSWA documentation by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated

to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU falls within the HSWA Module 10-year window.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all

information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

National Environmental Policy Act (NEPA) documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

Decontamination and Decommissioning (D&D) schedules are not driven by ER Program regulatory requirements; however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	3396	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG

Classes Of Chemical Contaminants: A D E G I

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

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Activity Data Sheet FY 94-98
ALLA-1093

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Operations Office: ALLA ID No.: 1093

Last Update: 04/24/92

Activity Title: TA-18, 27, 65
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 1
Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L WBS No.: 6.1.10 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 02/27/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1093

Type of Change: ADS SAME

Reason for Change: Same ADS as ADS1093.

Tiger Team Finding Number: IWS/CF-01

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Ordres & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SMWU) areas.

Tiger Team Finding Number: IWS/CF-7

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

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Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 12M020

Req. Due Date: 05/23/93 Target Due Date: 05/10/93 Level: HQ Source:3004U

Title: EPA/NMED DRAFT RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 12M105

Req. Due Date: 01/10/95 Target Due Date: 08/14/98 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 12M040

Req. Due Date: 09/12/97 Target Due Date: 04/23/01 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 12M045

Req. Due Date: 01/20/98 Target Due Date: 08/21/01 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 12M055

Req. Due Date: 04/06/98 Target Due Date: 11/06/01 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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ALLA-1093

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Milestone No. 12M065
Req. Due Date: 07/26/99 Target Due Date: 03/03/03 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-approved CMS plan.

Milestone No. 12M075
Req. Due Date: 10/22/99 Target Due Date: 06/02/03 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as required by the operating permit.

Requirements Narrative

1. Technical Scope:

Technical Area-18 (TA-18) was originally used for high explosive (HE) testing (up to 2 tons per test) at three firing sites. TA-18 is currently used for critical assembly research. TA-27 is down canyon from TA-18 and was (now abandoned) used for testing, using bullets fired into HE assemblies to determine resistance to individual detonation of HE. This operable unit consists of potentially contaminated areas such as firing sites, ballistic test sites, and contaminated buildings; sanitary sewer drains and outfalls, acid sewer system, sumps, acid waste tanks, magazines, and underground petroleum tanks. About 14.4 acres are associated with these structures and areas. Possible contaminants are organic chemicals, acids, radionuclides, high explosives, beryllium, and mercury. Remediation could include limited removal or, less likely, removal and disposal of larger volumes. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCAs) for this operable unit. CMI and VCAs are not specified at this time.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to the Environmental Protection Agency (EPA) Region VI, October 1987.
- * Solid Waste Management Unit Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * During FY89, preliminary RFI scoping activities were conducted.
- * No activity during FY90 and FY91.

3. Activity Term (Life Cycle):

- * The RFI work plan, beginning in early FY92; will be transmitted to EPA mid-FY93.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * The RFI field investigation will begin late in FY93 and progress through FY97.
- * The RFI report will be submitted in FY97 and, upon approval, CMS will commence followed by CMI as appropriate.

- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY92) Description:

- * The initial preparation of the RFI work plan will be conducted during FY92.
- * The RFI work plan will include the sampling, health and safety, community relations, records management, and management plans.
- * During FY92, a projected 3.2 direct Full Time Equivalents (FTEs) will be devoted to work plan development.

5. Budget Year (FY93) Description:

- * The main effort in FY93 will be completing and submitting of the RFI Work Plan to EPA and New Mexico Environment Department (NMED).
- * Conduct VCAs as appropriate.
- * Because there will be a lag between plan completion and start of the RFI field investigation to provide time for plan review and approval, a reduction from 3.2 FTEs in FY92 to 1.7 FTEs in FY93 is estimated.

6. Planning Year (FY94) Description:

- * FY94 represents the first year in the conduct of the RFI.
- * During FY94, full mobilization of the field investigation, implementation of the sampling plan and schedule, and the adequate staffing by about 1.3 Direct FTEs and sampling and analysis heavily supported by contract scientific support will be undertaken.
- * Conduct VCAs as appropriate.

7. Outyears (FY95-98) Description:

- * Although field investigations will continue into FY98, drafting of the RFI Report will commence in FY97.
- * Completion of the RFI will be followed by the CMS.
- * VCAs will be conducted based on availability of funding and waste disposal capacity.
- * The relatively low number of Direct FTEs (1.1 to 2.9 FY95-FY98) required during this period is due to significant sampling and analysis contractor support.

8. Key Assumptions:

Key assumptions for implementing the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Program as scheduled include; sufficient subcontracting capacity, sufficient analytical capability--especially mixed waste, adequate funding as needed, timely review and approval of Hazardous Solid Waste Amendments (HSWA) documents by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the Resource Conservation and Recovery Act (RCRA) operating permit. As the program develops an historical record of these activities, funding will be adjusted to accurately reflect historical experience in these

tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is

also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.

- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU Project Leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU is within the HSWA Module 10-year window.

10. Regulatory Drivers/Consequences

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually updated Installation Work Plan.	Notice of ID # Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply

with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

NEPA documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

Decontamination and Decommissioning (D&D) schedules are not driven by ER Program regulatory requirements; however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

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EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	22362	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG THMO
 Classes Of Chemical Contaminants: A D E G I

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.
 Title: F.O. POC
 Phone Number: 5058544606

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ALLA-1111

Date: 04/28/92
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Operations Office: ALLA ID No.: 1111 Last Update: 04/24/92

Activity Title: TA-6,7,22,40,58,62
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 1
Cost LOC Req.: L Sched. LOC Req.: M Scope LOC Req.: L WBS No.: 6.1.14 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606 Reviewed Date: 02/28/92
HQ POC: Harris, R. FTS 233-8199
Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1111

Type of Change: ADS SAME
Reason for Change: Same ADS as ADS1111.

Tiger Team Finding Number: IWS/CF-01 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

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Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP< and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders

MILESTONES

Milestone No. 16M010

Req. Due Date: 05/23/93 Target Due Date: 04/07/93 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 16M095

Req. Due Date: 11/03/95 Target Due Date: 06/20/00 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 16M035

Req. Due Date: 11/25/98 Target Due Date: 10/10/03 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 16M040

Req. Due Date: 07/01/99 Target Due Date: 02/18/04 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 16M050

Req. Due Date: 09/16/99 Target Due Date: 05/03/04 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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ALLA-1111

Date: 04/28/92
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Milestone No. 16M060
Req. Due Date: 01/17/01 Target Due Date: 08/25/05 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-
approved CMS plan.

Milestone No. 16M070
Req. Due Date: 08/01/01 Target Due Date: 03/16/06 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as
required by the operating permit.

Requirements Narrative

1. Technical Scope:

Operable Unit (OU) 1111 includes approximately 24 acres in Technical Areas (TAs) -6, -7, -22, -40, -58, and 62. TAs -6, -7, -22, and -40 have been the sites for detonator development activities for most of the history of the Laboratory. The types of solid waste management units (SWMUs) present are outfalls, sumps, septic systems, underground storage tanks, dry wells, firing sites, disposal pits, canyon-site disposal areas, and material disposal area (MDA) F. Potential contaminants are high explosives, water treatment chemicals, acids, organics, petroleum products, arsenic, heavy metals, beryllium, and radionuclides. Potential remedial alternatives vary from selected removal followed by institutional controls to the less likely alternative of removal and disposal of larger volumes. Area F may be used to demonstrate a landfill cover design and determine a cost-effective, optimized design for Los Alamos National Laboratory (LANL) across the elevational and climatic gradient in Los Alamos. All identified SWMUs are found in TAs -6 (now including TA-7), -22, and -40. TAs -58 and -62 were established in 1989 from acreage taken from surrounding technical areas addressed under ADSs 1155 and 1156. This activity constitutes the Resource Conservation and Recover Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCAs) of this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * SWMU Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * During FY89, preliminary RFI scoping activities were conducted.

3. Activity Term:

- * The RFI work plan will begin in early FY92 for transmittal to the New Mexico Environmental Department (NMED) in mid-FY93.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * RFI field investigations will begin in early FY94 and progress into

FY97.

- * Data on capping cover performance will be collected for input to designing caps that have the long-term viability of natural systems.
- * The RFI report will be submitted in FY99 and, upon approval, CMS will commence followed by CMI as appropriate.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY 92) Description:

- * RFI/CMS pilot study for capping cover designs continue.
- * Preparation of the RFI work plan has been initiated with priority effort on the SWMUs listed in the HSWA module.
- * RFI work plan will include plans for sampling, project management, quality assurance, health and safety, records management, and community relations.
- * Most LANL Direct Full Time Equivalent (FTEs) (4.9) will be associated with RFI work plan preparation.

5. Budget Year (FY 93) Description:

- * Work plan will be submitted to the NMED in mid-FY93 as required in the HSWA module.
- * RFI/CMS pilot study for capping cover designs will continue.
- * VCAs will be conducted as appropriate.
- * Most LANL Direct FTEs (5.4) will be associated with RFI work plan preparation.

6. Planning Year (FY 94) Description:

- * After approval of the work plan by NMED, Phase 1 of the RFI field work will begin.
- * Information from Phase 1 will be used to refine the sampling plans for Phase 2 of the RFI field work, including defining SWMUs for which no further action is necessary.
- * The RFI/CMS pilot study for capping cover designs will continue.
- * VCAs will be conducted as appropriate.
- * Most sampling and analysis cost will be associated with subcontracts.
- * LANL Direct FTEs projected at 3.9.

← avoid these assumptions

7. Outyears (FY 95-FY98):

- * Phase 1 Field Work Report will be submitted to NMED late in FY95.
- * Phase 2 of the RFI field work will be conducted during FY96 and will be completed in mid-FY97.
- * RFI Report will be submitted to NMED early in FY99.
- * VCAs will be conducted based on availability of funding and waste disposal capacity.
- * Most sampling and analysis cost will be associated with subcontracts.
- * LANL Direct FTEs are projected to range from 2.1 to 4.5 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the LANL Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability--especially mixed waste, adequate funding as needed, timely review and approval of HSWA documentation by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The Hazardous Solid Waste Amendments (HSWA) module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU currently exceeds the HSWA Module 10-year window.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the

facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004 (u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

National Environmental Policy Act (NEPA) documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

Decontamination and decommissioning (D&D) schedules are not driven by ER Program regulatory requirements; however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	28187	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG SOL
 Classes Of Chemical Contaminants: A D E G I

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.
 Title: F.O. POC
 Phone Number: 5058454606

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Operations Office: ALLA ID No.: 1085

Last Update: 04/24/92

Activity Title: TA-12,14,67

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: RI NEPA: N/D

Category: ER Facility/WAG: N/A

% Overhead: 15

Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L

WBS No.: 6.1.8 Level: 0

Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y

NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 02/27/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1085

Type of Change: ADS SAME

Reason for Change: Same ADS as ADS1085.

Tiger Team Finding Number: IWS/CF-01

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not adequately integrated the R Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

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Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 10M010

Req. Due Date: 05/23/94 Target Due Date: 07/19/94 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 10M090

Req. Due Date: 03/01/96 Target Due Date: 03/17/00 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 10M035

Req. Due Date: 11/03/98 Target Due Date: 03/11/03 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 10M040

Req. Due Date: 03/11/99 Target Due Date: 07/09/03 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 10M050

Req. Due Date: 05/25/99 Target Due Date: 09/23/03 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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Milestone No. 10M060
Req. Due Date: 09/11/00 Target Due Date: 12/14/05 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-approved CMS plan.

Milestone No. 10M070
Req. Due Date: 11/28/00 Target Due Date: 04/18/05 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as required by the operating permit.

Requirements Narrative

1. Technical Scope:

Technical Area-14 (TA-14) is an active firing area used by the Explosives Technology and Application groups. Open and closed firing chambers, firing points and magazines were built on the site. This operable unit (OU) consists of several potential release sites comprising approximately 29 acres. The sites include active and inactive firing sites, a trash burning area at the east end, an area in which noncombustible residue of burned buildings was dumped in local drainage, and a septic tank. Possible remedial alternatives vary from selected removal, followed by institutional controls, to removal and disposal of larger volumes. TA-12 comprises inactive firing sites with support facilities. TA-67 is a buffer zone with no solid waste management units (SWMUs). This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CMI) and Voluntary Corrective Actions (VCAs) for this OU.

2. Activities Completed to Date:

- * Preliminary Assessment/Site Inspection (PA/SI) document submitted to Environmental Protection Agency (EPA) Region VI, October 1987.
- * SWMU Report submitted to EPA Region VI and New Mexico Environmental Improvement Division (NMEID), December 1988.
- * During FY89, preliminary RFI scoping activities were conducted.
- * No activity during FY90-FY92.

3. Activity Term:

- * The RFI work plan preparation will begin in early FY93 for transmittal to EPA in mid FY94.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.
- * The RFI work plan will be transmitted to EPA in mid FY94.
- * RFI field investigations will begin in early FY95 and progress until mid 1997.
- * The RFI report will be completed in FY98.
- * Upon approval of the RFI report, CMS will commence followed by CMI.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be

integrated with the RFI/CMS process.

4. Current Year (FY 92) Description:

* No activity during FY92.

5. Budget Year (FY 93) Description:

- * The RFI work plan will be prepared, addressing 11 SWMUs from the Hazardous Solid Waste Amendments (HSWA) Module. This activity will involve scoping, analyzing existing data and determining data needs, writing health and safety, quality assurance, and a records management plan.
- * Parts of the work plan draft will be completed in FY93.
- * LANL direct Full Time Equivalents (FTEs) (2.1) associated with RFI work plan preparation.

6. Planning Year (FY 94) Description:

- * The draft RFI work plan will be completed in mid FY94.
- * Work will begin to prepare for the field investigation including preparing contracts and permitting requirements.
- * VCAs will be conducted as appropriate.
- * Most LANL Direct FTEs (1.8) associated with RFI work plan preparation.

7. Outyears (FY 95-FY98):

- * RFI field investigations will begin early in FY95 and will extend beyond FY97.
- * The sampling is phased such that when sufficient information for a corrective measures decision are available, sampling can be halted.
- * The RFI report will be completed in FY99.
- * VCAs will be conducted based on availability of funding and waste disposal capacity.
- * Projected LANL Direct FTE requirements range from .9 to 1.8 from FY95-FY98.
- * Most sampling and analysis costs will be associated with subcontracts.

8. Key Assumptions:

Key assumptions for implementing the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability--especially mixed waste, adequate funding as needed, timely review and approval of HSWA documentation by the EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the HSWA module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings

or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.

- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect (FTE) Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General Materials and Services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on

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this guidance/information.

- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU currently exceeds the HSWA Module 10-year window.

10. Regulatory Drivers/Consequences

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the Hazardous and Solid Waste Amendments (HSWA) module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

NEPA documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be further erosion of public confidence in both organizations.

Decontamination and Decommissioning (D&D) schedules are not driven by ER Program regulatory requirements; however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

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EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	3570	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG THMO
 Classes Of Chemical Contaminants: A D E G I

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.
 Title: F.O. POC
 Phone Number: 5058454606

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Operations Office: ALLA ID No.: 1086

Last Update: 04/24/92

Activity Title: TA-15
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 2
Cost LOC Req.: L Sched. LOC Req.: M Scope LOC Req.: L WBS No.: 6.1.9 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0
Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N
Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606 Reviewed Date: 02/27/92
HQ POC: Harris, R. FTS 233-8199
Auxiliary Fields: 1. ER 2. 3.

CROSSWALK Old ADS Number: ALLA1086

Type of Change: ADS SAME
Reason for Change: Same ADS as ADS1086.

Tiger Team Finding Number: IWS/CF-01 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10 TTFN Date: 11/08/91

Type of Change:
Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

Tiger Team Finding Number: IWS/CF-11 TTFN Date: 11/08/91

Type of Change:
Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the RE Program for inactive waste sites.

Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 11M010

Req. Due Date: 05/23/93 Target Due Date: 05/28/93 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI WORK PLAN

Compliance: HSWA MODULE

Description: The RFI work plan will include sampling, program management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Milestone No. 11M030

Req. Due Date: 08/18/95 Target Due Date: 03/31/00 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF PH1 REPORT

Compliance: HSWA MODULE

Description: A draft phase one report will be submitted to EPA and NMED reporting the results of RFI phase one investigations.

Milestone No. 11M040

Req. Due Date: 01/14/99 Target Due Date: 06/20/03 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF RFI REPORT

Compliance: HSWA MODULE

Description: The HSWA module requires reporting of RFI results. The draft report will be delivered to EPA and NMED.

Milestone No. 11M050

Req. Due Date: 05/14/99 Target Due Date: 10/21/03 Level: HQ Source:3004U

Title: RFI

Compliance: HSWA MODULE

Description: This RFI will perform the site characterization and data analysis activities specified in the RFI work plan to determine the nature and extent of contamination.

Milestone No. 11M060

Req. Due Date: 07/30/99 Target Due Date: 12/12/04 Level: HQ Source:3004U

Title: EPA/NMED DRAFT OF CMS PLAN

Compliance: HSWA MODULE

Description: The CMS plan will be prepared and submitted to the EPA and NMED in compliance with the HSWA module.

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Milestone No. 11M080
Req. Due Date: 11/16/00 Target Due Date: 04/28/05 Level: HQ Source:3004U
Title: CMS WORK
Compliance: HSWA MODULE
Description: CMS activities will be performed in accordance with the EPA-
approved CMS plan.

Milestone No. 11M085
Req. Due Date: 02/23/01 Target Due Date: 07/29/05 Level: HQ Source:3004U
Title: EPA/NMED DRAFT OF CMS REPORT
Compliance: HSWA MODULE
Description: The draft CMS report will be submitted to EPA and NMED, as
required by the operating permit.

Requirements Narrative

1. Technical Scope:

Technical Area-15 (TA-15) (R-Site) contains a number of firing sites for the hydrodynamic studies of nuclear weapon components during explosions, and has been in operation since 1944. This operable unit (OU) consists of the active firing sites R44, R45, PHERMEX and Ector; inactive firing sites A, B, C, D, E-F, G, and H; active and inactive septic tanks, sumps, outfalls, and drain lines; material from firing sites disposed of at the edge of canyons; inactive material disposal areas (MDAs) N and Z; decommissioned building areas; and two shafts with potentially hazardous material. PHERMEX and Ector are the two main X-ray machines, used by the operating groups at TA-15 for dynamic studies of explosions. About 269 acres are associated with the current and abandoned firing sites and structures. Potentially hazardous materials that are distributed over the firing sites are uranium, beryllium, lead, other heavy metals, tritium, and possible residues from the detonation of high-explosives. Remediation activities will be commensurate with the decision of the Department of Energy (DOE) on the projected end-use of the land. This activity constitutes the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measure Study/Corrective Measures Implementation (FRI/CMS/CMI) and Voluntary Corrective Actions (VCAs) for this OU.

2. Activities Completed to Date:

- * The Preliminary Assessment/Site Inspection (PA/SI) document was submitted to the Environmental Protection Agency (EPA) Region VI, in October 1987.
- * The Solid Waste Management Unit (SWMU) Report was submitted to the EPA Region VI and New Mexico Environmental Improvement Division (NMEID), in December 1988.
- * During FY89, preliminary RFI scoping activities were conducted as part of the Hazardous Waste Permit Plan. Further work on the this Activity Data Sheet (ADS) was delayed until the beginning of FY92.

3. Activity Term:

- * The RFI work plan will be submitted in to EPA in mid-FY93.
- * RFI field work/reports will be phased. Detailed phasing will be provided in the RFI work plan.

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- * RFI investigations will be initiated upon approval of the work plan.
- * The RFI report will be submitted to EPA in FY99, and upon approval, CMS will commence followed by CMI.
- * VCAs will be conducted as appropriate.
- * National Environmental Policy Act (NEPA)-related documentation will be integrated with the RFI/CMS process.

4. Current Year (FY92) Description:

- * RFI Work Plan for ADS 1086 was initiated October 1, 1991.
- * The preparation of the RFI work plan--due to EPA/NMED in May of 1993--will be the focus of activity in FY92.
- * The RFI Plan includes OU-specific sampling and plans to implement procedures for project management, quality assurance, health and safety, records management, and community relations.
- * The solid waste management units (SWMUs) that are listed in the HSWA Permit will be in this work plan.
- * Most LANL Direct Full Time Equivalents (FTEs) (3.0) will be associated with RFI work plan preparation.

5. Budget Year (FY93) Description:

- * The work plan will be completed and submitted to the EPA/NMED in May 93 for review and comment.
- * All SWMUs on ADS 1086 not addressed in FY92 will be addressed as funding permits
- * VCAs will be conducted as appropriate.
- * Most LANL Direct FTEs (3.4) will be associated with RFI work plan preparation.

6. Planning Year (FY94) Description:

- * Phase 1 sampling and analysis of the samples will occur.
- * Assessment of the results of these analysis will influence the direction in which additional sampling will take place.
- * VCAs will be conducted as appropriate.
- * Most sampling and analysis costs will be associated with subcontracts. LANL Direct FTEs projected at 2.6.

7. Outyears (FY95-FY98) Description:

- * CMS will begin with approval of the RFI report and CMS plan. CMI will be implemented when appropriate.
- * VCAs will be conducted based on availability of funding and waste disposal capacity.
- * Most sampling and analysis costs will be associated with subcontracts. LANL Direct FTEs are projected to range from 1.1 to 4.0 from FY95-FY98.

8. Key Assumptions:

Key assumptions for implementing the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Program as scheduled include: sufficient subcontracting capacity, sufficient analytical capability--especially mixed waste, adequate funding as needed, timely review and approval of

HSWA documentation by EPA. Funding estimates are based upon the best professional judgment of the effort required to meet the deadlines of the Hazardous Solid Waste Amendments (HSWA) module as specified by EPA in the RCRA operating permit. As the Program develops a historical record of these activities, funding will be adjusted to accurately reflect historical experience in these tasks.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.
- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General Materials and Services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.
- * Framework and risk assessment studies must be completed under ADS 2105 and guidance/information provided to the OU project leaders. A consistent technical approach to site characterization is dependent on this guidance/information.
- * The HSWA module schedule must be modified to reflect available funds. The RFI/CMS schedule for this OU currently exceeds the HSWA Module 10-year window.

10. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually approved Installation Work Plan.	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal, statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and

Potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

NEPA documentation requirements will be integrated into the RFI work plan, RFI report, CMS work plan, and CMS report, as appropriate.

Detailed milestones for major phases of field work cannot be identified until the RFI work plan has been completed.

Key decision points under DOE Order 4700.1 for Major System Acquisition and Major Projects are linked to the RFI work plan, RFI report, CMS work plan, and CMS report.

OU project management documentation is included in the RFI work plan and CMS work plan. Surveillance and maintenance plans will be included in the RFI report and CMS report, as appropriate.

Readiness reviews will be completed as part of the RFI work plan and CMS work plan review.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will be a further erosion of public confidence in both organizations.

Decontamination and Decommissioning (D&D) schedules are not driven by ER Program regulatory requirements; however they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

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EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	4	5	1	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	4	5	1	0	
Buildings/Structures	4	5	1	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other TOTAL	0	0	0	118513	cuyd
Other	0	0	0	0	

Technology and Contaminants

Technologies Used: DIG THMO
 Classes Of Chemical Contaminants: A D E G I

Narrative:

No immediate/short-term actions required. Radionuclides will most likely drive risk-based cleanup. Land disposal restriction

Indicators Point of Contact: Bitner, K.
 Title: F.O. POC
 Phone Number: 5058454606

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Operations Office: ALLA ID No.: 2105

Last Update: 04/24/92

Activity Title: PROGRAMMATIC TECH. SUPPORT
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RI NEPA: N/D
Category: ER Facility/WAG: N/A % Overhead: 20
Cost LOC Req.: M Sched. LOC Req.: H Scope LOC Req.: M WBS No.: 6.7.1 Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: N HAZ: N SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: N CERCLA: Y
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: Bitner, K. FTS 845-4606

Reviewed Date: 03/01/92

HQ POC: Harris, R. FTS 233-8199

Auxiliary Fields: 1. ER

2.

3.

CROSSWALK Old ADS Number: ALLA2105

Type of Change: ADS SAME

Reason for Change: Same ADS as ADS2105.

Tiger Team Finding Number: IWS/CF-8

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has developed a program for audits and appraisals of ER activities, but is not adequately implementing this program.

Tiger Team Finding Number: IWS/CF-01

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not adequately integrated the ER Program with D&D Programs per finding, the Environmental Surveillance Program, or with site-wide operations to ensure effective implementation and compliance with applicable DOE Orders & Federal Regulations.

Tiger Team Finding Number: IWS/CF-02

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not formally developed or implemented an administrative procedure which provides guidance on ER Program involvement in LANL construction projects at solid waste management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL and LAAO are not meeting the intent for timely, monthly management status and quarterly technical progress reports established in the May 23, 1990, HSWA Module.

Tiger Team Finding Number: IWS/CF-10

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program has not developed or implemented procedures to notify trustees of natural resources in the event that natural resources are or may be damaged from inactive waste sites.

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Tiger Team Finding Number: IWS/CF-11

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL has not established a complete Administrative Record for remedial actions under the ER Program for inactive waste sites.

Tiger Team Finding Number: IWS/CF-12

TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL ER Program Community Relations Plan is not in complete accordance with the HSWA Module, ER Program IWP, and EPA community relations guidance document requirements.

Tiger Team Finding Number: IWS/BMPF-1

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's programs for the characterization of inactive waste sites are not consistent across operable units and do not include site-wide characterization so as to ensure compliance with the requirements of Federal permits, regulations, and DOE Orders.

MILESTONES

Milestone No. 32M095

Req. Due Date: 11/19/92 Target Due Date: 11/19/92 Level: HQ Source:3004U

Title: INSTALLATION WORK PLAN

Compliance: HSWA MODULE

Description: The HSWA module stipulates that the IWP (umbrella document for LANL ER Program) will be updated annually and submitted to the Administrative Authority (EPA) each year.

Milestone No. 32M100

Req. Due Date: 11/18/93 Target Due Date: 11/19/93 Level: HQ Source:3004U

Title: INSTALLATION WORK PLAN

Compliance: HSWA MODULE

Description: The HSWA module stipulates that the IWP (umbrella document for LANL ER Program) will be updated annually and submitted to the Administrative Authority (EPA) each year.

Milestone No. 32M105

Req. Due Date: 11/18/94 Target Due Date: 11/18/94 Level: HQ Source:3004U

Title: INSTALLATION WORK PLAN

Compliance: HSWA MODULE

Description: The HSWA module stipulates that the IWP (umbrella document for LANL ER Program) will be updated annually and submitted to the Administrative Authority (EPA) each year.

Milestone No. 32M110

Req. Due Date: 11/20/95 Target Due Date: 11/20/95 Level: HQ Source:3004U

Title: INSTALLATION WORK PLAN

Compliance: HSWA MODULE

Description: The HSWA module stipulates that the IWP (umbrella document for LANL ER Program) will be updated annually and submitted to the Administrative Authority (EPA) each year.

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Milestone No. 32M115
Req. Due Date: 11/19/96 Target Due Date: 11/19/97 Level: HQ Source:3004U
Title: INSTALLATION WORK PLAN
Compliance: HSWA MODULE
Description: The HSWA module stipulates that the IWP (umbrella document for LANL ER Program) will be updated annually and submitted to the Administrative Authority (EPA) each year.

Milestone No. 32M120
Req. Due Date: 11/19/97 Target Due Date: 11/19/97 Level: HQ Source:3004U
Title: INSTALLATION WORK PLAN
Compliance: HSWA MODULE
Description: The HSWA module stipulates that the IWP (umbrella document for LANL ER Program) will be updated annually and submitted to the Administrative Authority (EPA) each year.

Requirements Narrative

1. Technical Scope:

This activity data sheet (ADS) consists of all programmatic technical support activities associated with implementing the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Program assessment activities including preparing the LANL Installation Work Plan (IWP) annual updates in each fiscal year. Also under this task, an Integrated Test Plot for Laboratory-wide use will build upon the four-year database from the Material Disposal Area B cover demonstration, and assist in developing long-term data on hydrological performance of landfill covers by doing experiments at an intermediate scale under more controlled conditions than the field. The data will be used for precise calibration of water balance models for LANL to assist in field scale design of covers and performance assessment. This activity also includes the development and implementation of the Facility for Information Management, Analysis and Display (FIMAD); Geographical Information System (GIS); development of the Sample Facility for coordinating/tracking of all analytical samples; application of LANL developed instrumentation technology; application of ongoing LANL-specific assessment and remediation technologies; background ecological studies; framework studies; decision analysis; risk assessment; and quality assurance. Additional activities include: standard operating procedures development and technical team support (geology, geochemistry, hydrology, and drilling). These activities will significantly enhance the cost effectiveness of the LANL ER Program. These elements will be incorporated into the IWP to be updated annually as required by the Hazardous Solid Waste Amendments (HSWA) module.

2. Activities Completed:

- * Programmatic activities were initiated and will continue for the life of the ER Program, as needed.
- * The Installation Work Plan (IWP) was submitted to the Environmental Protection Agency (EPA) in FY91.

3. Activity Term:

- * This will be a level-of-effort activity continuing beyond FY98.

* Programmatic activities are documented in the annually updated IWP.

4. Current Year (FY92) Description:

- * Programmatic activities continue during FY92, requiring approximately 33.1 Full Time Equivalents (FTEs).
- * IWP will be updated.

5. Budget Year (FY93) Description:

- * Programmatic activities continue during FY93, requiring approximately 48.4 FTEs.
- * Increase in FTEs is due to incremental increases within each of the eighteen activities within this ADS.
- * IWP will be updated.

6. Planning Year (FY94) Description:

- * Programmatic activities continue during FY94, requiring approximately 69.4 FTEs.
- * Increase in FTEs is due to incremental increases within each of the eighteen activities within this ADS.
- * IWP will be updated.

7. Outyears (FY95-FY98):

- * Programmatic activities continue during FY95-FY98.
- * LANL Direct FTEs are projected to range from 64.9 to 71.0 from FY95-FY98.

8. Key Assumptions:

The key assumption for completing this level-of-effort activity is adequate funding as needed.

Key assumptions used to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up Technique: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric technique requires historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other system parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex modes.

- * Cost Review and Update Technique: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect Full Time Equivalent (FTE) Assumptions: (1) Direct and Indirect FTEs are a part of operating expenditures (OE) only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the cost per Indirect FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

The cost estimate was prepared by using the cost review and update technique. An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions.

9. Key Issues:

The primary issues relate to resources (funds) being sufficient each year to continue and/or complete the planned activities on schedule as required to stay in compliance or realize maximum cost savings/efficiencies that may result from work under this ADS.

10. Regulatory Drivers/Consequences

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HSWA Module VIII ID # NM0890010515	RFI/CMS cost and schedules to achieve identified MILESTONES, which are consistent with annually updated Installation Work Plan	Notice of Deficiency/ Notice of Violation and associated penalties

Pursuant to the Solid Waste Disposal Act, as amended by RCRA, as amended (42 U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter called the Permittee) to operate a disposal facility at the location stated above.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (including the attachments). Said conditions are needed to insure that the Permittee's hazardous waste management activities comply with all applicable Federal,

statutory, and regulatory requirements. Applicable requirements are those which are found in, referenced in, or incorporated into that version of RCRA or the regulations promulgated to RCRA that are in effect on the date this permit is issued (see 40 CFR 270.32 (c)).

This permit is issued in part pursuant to the provisions of Sections 201, 202, 203, 206, 207, 212, 215, and 224 of HSWA, which modified Sections 3004 and 3005 of RCRA. These require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit, regardless of the time at which the waste was placed in such unit and provides the authority to review and modify the permit at any time. The decision to issue this permit is based on the assumption that all information contained in the permit application is accurate and that the facility will be operated as specified in the permit application. Any inaccuracies found in the application may be grounds for termination or modification of this permit (see 40 CFR 270.41, 270.42, and 270.43) and potential enforcement action.

The primary regulatory driver for this activity is the HSWA module of the Laboratory's RCRA operating permit, which requires corrective actions under RCRA sections 3004(u) and (v). The Laboratory must also comply with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as specified in DOE Order 5400.4.

11. Other Consequences:

If the Laboratory (University of California) and DOE do not remain in compliance, there will a further erosion of public confidence in both organizations.

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EM-40 Progress Indicators :

Immediate/Short Term Action:

- Alternate Water Supply
- Site Security Measures
- People Evacuated or Relocated
- Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	0	0	0	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

This ADS does not include potential waste sites.

Indicators Point of Contact:

Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

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Operations Office: ALLA ID No.: 4174

Last Update: 04/27/92

Activity Title: NEW FACILITY PLANNING

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: OM NEPA: N/D

Category: WM Facility/WAG:

% Overhead: 19

Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: M WBS No.: 3.1.3.2. Level: 0

Line Item No.: N/A TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: Y TRU MIX: Y LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: N TSCA: Y CERCLA: N

NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

F.O. POC: HANSEN, P.

Reviewed Date:

HQ POC: SMITH, L.

Auxiliary Fields: 1.

2.

3.

Old ADS Number: ALLA3080

Type of Change: ADS COMBINED

Reason for Change: FY95 THROUGH FY98 NEW START LINE ITEM ADSs HAVE BEEN CONSOLIDATED PER T
CURRENT GUIDANCE.

Old ADS Number: ALLA3089

Type of Change: ADS COMBINED

Reason for Change: FY95 THROUGH FY98 NEW START LINE ITEM ADSs HAVE BEEN CONSOLIDATED PER T
CURRENT GUIDANCE

Old ADS Number: ALLA3097

Type of Change: ADS COMBINED

Reason for Change: FY95 THROUGH FY98 NEW START LINE ITEM ADSs HAVE BEEN CONSOLIDATED PER T
CURRENT GUIDANCE

Old ADS Number: ALLA4141

Type of Change: ADS COMBINED

Reason for Change: FY95 THROUGH FY98 NEW START LINE ITEM ADSs HAVE BEEN CONSOLIDATED PER T
CURRENT GUIDANCE

Old ADS Number: ALLA4142

Type of Change: ADS COMBINED

Reason for Change: FY95 THORUGH FY98 NEW START LINE ITEM ADSs HAVE BEEN CONSOLIDATED PER T
CURRENT GUIDANCE

Old ADS Number: ALLA4153

Type of Change: ADS COMBINED

Reason for Change: FY95 THROUGH FY98 NEW START LINE ITEM ADSs HAVE BEEN CONSOLIDATED PER T
CURRENT GUIDANCE

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Old ADS Number: ALLA4158

Type of Change: ADS COMBINED

Reason for Change: FY95 THROUGH FY98 NEW START LINE ITEM ADSS HAVE BEEN CONSOLIDATED PER T
CURRENT GUIDANCE

Old ADS Number: ALLA4163

Type of Change: ADS COMBINED

Reason for Change: FY95 THROUGH FY98 NEW START LINE ITEM ADSS HAVE BEEN CONSOLIDATED PER T
CURRENT GUIDANCE

Tiger Team Finding Number: WM/CF-17 TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL'S MIXED WASTE STORAGE AT TA-54, AREAS L AND G, DO NOT FULLY MEET T
REGULATORY REQUIREMENTS OF DOE AND AR 6-9.

Tiger Team Finding Number: WM/CF-18 TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL TRU WASTE CERTIFICATION ACTIVITIES, TRU WASTE TEMPORARY STORAGE
PRACTICES, AND THE AREA G CLOSURE PLAN DO NOT COMPLY WITH THE DOE
REQUIREMENTS.

Tiger Team Finding Number: RAD/CF-5 TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL DOES NOT HAVE A PROGRAM TO CONTROL OUTDOOR STORAGE OF MATERIALS
CONTAMINATED, OR POTENTIALLY CONTAMINATED, WITH RADIOACTIVITY IN A MANN
THAT ADEQUATELY PROTECTS THE ENVIRONMENT.

Tiger Team Finding Number: RAD/CF-9 TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL DOES NOT HAVE A PROGRAM IN PLACE FOR MONITORING AND CONTROLLING
DISCHARGES OF LIQUID RADIOLOGICAL EFFLUENTS FROM FACILITIES TO THE
INDUSTRIAL WASTE SYSTEM TO ENSURE THAT THEY MEET THE WAC FOR THE TA-50
LIQUID WASTE TREATMENT PLANT (LWTP)

Tiger Team Finding Number: TSA-4/AX.2 TTFN Date: 11/08/91

Type of Change:

Reason for Change: (TSA-4/AX.2-1) AT THE LOS ALAMOS NATIONAL LABORATORY, RADIOACTIVE
SOLUTIONS ARE BEING STORED IN CONCRETE UNDERGROUND TANKS WITHOUT SECOND
CONTAINMENT IN TA-50 BLDG. 1, LIQUID WASTE TREATMENT FACILITY

Tiger Team Finding Number: SW/CF-9 TTFN Date: 11/08/91

Type of Change:

Reason for Change: THE LANL SPCC PLAN HAS NOT BEEN EFFECTIVELY IMPLEMENTED AS REQUIRED BY
CFR 112.3.

Old ADS Number: ALLA4140

Type of Change: ADS SAME

Reason for Change: CONSTRUCTION PROJECT DEVELOPMENT

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Milestone No. 4174-1

Req. Due Date: 06/01/92 Target Due Date: 06/01/92 Level: HQ Source: CWA
Title: START CONCEPTUAL DESIGN OF FY96 MAJOR SYSTEM ACQUISITION
Compliance: NPDES PERMIT
Description: KEY DECISION #0 FOR RADIOACTIVE LIQUID WASTE TREATMENT FACILITY

Milestone No. 4174-2

Req. Due Date: 12/01/92 Target Due Date: 12/01/92 Level: FO Source: DOE
Title: START CONCEPTUAL DESIGN OF FY96 LINE ITEMS
Compliance: DOE ORDER 4700.1
Description: KEY DECISION #0

Milestone No. 4174-3

Req. Due Date: 12/01/93 Target Due Date: 12/01/93 Level: FO Source: DOE
Title: START CONCEPTUAL DESIGN OF FY97 LINE ITEMS
Compliance: DOE ORDER 4700.1
Description: KEY DECISION #0

Milestone No. 4174-4

Req. Due Date: 09/01/94 Target Due Date: 09/01/94 Level: HQ Source: DOE
Title: DOE REQUEST FOR FY96 LINE ITEMS
Compliance: DOE ORDER 4700.1
Description: DOE SUBMISSION OF FY96 BUDGET REQUEST TO OMB FOR LINE ITEM
CONSTRUCTION PROJECTS (KEY DECISION #1). THIS INCLUDES
RADIOACTIVE LIQUID WASTE TREATMENT FACILITY MAJOR SYSTEM
ACQUISITION

Milestone No. 4174-5

Req. Due Date: 12/01/94 Target Due Date: 12/01/97 Level: FO Source: DOE
Title: START CONCEPTUAL DESIGN OF FY98 LINE ITEMS
Compliance: DOE ORDER 4700.1
Description: KEY DECISION #0

Milestone No. 4175-6

Req. Due Date: 09/01/96 Target Due Date: 09/01/96 Level: HQ Source: DOE
Title: DOE REQUEST FOR FY98 LINE ITEMS
Compliance: DOE ORDER 4700.1
Description: DOE SUBMISSION OF FY98 BUDGET REQUEST TO OMB FOR LINE ITEM
CONSTRUCTION PROJECTS (KEY DECISION #1)

Milestone No. 4174-7

Req. Due Date: 01/01/97 Target Due Date: 01/01/97 Level: HQ Source: CWA
Title: START TITLE II DESIGN OF FY96 MAJOR SYSTEM ACQUISITION
Compliance: NPDES PERMIT
Description: KEY DECISION #2 FOR RADIOACTIVE LIQUID WASTE TREATMENT FACILITY

1. Activity Scope:

This activity data sheet (ADS) requests funding to develop and design the Radioactive Liquid Waste Treatment Facility (RLWTF) Major System Acquisition (MSA), and to develop FY96 through FY98 Line Item (LI) projects required by the Waste Management Program at Los Alamos. The types of projects included are new treatment, storage, and disposal facilities. Validation, authorization, and implementation of these

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projects will be in accordance with draft DOE Order 4700.1A, Project Management System.

2. Historical To Date:

Not applicable to this activity.

3. Five-Year Project Plan/Activity Term:

This is an ongoing activity.

4. Current Year FY92 Description:

- * Conceptual design for the Radioactive Liquid Waste Treatment Facility (RLWTF) Major System Acquisition (MSA) will be initiated. The DOE Environmental Checklist (DEC) will be submitted for NEPA determination.

5. Budget Year FY93 Description:

- * Conceptual design for the RLWTF will continue.
- * Conceptual design for the FY96 Line Items will be initiated. DECS will be submitted for NEPA determination.

6. Formulation Year FY94 Description:

- * Conceptual design for the RLWTF and FY96 Line Items will be completed. NEPA documentation will be prepared.
- * Conceptual design for FY97 Line Items will be initiated. DECS will be submitted for NEPA determination.

7. Planning Years FY95-FY98 Description:

- * Conceptual design of FY97 Line Items will be completed
- * Conceptual design of FY98 Line Items will be initiated and completed
- * Design criteria for FY96 through FY98 Line Items will be initiated and completed
- * DECS for FY98 Line Items will be submitted for NEPA determination
- * NEPA documentation for FY96 through FY98 Line Items will be initiated and completed
- * Title I design of the RLWTF will be initiated and completed
- * Title II design of the RLWTF will be initiated and completed

8. Key Assumptions:

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Key assumptions used by Waste Management managers to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up-Techniques: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment and overhead costs are derived and added thereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric estimating requires historical data bases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other systems parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex models.
- * Cost Review and Update Techniques: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of OE only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the Indirect cost per FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General M&S is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S; it is not based on prior years' major procurement.
- * The funding requested in this ADS reflects the Total Project Cost (TPC) as defined in draft DOE Order 4700.1A, Project Management System.

9. Key Issues:

Not applicable to this activity.

10. Regulatory Drivers:

The primary regulatory drivers for these projects are identified on page one.

11. Consequences:

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Failure to fund the design and construction of Line Item projects will preclude adequate storage and disposal impacting Laboratory mission performance, resulting in noncompliance with agreements, regulations, permits, consent decrees, and DOE orders.

Operations Office: ALLA ID No.: 4173

Last Update: 04/27/92

Activity Title: GENERAL PLANT PROJECTS

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: OM NEPA: N/D

Category: WM Facility/WAG:

% Overhead: 0

Cost LOC Req.: H Sched. LOC Req.: H Scope LOC Req.: H

WBS No.: 3.1.3.8.

Level: 0

Line Item No.: N/A

TPC: 0

TEC: 0

Contig. 0

Waste Types: HLW: N TRU: Y TRU MIX: Y LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: Y SDWA: N RCRA: Y R3004: Y TSCA: Y CERCLA: Y

NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: Y FED: Y

F.O. POC: HANSEN, P.

Reviewed Date:

HQ POC: SMITH, L.

Auxiliary Fields: 1.

2.

3.

Old ADS Number: ALLA3079

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Old ADS Number: ALLA3086

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Old ADS Number: ALLA3091

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Old ADS Number: ALLA4114

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Old ADS Number: ALLA4133

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Old ADS Number: ALLA4134

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Old ADS Number: ALLA4135

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Old ADS Number: ALLA4139

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Old ADS Number: ALLA4143

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Old ADS Number: ALLA4145

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Old ADS Number: ALLA4146

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Old ADS Number: ALLA4147

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Old ADS Number: ALLA4152

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Old ADS Number: ALLA4154

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Old ADS Number: ALLA4155

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Old ADS Number: ALLA4157

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Old ADS Number: ALLA4164

Type of Change: ADS COMBINED

Reason for Change: GPP FUNDING HAS BEEN CONSOLIDATED PER THE CURRENT GUIDANCE.

Tiger Team Finding Number: WM/CF-17 TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's mixed waste storage at TA-54, Areas L and G, do not fully meet t regulatory requirements of DOE and AR 6-9.

Tiger Team Finding Number: WM/CF-18 TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL TRU waste certification activities, TRU waste temporary storage practices, and the Area G closure plan do not comply with the DOE requirements.

Tiger Team Finding Number: RAD/CF-5 TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL does not have a program to control outdoor storage of materials contaminated, or potentially contaminated, with radioactivity in a mann that adequately protects the environment.

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Tiger Team Finding Number: RAD/CF-9 TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL does not have a program in place for monitoring and controlling discharges of liquid radiological effluents from facilities to the industrial waste system to ensure that they meet the WAC for the TA-50 Liquid Waste Treatment Plant (LWTP).

Tiger Team Finding Number: TSA-4/AX.2 TTFN Date: 11/08/91

Type of Change:

Reason for Change: TSA-4/AX.2-1 At the Los Alamos National Laboratory, radioactive solut are being stored in concrete underground tanks without secondary containment in TA-50, Bldg. 1, Liquid Waste Treatment Facility.

Tiger Team Finding Number: SW/CF-9 TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL SPCC Plan has not been effectively implemented as required by CFR 112.3.

Milestone No. 1

Req. Due Date: 06/30/93 Target Due Date: 06/30/93 Level: FO Source:DOE
Title: COMPLETE TITLE II DESIGN OF FY93 GPPS
Compliance: DOE ORDER 4700.4, 4700.1
Description:

Milestone No. 2

Req. Due Date: 06/30/94 Target Due Date: 06/30/94 Level: FO Source:DOE
Title: COMPLETE TITLE II DESIGN OF FY94 GPPS
Compliance: DOE ORDER 4700.4, 4700.1
Description:

Milestone No. 3

Req. Due Date: 09/30/94 Target Due Date: 09/30/94 Level: FO Source:DOE
Title: COMPLETE CONSTRUCTION OF FY93 GPPS
Compliance: DOE ORDER 4700.4, 4700.1
Description:

Milestone No. 4

Req. Due Date: 06/30/95 Target Due Date: 06/30/95 Level: FO Source:DOE
Title: COMPLETE TITLE II DESIGN OF FY95 GPPS
Compliance: DOE ORDER 4700.4, 4700.1
Description:

Milestone No. 5

Req. Due Date: 09/30/95 Target Due Date: 09/30/95 Level: FO Source:DOE
Title: COMPLETE CONSTRUCTION OF FY94 GPPS
Compliance: DOE ORDER 4700.4, 4700.1
Description:

Milestone No. 6

Req. Due Date: 06/30/96 Target Due Date: 06/30/96 Level: FO Source:DOE
Title: COMPLETE TITLE II DESIGN OF FY96 GPPS
Compliance: DOE ORDER 4700.4, 4700.1
Description:

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Milestone No. 7

Req. Due Date: 09/30/96 **Target Due Date:** 09/30/96 **Level:** FO **Source:**DOE
Title: COMPLETE CONSTRUCTION OF FY95 GPPs
Compliance: DOE ORDER 4700.4, 4700.1
Description:

Milestone No. 8

Req. Due Date: 06/30/97 **Target Due Date:** 06/30/97 **Level:** FO **Source:**DOE
Title: COMPLETE TITLE II DESIGN OF FY97 GPPs
Compliance: DOE ORDER 4700.4, 4700.1
Description:

Milestone No. 9

Req. Due Date: 09/30/97 **Target Due Date:** 09/30/97 **Level:** FO **Source:**DOE
Title: COMPLETE CONSTRUCTION OF FY96 GPPs
Compliance: DOE ORDER 4700.4, 4700.1
Description:

Milestone No. 10

Req. Due Date: 06/30/98 **Target Due Date:** 06/30/98 **Level:** FO **Source:**DOE
Title: COMPLETE TITLE II DESIGN OF FY98 GPPs
Compliance: DOE ORDER 4700.4, 4700.1
Description:

Milestone No. 11

Req. Due Date: 09/30/98 **Target Due Date:** 09/30/98 **Level:** FO **Source:**DOE
Title: COMPLETE CONSTRUCTION OF FY97 GPPs
Compliance: DOE ORDER 4700.4, 4700.1
Description:

1. Activity Scope:

This Activity Data Sheet (ADS) requests funding to design and construct General Plant Projects (GPP) required by the Waste Management Program at Los Alamos. The types of programs included are small new buildings, additions and alterations to existing facilities, additions to roads, and general area improvements. Approval and authorization of individual projects will be in accordance with DOE Order 4700.3, General Plant Projects.

2. Historical To Date:

The authorization request for General Plant Projects through FY92 was submitted in the first quarter of FY92. The Schedule 44 (GPP Summary) was prepared in the first quarter of FY92, and is being submitted concurrent with the Five-Year Plan. The Schedule 44 lists proposed FY92 through FY94 projects and includes a brief description for each proposed FY94 project.

3. Five-Year Project Plan/Activity Term:

This is an ongoing activity.

4. Current Year FY92 Description:

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Title II design of the following FY92 GPPs will be initiated and completed:

- * Waste Remediation Facility
- * Mixed Waste Storage Building
- * Shop and Storage Addition, TA-50-54
- * PCB Building

5. Budget Year FY93 Description:

Title II design of the following FY93 GPPs will be initiated and completed:

- * Radioactive Liquid Waste Tank Farm
- * Short-Term Storage Facility
- * Incinerator Ash Solidification Building
- * Centralized Change Room Facility
- * TRU Drum Venting Facility
- * Sludge Drum Staging Area
- * Emergency Power Supply, TA-50-1

6. Formulation Year FY94 Description:

Construction of FY92 GPPs will be completed. Construction of FY93 GPPs will be initiated and completed.

Title II design of the following FY94 GPPs will be initiated and completed:

- * Process Waste Treatment Room Renovation, TA-50-1
- * Size Reduction Facility Addition
- * Change Room Addition, TA-50-1
- * Technical Support Building
- * Transportation Bay Renovation, TA-54-38
- * Liquid Waste Treatment Project
- * Solid Waste Treatment Project
- * Solid Waste Storage Project

7. Planning Years FY95-FY98 Description:

The types of projects planned for the FY95 through FY98 period are identified in the Activity Scope section of this narrative.

8. Key Assumptions:

- * The Department of Energy (DOE) will continue to mandate the use of GPP funding for the design and construction of these types of projects.
- * The Total Estimated Cost (TEC) will continue to be limited to \$1.2 million per project.

9. Key Issues:

Not applicable to this activity.

10. Regulatory Drivers:

The primary regulatory drivers for these projects are identified on page 1.

11. Consequences:

Failure to fund the design and construction of General Plant Projects will force the Waste Management Program to rely on inadequate facilities in which to perform its mission, resulting in continuing noncompliance with agreements, regulations, permits, consent decrees, and DOE Orders.

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Operations Office: ALLA ID No.: 4172

Last Update: 04/27/92

Activity Title: FACILITY OPERATIONS AND MAINTENANCE

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: OM NEPA: N/A

Category: WM Facility/WAG: TA-50 & 54

% Overhead: 13

Cost LOC Req.: H Sched. LOC Req.: M Scope LOC Req.: H

WBS No.: 3.1.3.1.

Level: 0

Line Item No.: N/A

TPC: 0

TEC: 0

Contig. 0

0

Waste Types: HLW: N TRU: Y TRU MIX: Y LLW: Y LLW M: Y HAZ: Y SANT: Y GTCC: Y

Regulatory Drivers: CAA: Y

CWA: Y

SDWA: N

RCRA: Y

R3004: Y

TSCA: Y

CERCLA: N

NEPA: Y DOE: Y OSHA: Y

IAG: N

ORD: N

ST: Y

TRI: Y

FED: Y

F.O. POC: CRITCHFIELD, OW/HANSON, M

Reviewed Date:

HQ POC: SIEBACH, P/SMITH, L

Auxiliary Fields: 1.

2.

3.

Old ADS Number: ALLA4117

Type of Change: ADS COMBINED

Reason for Change: RH TRU WASTE TREATMENT

Old ADS Number: ALLA4139

Type of Change: ADS COMBINED

Reason for Change: LOW LEVEL SOLID WASTE DISPOSAL

Tiger Team Finding Number: CF-2

TTFN Date: 11/08/91

Type of Change:

Reason for Change: HAZARDOUS WASTE MANAGEMENT TRAINING

Tiger Team Finding Number: CF-17

TTFN Date: 11/08/91

Type of Change:

Reason for Change: MIXED WASTE STORAGE AT TA-54

Tiger Team Finding Number: TSA-4/AX 2

TTFN Date: 11/08/91

Type of Change:

Reason for Change: CONCRETE UNDERGROUND TANKS (TSA-4/AX 2-1)

Tiger Team Finding Number: CF-1

TTFN Date: 11/01/91

Type of Change:

Reason for Change: FORMALITY OF OPERATIONS RELATED TO WASTE CHARACTERIZATION

Tiger Team Finding Number: CF-10

TTFN Date: 11/08/91

Type of Change:

Reason for Change: BAT ANALYSIS FOR LIQUID WASTE DISCHARGE

Old ADS Number: ALLA4154

Type of Change: ADS COMBINED

Reason for Change: TRU WASTE TREATMENT OPERATIONS

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Old ADS Number: ALLA4114
Type of Change: ADS COMBINED
Reason for Change: RADIOACTIVE LIQUID WASTE (ADS 4114 AND 4134 COMBINED TO ADS 4171 DURING FY91 AT THE REQUEST OF DOE/AL)

Old ADS Number: ALLA4134
Type of Change: ADS COMBINED
Reason for Change: RADIOACTIVE LIQUID WASTE (ADS 4114 AND 4134 COMBINED TO ADS 4171 DURING FY91 AT THE REQUEST OF DOE/AL)

Old ADS Number: ALLA4132
Type of Change: ADS COMBINED
Reason for Change: ADSS 4132, 4149, 4150, AND 4151 COMBINED IN FY91 AT THE REQUEST OF DOE/ TO ADS 4170

Tiger Team Finding Number: CF-8 **TTFN Date:** 11/08/91
Type of Change:
Reason for Change: HAZARDOUS WASTE MINIMIZATION PROGRAM

Old ADS Number: ALLA4149
Type of Change: ADS COMBINED
Reason for Change: ADSS 4132, 4149, 4150, AND 4151 COMBINED IN FY91 AT THE REQUEST OF DOE/ TO ADS 4170

Old ADS Number: ALLA4150
Type of Change: ADS COMBINED
Reason for Change: ADSS 4132, 4149, 4150 AND 4151 COMBINED IN FY91 AT THE REQUEST OF DOE/A ADS 4170

Old ADS Number: ALLA4151
Type of Change: ADS COMBINED
Reason for Change: ADSS 4132, 41419, 4150, AND 4151 COMBINED IN FY91 AT THE REQUEST OF DOE TO ADS 4170

Old ADS Number: ALLA3084
Type of Change: ADS COMBINED
Reason for Change: CHEMICAL WASTE STORAGE

Old ADS Number: ALLA3088
Type of Change: ADS COMBINED
Reason for Change: CHEMICAL WASTE TREATMENT

Old ADS Number: ALLA3056
Type of Change: ADS COMBINED
Reason for Change: HAZARDOUS AND TOXIC WASTE DISPOSAL

Old ADS Number: ALLA3079
Type of Change: ADS COMBINED
Reason for Change: MIXED LOW-LEVEL WASTE STORAGE OPERATIONS

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Old ADS Number: ALLA3081
Type of Change: ADS COMBINED
Reason for Change: RCRA LANDFILL OPERATIONS

Old ADS Number: ALLA4146
Type of Change: ADS COMBINED
Reason for Change: TRU SOLID WASTE STORAGE OPERATIONS

Old ADS Number: ALLA4133
Type of Change: ADS COMBINED
Reason for Change: LLW MANAGEMENT TREATMENT OPERATIONS

Tiger Team Finding Number: CF-14 TTFN Date: 11/08/91
Type of Change:
Reason for Change: LOW LEVEL WASTE VOLUME REDUCTION

Tiger Team Finding Number: CF-4 TTFN Date: 11/08/91
Type of Change:
Reason for Change: MANIFESTING HAZARDOUS WASTE

Tiger Team Finding Number: CF-5 TTFN Date: 11/08/91
Type of Change:
Reason for Change: PRE-TRANSPORTATION REQUIREMENTS

Tiger Team Finding Number: CF-13 TTFN Date: 11/08/91
Type of Change:
Reason for Change: LOW-LEVEL WASTE SEGREGATION

Tiger Team Finding Number: CF-15 TTFN Date: 11/08/91
Type of Change:
Reason for Change: LOW-LEVEL WASTE AND MIXED WASTE CERTIFICATION

Tiger Team Finding Number: CF-16 TTFN Date: 11/08/91
Type of Change:
Reason for Change: LOW-LEVEL WASTE AND MIXED WASTE ACCEPTANCE CRITERIA

Tiger Team Finding Number: CF-9 TTFN Date: 11/08/91
Type of Change:
Reason for Change: LIQUID RADIOLOGICAL INFLUENT MONITORING

Tiger Team Finding Number: CF-18 TTFN Date: 11/08/91
Type of Change:
Reason for Change: TRANSURANIC WASTE

Tiger Team Finding Number: TSA-4/AX2- TTFN Date: 11/08/91
Type of Change:
Reason for Change: (TSA-4/AX 2-2) REAL TIME RADIOLOGICAL MONITORS, TA-50-1 AND 37

Tiger Team Finding Number: TSA-4/AX2- TTFN Date: 11/08/91
Type of Change:
Reason for Change: (TSA-4/AX 2-3) HEAT EXCHANGES RAD MONITORING TA-50-37

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Old ADS Number: ALLA4138
Type of Change: ADS COMBINED
Reason for Change: WASTE MANAGEMENT OPERATIONS

Old ADS Number: ALLA4140
Type of Change: ADS COMBINED
Reason for Change: CONSTRUCTION PROJECT DEVELOPMENT

Milestone No. 4172-1

Req. Due Date: 02/28/92 **Target Due Date:** 02/28/93 **Level:** HQ **Source:**DOE
Title: COMPLETE LLW-WHC
Compliance: DOE ORDER 5820.2A
Description: DEVELOP DRAFT LLW WASTE ACCEPTANCE CRITERIA

Milestone No. 4172-2

Req. Due Date: 09/30/92 **Target Due Date:** 10/01/93 **Level:** HQ **Source:**DOE
Title: INITIATE RH TRU WASTE TREATMETN AND HANDLING
Compliance: DOE ORDER 5820.2A
Description: INITIATE FILLING AND SHIPPING OF RH CANISTERS

Milestone No. 4172-3

Req. Due Date: 09/30/92 **Target Due Date:** 09/30/92 **Level:** HQ **Source:**DOE
Title: INITIATE TRU WASTE TREATMENT OPERATIONS
Compliance: DOE ORDER 5820.2A
Description: OPERATIONS BEGIN AT THE NONDESTRUCTIVE EXAMINATION/NONDESTRUCTIVE ANALYSIS FACILITY

Milestone No. 4172-4

Req. Due Date: 09/30/92 **Target Due Date:** 10/01/94 **Level:** HQ **Source:**RCRA
Title: COMPLETE CHEMICAL WASTE - WAC
Compliance: LANLs PART B OPERATING PERMIT
Description: IMPLEMENT A CHEM/MIX CHEM WASTE ACCEPTANCE CRITERIA

Milestone No. 4172-5

Req. Due Date: 09/30/92 **Target Due Date:** 09/30/92 **Level:** FO **Source:**NEPA
Title: COMPLETE NEPA DOCUMENT
Compliance: ENVIRONMENTAL ASSESSMENT REPOR
Description: COMPLETE NEPA DOCUMENTATION FOR ADMINISTRATIVELY CONTROLLED LANDFILL

Milestone No. 4172-6

Req. Due Date: 09/30/93 **Target Due Date:** 11/01/94 **Level:** FO **Source:**RCRA
Title: INITIATE THERMAL DESTRUCTION TREATMENT OPERATIONS
Compliance: LANLs PART B OPERATING PERMIT
Description: START UP ACTIVITIES FOR THE CAI: EQUIPMENT UPGRADE AND CHECKOUT, STAFFING, DOCUMENTATION

Milestone No. 4172-7

Req. Due Date: 10/01/93 **Target Due Date:** 10/01/93 **Level:** HQ **Source:**CWA
Title: INITIATE SANITARY WASTEWATER TREATMENT OPERATIONS
Compliance: LANLs NPDES PERMIT
Description: START OPERATIONS AT THE SANITARY WASTEWATER TREATMENT FACILITY

Milestone No. 4172-8

Req. Due Date: 07/01/94 **Target Due Date:** 07/01/94 **Level:** HQ **Source:** RCRA
Title: INITIATE MIXED WASTE RECEIVING & STORAGE OPERATIONS
Compliance: LANLs PART B OPERATING PERMIT
Description: START OPERATIONS AT THE MIXED WASTE RECEIVING AND STORAGE FACILITY

Milestone No. 4172-9

Req. Due Date: 09/30/94 **Target Due Date:** 09/30/95 **Level:** FO **Source:** DOE
Title: INITIATE URANIUM TREATMENT
Compliance: DOE ORDER 5820.2A
Description: TREAT URANIUM CHIPS TO RENDER NON-REACTIVE AND NON-REGULATED

Milestone No. 4172-10

Req. Due Date: 01/01/95 **Target Due Date:** 01/01/96 **Level:** FO **Source:** RCRA
Title: INITIATE THERMAL DESTRUCTION TREATMENT OPERATIONS
Compliance: LANLs PART B OPERATING PERMIT
Description:

Milestone No. 4172-11

Req. Due Date: 04/01/95 **Target Due Date:** 04/01/95 **Level:** HQ **Source:** RCRA
Title: START HAZARDOUS WASTE TREATMENT FACILITY
Compliance: LANLs PART B OPERATING PERMIT
Description: START OPERATIONS AT THE HAZARDOUS WASTE TREATMENT FACILITY

Milestone No. 4172-12

Req. Due Date: 01/01/96 **Target Due Date:** 01/01/96 **Level:** HQ **Source:** RCRA
Title: INITIATE RCRA LANDFILL DISPOSAL
Compliance: LANLs PART B OPERATING PERMIT
Description: START OPERATIONS AT THE MIXED WASTE STORAGE/DISPOSAL FACILITY (RCRA) LANDFILL

Milestone No. 4172-13

Req. Due Date: 01/01/97 **Target Due Date:** 01/01/97 **Level:** HQ **Source:** RCRA
Title: INITIATE HIGH EXPLOSIVE (HE) WASTEWATER TREATMENT OPERATIONS
Compliance: LANLs PART B OPERATING PERMIT
Description: START OPERATIONS AT THE HIGH EXPLOSIVE (HE) WASTEWATER TREATMENT SYSTEM

1. Activity Scope: Managing the hazardous, mixed, and radioactive wastes generated by the operations of the Laboratory is a challenge, due to the amount and complexity of waste requiring management increases each year. Waste Management (WM) operations include waste reduction, treating, disposing, and storing of radioactive wastes, mixed waste, and nonradioactive regulated waste. Furthermore, the scope of activity listed below is required to prevent near-term adverse impacts on workers, the public, or the environment. Activities include:

- * Preconceptual design of treatment, storage, and disposal facilities.
- * Development of General Plant Projects, including NEPA and safety documentation.
- * Management of construction program for waste management facilities.
- * Treatment of radioactive and mixed wastes is accomplished onsite; most of the hazardous waste is shipped to offsite commercial contractors for

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reatment.

- * Mixed waste is stored onsite, while designing of onsite treatment and disposal facilities are actively taking place.
- * Most transuranic (TRU) waste is generated and stored in a retrievable manner pending shipment to WIPP. Some TRU waste requires special handling.
- * Low-Level waste (LLW) is generated, treated as appropriate, and/or disposed of in an onsite facility.
- * Mixed Low-Level waste is stored onsite pending identification of an appropriate management option.
- * Safety and compliance with environmental regulations is ongoing and high priority.

2. Historical To Date: The Waste Management Group (EM-7) has operated the waste management functions on a daily basis for the past 20 years, treating, disposing, and storing wastes generated at LANL while maintaining regulatory compliance and a high degree of safety for the workers and the public. Ongoing operations include the treatment of radioactive, both Low-Level Waste (LLW) and Transuranic (TRU) liquid wastes; incineration; and disposal of solid PCB and asbestos-contaminated wastes; disposal of radioactive solid wastes; and preparation of TRU wastes for eventual Waste Isolation Pilot Project (WIPP) storage. In addition, significant improvements have been made in the recordkeeping, data management, formality of operation, long-range planning, quality assurance, and overall management of the group's activities.

. Five-Year Project Plan: In addition to the ongoing operations of the Waste Management Group, the following activities will have been accomplished by the end of the planning period, FY98:

- * Start-up of the Mixed Waste Storage/Disposal Facilities (RCRA landfill)
- * Start-up of the Mixed Waste Receiving and Storage Facility
- * Start-up of the Sanitary Wastewater Treatment Facility
- * Start-up of the Hazardous Waste Treatment Facility
- * Start-up of the High Explosive (HE) Wastewater Treatment System

4. Activity Term: Waste management operations are an ongoing activity.

5. Current Year FY92 Description: (1) DOE Order 5820.2A compliance activities will continue (2) Finalize Waste Package Remediation Facility Environmental Assessment (3) Benchscale studies for uranium chips will be completed and pilot-scale equipment will be designed (4) Ongoing treatment of LLW radioactive wastes (5) Disposal of 6,000 cu.m. of low level solid waste (6) Treat, store, and dispose of radioactive and non-radioactive waste (7) Expand TA-54 Area G low-level disposal pits (8) Ship 700 gas cylinders off-site for treatment (9) Treat 25 million liters of low level liquid waste (10) Store 2,500 cu.m. of hazardous and toxic waste and 170 cu.m. of low level mixed waste (11) Continued design of mixed waste process (12) Environmental Assessment for CAI submitted to HQ (13) Formalize waste handlers training program (14) Implementation of quality assurance program (15) Treat 3,170 cu.m. hazardous/toxic waste (16) Low-level liquid waste characterization study (17) Store 180 cu.m. of TRU waste (18) Continue upgrading program management (19) Complete roadmapping (20) Complete draft RAD performance assessment (21) Complete two safety

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analysis reports (22) Begin addressing DOE Order 5480.20 (23) Develop plan for Indian Ruin remediation at TA-54 (24) Support of LIP & GPP facilities (25) CE funds will be used for: radiation monitoring equipment; computers upgrade; PP equipment; waste stream treatment equipment; spill control equipment; forklift; copier and sweeper

6. Budget Year FY93 Description: (1) Indian Ruin remediation at TA-54 (2) Sampling and analysis of mixed waste in storage at TA-54, Area G and L (3) Operation of the administratively controlled landfill begins (4) Disposal of 6,000 cu.m. of low level solid waste (5) Drum preparation and venting operations begin (6) Treat 25 million liters of low level liquid waste (7) Store 2,600 cu.m. hazardous/toxic waste and 220 cu.m. low level mixed waste (8) Treat 2,600 cu.m. hazardous/toxic waste (9) Store 170 cu.m. of mixed low level waste (10) Store 180 cu.m. of TRU waste (11) Ongoing sampling, analysis and characterization of liquid waste influent (12) CAI:QA verification of existing equipment; EA published (13) Testing of uranium chip pilot-scale equipment (14) CE funds will be used for: radiation monitoring equipment; waste treatment equipment; chemical analysis equipment; VAX upgrade; and PP equipment

7. Formulation Year FY94 Description: (1) Indian Ruin remediation at TA-54 (2) Implement Radiological Performance Assessment - LLW Disposal (3) Waste Acceptance procedures will be implemented at TA-54, Area L (4) Increase quality control, training, and documentation at TA-54, Area L (5) TRU technology evaluation design study (6) Testing of underground storage tanks (7) CAI: complete operations, staffing and training, cold testing, RCRA trial burn (8) Collection and disposal of PCB wastes continues (9) Operation of the Compactor Facility and the Waste Remediation Facility (10) Disposal of 6,000 cu.m. of low level solid waste (11) Development and refinement of waste process to properly treat stored uncertified TRU wastes (12) Treat 25 million liters of low level liquid waste (13) Conduct RCRA burn in the CAI (14) Store 2,700 cu.m. hazardous/toxic waste and 270 cu.m. low level mixed waste (15) Treat 2,700 cu.m. hazardous/toxic waste (16) Store 180 cu.m. of TRU waste (17) Transportation of accelerator waste (18) CE funds will be used for: forklift, tritium and gas instruments; ventilated shed; computerized topography equipment; exhaust stack sample; rad monitor truck; HA Zetaban Tube; hoods for D&D; x-ray system; VAX system; sweeper; FAX, copier machines; analytical monitoring equipment (19) Increased funds in FY94 over FY93 dollars are required because: target funding level in FY93 are below unconstrained levels; cost for transportation of accelerator waste; increase cost associated with conduct of operation; tiger team fixes per action plans; maintenance management; compliance with DOE Orders and new environmental permits; analytical chemistry support; permitting support; staffing of the hazardous waste treatment facility; UST testing increase; cost in support of LIP and GPP; and project control systems implementation (20) Start legacy TRU waste sampling for WIPP (9 FTE, \$4,924K OE, \$252K CE) (21) SWSC funding; FY94 \$3.7M.

8. Planning Years FY95-FY98 Description: (1) Radiological Characterization Study (2) Indian Ruin remediation (3) Study of alternative Waste Disposal Methods (4) 20-40 NEPA documents per year (5) Operations continue at the size reduction facility (6) TRU technology evaluation design studies (7) Dispose of 6,000 cu.m. of low level solid

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aste per year (8) Treat 25 million liters of low level liquid waste per year (9) Ongoing CAI operations; conduct ORR-DOE; burn 200 cu.m. of waste per year from FY96 on (10) Store over 2,800 cu.m. hazardous/toxic waste and 320 cu.m. low level mixed waste per year (11) Treat more than 2,800 cu.m. hazardous/toxic waste per year (12) Develop certification program for hazardous and low level mixed waste (13) 1,430 cu.m. of mixed low level waste will be disposed of at the RCRA permitted landfill (14) Store 180 cu.m. of TRU waste per year (15) Maintain RAD performance assessment (16) CE funds will be used for: radiation monitoring equipment; crane, compressor; pumps, mixers; PP equipment; spill control equipment; and water truck (17) Continue legacy TRU waste sampling for WIPP (9 FTE, \$4,257K OE) (18) SWSC funding FY95 - \$3.8M, FY96 - \$3.9M, FY97 - \$4.0M, FY98 - \$4.1M.

9. Key Assumptions: Key assumptions used by WM managers to prepare scope, cost, and schedule baselines are presented below:

* Bottoms-Up-Techniques: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.

* Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.

Parametric Technique: Parametric estimating requires historical data bases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other systems parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex models.

* Cost Review and Update Techniques: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.

* Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of OE only, (2) Indirect resources (\$ & FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the Indirect cost per FTE supplied by the LANL Indirect Program Office.

* Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General M&S is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S; it is not based on prior years' major procurement.

* No new regulations will impact LL mixed waste storage procedures at 'A-54 Area G from being promulgated.

* No additional funding requested for waste generated from the ER program.

The Laboratory will continue to operate under the existing RCRA permit (2/92) requirements. ←

- * Waste minimization assumes EM scope for implementation is supported by generators.
- * The mixed waste RCRA Part B permit will be granted by FY94. ←
- * All costs that support WM have been captured.
- * No new regulatory impacts on TRU mixed waste storage will be required.
- * Funding will be sufficient to ready the CAI for operation.
- * The LLRLWTF will continue to be in compliance with the NPDES permit.
- * NEPA documentation for all WM activities except for outyear (FY96-FY98) LIP is included.
- * Legacy TRU waste sampling for WIPP: (1) SRF and hazards analysis allow TRU drum lids to be replaced and drum contents to be verified (2) SRF and hazards analysis allow venting of drums by the "slow punch" methods so drums can be vented at SRF (3) NDE/NDA is operable (4) Drum preparation facility is operable (5) FY93 requested funds in TRU treatment is totally funded to provide for planning, design, PR's, etc., staff members [4 minimum to get things ready, SA's, EA's etc.] (6) FY93 capital funds requested is provided (7) FY93 \$500K provided for new drums.
- * DOE will fund starting in FY94 operating costs for the new SWSC

10. Key Issues: Issues needing resolution in order to meet established baselines include:

- * With continued generation of hazardous and radioactive wastes, cost will escalate
- * DOE Orders are not being complied with due to insufficient funds
DOE must commit to sufficient OE funds for Line Item and General Plant Projects to begin
- * DOE must better understand the complexity and diversity of WM at LANL to fully commit to increasing cost
- * DOE must make NEPA determinations in a timely manner
- * Generator roles and responsibilities must be defined, understood, and procedures implemented.
- * ER support of WM activities will be defined and funded.
- * State of New Mexico level of support of WM at LANL needs to be defined and scoped so the permits are issued in a timely manner.
- * Required WM funding will be forthcoming to assure permit compliance and worker, the public, and environmental protection.

11. Regulatory Drivers: The primary regulatory drivers for waste management operations cover the treatment, disposal, and storage of radioactive, mixed, and nonradioactive hazardous waste from a Federal and State law, regulation, and permit perspective. Because these regulations are so interconnected throughout the scope of the program it is impossible to assign a dollar amount of any regulation. Principal regulatory drivers are listed below:

- * Federal Clean Air Act (FCAA), including National Emission Standards for Hazardous Air Pollutants (NESHAP)-40 CFR 61 Subpart H
- * New Mexico Air Quality Control Act and Regulations (NMAQCAR)-Part 3.3, 3.6.2, 3.12, 3.13
- * TSCA, Federal Toxic Substance Control Act-40 CFR 761 Subpart J
- * FCWA, Federal Clean Water Act, as amended by the Water Quality Act of 1987, including the Laboratory's National Pollution Discharge Elimination Systems permit-40 CFR 125

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NMWQCA, New Mexico Water Quality Control Act

- * HSWA, Federal Hazardous and Solid Waste Amendments of 1984, including the Laboratory's Module VIII permit-40 CFR 101-107
- * OSHA, Federal Occupational Safety and Health Act-29 CFR 1902 and 1910
- * RCRA, Federal Resource Conservation and Recovery Act, including the Laboratory's Part B permit-40 CFR 260-270
- * NEPA, National Environmental Policy Act-29 CFR 11, 51, and 40 CFR 1501, 1502
- * NMSWMR, New Mexico Solid Waste Management Regulations-Part 105
- * Department of Transportation-49 CFR 172.205(a)

The Laboratory must also comply with a variety of regulations that govern the handling of wastes to be accepted by WIPP. In addition, waste management operations are regulated by DOE Orders, including:

- * 5820.2A, Radioactive Waste Management
- * 5400.5, Radiation Protection of the Public and the Environment
- * 5400.3, Hazardous and Radioactive Mixed Waste Program
- * 5700.6B, Quality Assurance
- * 5480.11, Rad Worker Protection

12. Consequences: If these regulatory requirements are not met, due to lack of funding, the Laboratory could receive numerous Notices of Violations (NOVs), fines, and possible delays and closures of facilities, both new and existing.

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Operations Office: ALLA ID No.: 4137

Last Update: 04/24/92

Activity Title: WASTE MINIMIZATION

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: OM NEPA: N/A

Category: WM Facility/WAG: N/A

% Overhead: 17

Cost LOC Req.: H Sched. LOC Req.: H Scope LOC Req.: H

WBS No.: 3.1.1.3.

Level: 0

Line Item No.: N/D

TPC: 0

TEC: 0

Contig. 0

0

Waste Types: HLW: N TRU: Y TRU MIX: Y LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: Y

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: Y TSCA: Y CERCLA: Y

NEPA: N DOE: Y OSHA: N IAG: N ORD: N ST: Y TRI: Y FED: Y

F.O. POC: HANSEN, P.

Reviewed Date:

HQ POC: SMITH, L.

Auxiliary Fields: 1.

2.

3.

Old ADS Number: ALLA4137

Type of Change: ADS SAME

Reason for Change: OLD NAME WAS MINIMIZATION/RECOVER/DECONTAMINATION

Tiger Team Finding Number: CF-8

TTFN Date: 11/08/91

Type of Change:

Reason for Change: WASTE MINIMIZATION PROGRAM NOT DEVELOPED OR IMPLEMENTED

Milestone No. 1

Req. Due Date: 09/30/94 Target Due Date:

Level: HQ

Source: RCRA

Title: CONTINUE WASTE MINIMIZATION REPORTING

Compliance:

Description: RCRA REQUIRED ANNUAL WASTE MINIMIZATION REPORT TO EPA & NMED

Milestone No. 2

Req. Due Date: 09/30/95 Target Due Date:

Level: FO

Source: RCRA

Title: CONTINUE PROCESS WASTE ASSESSMENTS SUPPORTS

Compliance: PART B

Description: PROVIDE TECHNICAL SUPPORT TO GENERATORS PWA EFFORT

Milestone No. 3

Req. Due Date: 09/30/95 Target Due Date: 09/30/95 Level: FO

Source: RCRA

Title: INITIATE CHEMICAL RECYCLING

Compliance: LANL PART B OPERATING PERMIT

Description: CONTRACT RECYCLING OF INDUSTRIAL AND LABORATORY CHEMICALS OUTSIDE THE LABORATORY

Milestone No. 6

Req. Due Date: 09/30/98 Target Due Date: 09/30/98 Level: CNTR

Source: RCRA

Title: CONTINUE EDUCATION & TRAINING IMPLEMENTATION

Compliance: LANLs PART B OPERATING PERMIT

Description: EDUCATION, COMMUNICATION AND TRAINING ON-SITE GENERATORS THROUGH SEVERAL DIFFERENT EFFORTS

Milestone No. 4

Req. Due Date: 09/30/98 **Target Due Date:** **Level:** FO **Source:** RCRA
Title: CONTINUE SITE SPECIFIC PLANS
Compliance: LANLS PART B OPERATING PERMIT
Description: SITE SPECIFIC PLANS WILL BE WRITTEN FOR 300 SEPERATE WASTE
GENERATING ACTIVITIES.

Milestone No. 5

Req. Due Date: 09/30/98 **Target Due Date:** **Level:** CNTR **Source:** RCRA
Title: CONTINUE PRIORITIZATION OF WASTE STREAMS
Compliance: LANL PART B OPERATING PERMIT
Description:

1. Activity Scope:

The Waste Minimization and Pollution Prevention Program is a Laboratory wide activity to minimize the amount of waste that must be treated and disposed. This activity supports the planning, guidance and oversight efforts that provide technical and administrative direction to waste generating activities. Furthermore, this activity below is for compliance with external regulatory requirements.

2. Historical To Date:

Planning, education, communications and training were initiated in FY88 and are ongoing. Prioritization of waste streams initiated in FY90 is ongoing. Solvent and scintillation fluid substitution, design of Process Waste Assessment system, incentive award programs, technology transfer programs, waste tracking, and Program Effectiveness Evaluation programs were initiated in FY91 and are ongoing.

3. Five-Year Project Plan:

At the end of the planning period, FY98, the following will have been refined and ongoing: Process Waste Assessment, employee awareness and training, waste tracking and reporting, Program Effectiveness Evaluation, and Site Specific Plans written for 300 separate waste generating activities. A central waste minimization facility that will provide housing for recycling project will be operational. The facility will use existing buildings and will not require GPP or LI.

4. Activity Term:

Waste minimization is an ongoing activity.

5. Current Year FY92 Description:

- * (a) Provide technical assistance and software to generators who will provide Process Waste Assessments (10 PWAs)
- * (b) Provide assistance to generators in writing Site Specific Plans of the highest priority generators
- * Initiate the setup of intra-Laboratory chemical recycling program
- * Extra-Laboratory chemical recycling
- * Incentive awards program

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- * Planning, education, communications, and training
- * Prioritization of waste streams
- * Waste substitution
- * Technology transfer programs
- * Waste tracking
- * Program Effectiveness Evaluation programs
- * CE funds used for computers & recyclable material storage

6. Budget Year FY93 Description:

- * Initiate central waste minimization facility for chemical recycling efforts and packaging and transportation support
- * Provide technical assistance and software to generators who will provide Process Waste Assessments (20 PWAs)
- * Provide assistance to generators in writing Site Specific Plans of highest priority generators
- * Chemical recycling, extra-Laboratory
- * Incentive award program
- * Planning, education, communications, and training
- * Prioritization of waste streams
- * Material substitution
- * Technology transfer programs
- * Waste tracking
- * Program Effectiveness Evaluation programs
- * CE funds used for computer & software equipment

7. Formulation Year FY94 Description:

- * Operate central waste minimization facility
- * Provide technical assistance and software to generators who will provide process waste assessments (50 PWAs)
- * Provide assistance to generators in writing site specific plans of highest priority generators
- * Chemical recycling, extra-Laboratory
- * Increased funding will be used to fund subcontractor support to provide technical support to find technical solution to generator problems on a 50-PWA/year basis.
- * Incentive award program
- * Planning, education, communications, and training
- * Prioritization of waste streams
- * Material substitution
- * Technology transfer programs
- * Waste tracking
- * Program Effectiveness Evaluation programs
- * CE/OE funds used for computer & software equipment respectively

8. Planning Years FY95-FY98 Description:

At the end of the planning period, FY98, the following will have been refined and ongoing:

- * Process Waste Assessment Program
- * Site Specific Plans operational
- * Employee awareness and training

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- Waste tracking and reporting
- Program Effectiveness Evaluation
- * Site Specific Plans written for 300 separate waste generating activities.
- * A central waste minimization facility will be operational.

9. Key Assumptions:

Key assumptions used by Waste Management managers to prepare scope, cost, and schedule baselines are presented below:

- * Bottoms-Up-Techniques: Generally, a work statement and set of drawings or specifications are used to "takeoff" material quantities required to perform each discrete task performed in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added hereto.
- * Specific Analogy Technique: Specific analogies depend upon the known cost of an item used in prior systems as the basis for the cost of a similar item in a new system. Adjustments are made to known costs to account for differences in relative complexities of performance, design, and operational characteristics.
- * Parametric Technique: Parametric estimating requires historical data bases on similar systems or subsystems. Statistical analysis is performed on the data to find correlations between cost drivers and other systems parameters, such as design or performance parameters. The analysis produces cost equations or cost estimating relationships which can be used individually or grouped into more complex models.
- * Cost Review and Update Techniques: An estimate is constructed by examining previous estimates of the same program/project for internal logic, completeness of scope, assumptions, and estimating methodology. The estimates are then updated to reflect the cost impact of new conditions or estimating approaches.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of OE only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the Indirect cost per FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General M&S is based in FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S; it is not based on prior years' major procurement.

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This ADS assumes scope of implementation is supported by generator.

10. Key Issues:

Issues needing resolution in order to meet established baselines include:

- * With continued generation of hazardous and radioactive wastes, cost will escalate
- * DOE must commit to sufficient OE funds for Line Item and General Plant Projects to begin
- * Better definition of what level of support is required & applicable

11. Regulatory Drivers:

The Laboratory's Part B RCRA Operating Permit requires that a waste minimization program be in place. Other regulatory drivers which address the waste minimization program include Module VIII of the HSWA permit, RCRA regulations of the HSWA permit, RCRA regulations, 40 CFR 260FR 260-270, HSWA regulations 40 CFR 268, and 101-107. The waste minimization program must be operated in accordance with the state Hazardous Waste Act and DOE Order 5400.1, 5400.3, and 5820.3.

12. Consequences:

Without funding for the Waste Minimization Program, it is anticipated that the volumes of hazardous, mixed and radioactive waste will continue to increase, which will result in significant, immediate exposure to employees, the public and the environment. Storage, treatment, and disposal costs and associated liabilities will continue to rise with increase in waste volumes.

Operations Office: ALLA ID No.: 43-A

Last Update: 04/27/92

Activity Title: HIGH EXPLOSIVE (HE) WASTEWATER TREATMENT SYSTEM

Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: NA NEPA: N/D

Category: WM Facility/WAG: % Overhead: 0

Cost LOC Req.: M Sched. LOC Req.: M Scope LOC Req.: M WBS No.: 3.1.3.10. Level: 0

Line Item No.: N/D TPC: 8728 TEC: 8728 Contig. 1638

Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: N HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: Y SDWA: N RCRA: N R3004: N TSCA: N CERCLA: N

NEPA: Y DOE: Y OSHA: N IAG: N ORD: N ST: N TRI: N FED: N

F.O. POC: CRITCHFIELD, O./HANSEN, M.

Reviewed Date:

HQ POC: SIEBACH, P./SMITH, L.

Auxiliary Fields: 1.

2.

3.

Old ADS Number: ALLA 43A

Type of Change: ADS SAME

Reason for Change: HIGH EXPLOSIVE (HE) WASTEWATER TREATMENT SYSTEM

Milestone No. 43A-1

Req. Due Date: 01/01/94 Target Due Date: 01/01/94 Level: FO Source: CWA

Title: START TITLE I DESIGN

Compliance: LANLs NPDES PERMIT, AO, FFCA

Description: START OPERATIONS AT THE HIGH EXPLOSIVE (HE) WASTEWATER TREATMENT FACILITY

Milestone No. 43A-2

Req. Due Date: 07/03/94 Target Due Date: 07/03/94 Level: FO Source: CWA

Title: COMPLETE TITLE I DESIGN

Compliance: LANLs NPDES PERMIT, AO, FFCA

Description: START OPERATIONS AT THE HIGH EXPLOSIVE (HE) WASTEWATER TREATMENT FACILITY

Milestone No. 43A-3

Req. Due Date: 11/01/94 Target Due Date: 11/01/94 Level: FO Source: CWA

Title: START TITLE II DESIGN

Compliance: LANLs NPDES PERMIT, AO, FFCA

Description: START OPERATIONS AT THE HIGH EXPLOSIVE (HE) WASTEWATER TREATMENT FACILITY

Milestone No. 43A-4

Req. Due Date: 07/31/95 Target Due Date: 07/31/95 Level: FO Source: CWA

Title: COMPLETE TITLE II DESIGN WASTE WATER TREATMENT FACILITY

Compliance: LANLs NPDES PERMIT, AO, FFCA

Description: START OPERATIONS AT THE HIGH EXPLOSIVE (HE) WASTEWATER TREATMENT FACILITY

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Milestone No. 43A-5

Req. Due Date: 10/01/95 Target Due Date: 10/01/95 Level: FO Source: CWA
Title: START CONSTRUCTION
Compliance: LANLs NPDES PERMIT, AO, FFCA
Description: START OPERATIONS AT THE HIGH EXPLOSIVE (HE) WASTEWATER TREATMENT FACILITY

Milestone No. 43A-6

Req. Due Date: 09/30/96 Target Due Date: 09/30/96 Level: FO Source: CWA
Title: COMPLETE CONSTRUCTION
Compliance: LANLs NPDES PERMIT, AO, FFCA
Description: START OPERATIONS AT THE HIGH EXPLOSIVE (HE) WASTEWATER TREATMENT FACILITY

1. Activity Scope:

This activity data sheet (ADS) requests funding for the design and construction of a high explosive (HE) wastewater treatment system at Los Alamos to upgrade presently inadequate treatment facilities to allow them to consistently comply with existing effluent water quality requirements. The project will also enable the Laboratory to meet more stringent effluent quality limits to be required by EPA in the draft NPDES permit now under review.

The project will consist of three HE wastewater treatment facilities and a collection piping system to transfer HE contaminated fluids from existing building sumps to treatment facilities. The system will require approximately 17,000 linear feet of double wall pipe with appropriate manholes and leak detectors, and a central wastewater treatment plant with two satellite treatment plants.

2. Historical To Date:

The conceptual design was completed in the second quarter of FY92. The Schedule 44 (Construction Project Data Sheet) was completed in the second quarter of FY92, and is being submitted concurrent with the Five-Year Plan.

3. Five-Year Project Plan/Activity Term:

The project will be completed and in operation at the end of the Five-Year Plan period.

4. Current Year FY92 Description:

Not applicable to this activity. FY92 activities (conceptual design and NEPA documentation) are funded by Corrective Activities (ALLA-43).

5. Budget Year FY93 Description:

Not applicable to this activity. FY93 activities (design criteria and architect-Engineer selection) are funded by ALLA-4172.

6. Formulation Year FY94 Description:

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Title I design will be initiated and completed.

7. Planning Years FY95-FY98 Description:

Title II design will be initiated and completed in. Construction will be initiated and completed. Start-up activities are funded by ALLA-4172.

8. Key Assumptions:

* The funding requested in this ADS reflects only the Total Estimated Construction Cost (TECC) as defined in draft DOE Order 4700.1A, Project Management System. Scope, cost, and schedule have been developed in the Conceptual Design Report and are based on engineering estimates.

9. Key Issues:

Not applicable to this activity.

10. Regulatory Drivers:

Regulatory drivers include 40 CFR Part 260-263 of the Resource Conservation and Recovery Act (RCRA), LANLs Part B Operating Permit, the Clean Water Act (CWA) and the Laboratory's existing NPDES permit and draft NPDES permit. The existing treatment facilities cannot meet the toxicity (biomonitoring) requirements of the Laboratory's new draft NPDES Permit. It is anticipated that upgrading of the Laboratory's high explosives (HE) wastewater facilities will be required under the Laboratory's Administrative Order (AO) and the Federal Facilities Compliance Agreement (FFCA). Also, the existing facilities do not meet RCRA requirements for control of hazardous constituents.

11. Consequences:

Consequences if not funded include potential violations of RCRA, CWA and the Laboratory's draft NPDES Permit after implementation, and potential shutdown of HE operations and facilities.

Operations Office: ALLA ID No.: 3256

Last Update: 04/27/92

Activity Title: MIXED WASTE RECEIVING AND STORAGE FACILITY

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: NA NEPA: N/A

Category: WM Facility/WAG: TA-63

% Overhead: 0

Cost LOC Req.: M Sched. LOC Req.: M Scope LOC Req.: M WBS No.: 3.1.3.4. Level: 0

Line Item No.: 92-D-171 TPC: 9640 TEC: 9640 Contig. 1607

Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: N TSCA: Y CERCLA: N

NEPA: Y DOE: Y OSHA: N IAG: N ORD: N ST: N TRI: N FED: N

F.O. POC: HANSEN, P.

Reviewed Date:

HQ POC: SMITH, L.

Auxiliary Fields: 1.

2.

3.

Tiger Team Finding Number: WM/CF-17 TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL's mixed waste storage at TA-54, Areas L and G, do not fully meet t regulatory requirements of DOE and AR 6-9.

Tiger Team Finding Number: SW/CF-9 TTFN Date: 11/08/91

Type of Change:

Reason for Change: The LANL SPCC Plan has not been effectively implemented as required by CFR 112.3.

Old ADS Number: ALLA3256

Type of Change: ADS SAME

Reason for Change: MIXED WASTE RECEIVING AND STORAGE FACILITY

Milestone No. 1

Req. Due Date: 03/01/92 Target Due Date: 07/03/92 Level: FO

Source:RCRA

Title: START TITLE I DESIGN MW RECEIVING/STORAGE FACILITY

Compliance: 40 CFR 260-274

Description:

Milestone No. 2

Req. Due Date: 07/06/92 Target Due Date: 01/31/93 Level: FO

Source:RCRA

Title: COMPLETE TITLE I DESIGN MW RECEIVING/STORAGE FACILITY

Compliance: 40 CFR 260-274

Description:

Milestone No. 3

Req. Due Date: 08/01/92 Target Due Date: 03/31/93 Level: FO

Source:RCRA

Title: START TITLE II DESIGN MW RECEIVING/STORAGE FACILITY

Compliance: 40 CFR 260-274

Description:

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Milestone No. 4

Req. Due Date: 02/01/93 **Target Due Date:** 08/31/93 **Level:** FO **Source:** RCRA
Title: COMPLETE TITLE II DESIGN MW RECEIVING/STORAGE FACILITY
Compliance: 40 CFR 260-274
Description:

Milestone No. 5

Req. Due Date: 04/01/93 **Target Due Date:** 09/01/93 **Level:** FO **Source:** RCRA
Title: START CONSTRUCTION MW RECEIVING/STORAGE FACILITY
Compliance: 40 CFR 260-274
Description:

Milestone No. 6

Req. Due Date: 03/31/94 **Target Due Date:** 08/31/94 **Level:** FO **Source:** RCRA
Title: COMPLETE CONSTRUCTION MW RECEIVING/STORAGE FACILITY
Compliance: 40 CFR 260-274
Description:

1. Activity Scope:

This Activity Data Sheet (ADS) requests funding for the design and construction of a mixed waste receiving and storage facility at Los Alamos. This facility will consist of a structure attached by corridors to the existing Transuranic (TRU) Waste Treatment Development Facility where one incinerator is presently located and another is in design. The proposed facility will contain 22,000 sq ft and will be designed and constructed of reinforced concrete. The building will have three types of functions: Receiving and storage for contaminated liquids and solids; equipment assembly, test and storage; and office/conference.

The Receiving and Storage area will be in a high bay having four segregated areas for liquid waste storage, one segregated area with equipment for waste liquid bulking, feed preparation, and incinerator feed pumping (Bulking & Pumping Room). Wastes are received and stored in DOT approved shipping containers.

The liquid storage rooms and Bulking and Pumping room are segregated by two-hour five-rated walls. (The area will have controlled ventilation, fire protection, and monitoring equipment, and will provide secondary containment for spill control/fire water retention.) The Receiving and Storage area will also contain a solid waste storage area, work area, a receiving/shipping area with a loading dock, and a ventilation equipment room.

Radiation and air monitoring will be in accordance with the Laboratory manual, Chapter 1, Health and Safety, Administrative Requirements (AR) 3.0 and DOE 5480.11, requirements. HEPA and carbon bed filtration are provided for the Receiving and Storage area exhaust air. An exhaust stack will be provided outside the ventilation room to support the HEPA filtration. The interior of the Receiving and Storage area will be connected to WM-37 with a forklift corridor.

The Cold Test Assembly and Storage area will be in a high bay area with a five ton bridge crane, and will be connected to the existing facility by

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means of a high bay corridor for use by forklifts and the transportation of equipment to and from WM-37. The Cold Test Assembly and Storage area will be separated from the Receiving and Storage area by a two hour fire rated wall, and from the Office/Conference area by a one area fire rated wall.

2. Historical To Date:

The conceptual design was completed in FY90 and the project was validated by DOE/HQ (AD-22). The Schedule 44 (Construction Project Data Sheet) was completed in FY90 and revised in FY91, and is being submitted concurrent with the Five-Year Plan. A Memorandum-to-File was completed on September 28, 1990, and accepted on October 19, 1990, completing the NEPA process.

3. Five-Year Project Plan/Activity Term:

The mixed waste receiving and storage facility will be completed and in operation by the end of the Five-Year plan period.

4. Current Year FY92 Description:

Title I design will be initiated and completed. Title II design will be initiated.

5. Budget Year FY93 Description:

Title II design will be completed. Construction will be initiated.

6. Formulation Year FY94 Description:

Construction will be completed using Line Item funding carried over from FY93.

7. Planning Years FY95-FY98 Description:

Not applicable to this activity.

8. Key Assumptions:

The funding requested in the ADS reflects only the Total Estimated Construction Cost (TECC) as defined in draft DOE Order 4700.1A, Project Management System. Scope, cost, and schedule have been developed in the Conceptual Design Report and are based on engineering estimates.

9. Key Issues:

Not applicable to this activity.

10. Regulatory Drivers:

The primary regulatory driver for this project is RCRA (40CFR26-274).

11. Consequences:

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Failure to fund the design and construction of the mixed waste receiving and storage facility will force the Waste Management Program to rely on inadequate facilities in which to perform its mission, resulting in continuing noncompliance with regulations, permits, and DOE orders.

Operations Office: ALLA ID No.: 2138

Last Update: 04/27/92

Activity Title: SURVEILLANCE & MAINTENANCE OF DP FACILITIES

Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: NA NEPA: N/A

Category: ER Facility/WAG: DP FACILITIES % Overhead: 17

Cost LOC Req.: M Sched. LOC Req.: M Scope LOC Req.: M WBS No.: Level: 0

Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: Y LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: N R3004: N TSCA: N CERCLA: N

NEPA: N DOE: N OSHA: N IAG: N ORD: N ST: N TRI: N FED: N

F.O. POC: BITNER, K FTS 845-4606

Reviewed Date: 03/02/92

HQ POC: HARRIS, R FTS 233-8199

Auxiliary Fields: 1. DD 2. 3.

MILESTONES Milestone No. 1

Req. Due Date: 03/31/94 Target Due Date: 04/01/97 Level: HQ Source:DOE

Title: DEVELOP INITIAL S&M PLAN

Compliance: 5820.2A

Description: DEVELOP S&M PLAN TO INCLUDE FY94-1999 WHICH IS THE SCHEDULED ESTIMATE FOR COMPLETE D&D OF TA-21.

Milestone No. 2

Req. Due Date: 09/30/95 Target Due Date: Level: HQ Source:DOE

Title: UPDATE S&M PLAN

Compliance: 5820.2A

Description: THIS UPDATE WILL COMPENSATE FOR BUILDINGS AND SITES THAT ARE COMPLETED DURING THE MILESTONE PERIOD AND/OR ACCOUNT FOR NEW ADDITIONS TO THE PROGRAM

Milestone No. 3

Req. Due Date: 09/30/95 Target Due Date: Level: HQ Source:DOE

Title: S&M OPERATIONS

Compliance: 5820.2A

Description: PERFORM S&M FOR THE SITES COVERED BY THE FIVE-YEAR PLAN

Milestone No. 4

Req. Due Date: 09/30/96 Target Due Date: Level: HQ Source:DOE

Title: UPDATE S&M PLAN

Compliance: 5820.2A

Description: THIS UPDTE WILL COMPENSATE FOR BUILDINGS AND SITES THAT ARE COMPLETED DURING THE MILESTONE PERIOD AND/OR ACCOUNT FOR NEW ADDITIONS TO THE PROGRAM

Milestone No. 5

Req. Due Date: 09/30/96 Target Due Date: Level: HQ Source:DOE

Title: S&M OPERATIONS

Compliance: 5820.2A

Description: PERFORM S&M FOR THE SITES COVERED BY THE FIVE-YEAR PLAN

Milestone No. 6

Req. Due Date: 09/30/97 **Target Due Date:** **Level:** HQ **Source:**DOE
Title: UPDATE S&M PLAN
Compliance: 5820.2A
Description: THIS UPDATE WILL COMPENSATE FOR BUILDINGS AND SITES THAT ARE COMPLETED DURING THE MILESTONE PERIOD AND/OR ACCOUNT FOR NEW ADDITIONS TO THE PROGRAM

Milestone No. 7

Req. Due Date: 09/30/97 **Target Due Date:** **Level:** HQ **Source:**DOE
Title: S&M OPERATIONS
Compliance: 5820.2A
Description: PERFORM S&M FOR THE SITES COVERED BY THE FIVE-YEAR PLAN

Milestone No. 8

Req. Due Date: 09/30/98 **Target Due Date:** **Level:** HQ **Source:**DOE
Title: UPDATE S&M PLAN
Compliance: 5820.2A
Description: THIS UPDATE WILL COMPENSATE FOR BUILDINGS AND SITES THAT ARE COMPLETED DURING THE MILESTONE PERIOD AND/OR ACCOUNT FOR NEW ADDITIONS TO THE PROGRAM

Milestone No. 9

Req. Due Date: 09/30/98 **Target Due Date:** **Level:** HQ **Source:**DOE
Title: S&M OPERATIONS
Compliance: 5820.2A
Description: PERFORM S&M FOR THE SITES COVERED BY THE FIVE-YEAR PLAN

Requirements Narrative

1. Technical Scope:

This ADS will cover the surveillance and maintenance (S&M) of Defense Programs (DP) facilities which are and will become accepted into the environmental restoration D&D program for the FY94-98 five year plan. The S&M plan will be developed for 10 years to complement the D&D plan for the site. The S&M activities for surplus facilities awaiting decommissioning will:

- 1) Ensure adequate containment of contamination, and
- 2) Provide physical safety and security controls and regulated surveillance to maintain the facility in a manner which will minimize potential hazards to the public

The following organizations participate in ensuring that S&M activities are addressed in a safe and effective manner.

- (a) The Health & Safety Group (HS-1) provides health physics surveyors to monitor the facilities on a regular basis. Their responsibilities include: source check radiation monitors meters daily thus providing daily visual inspections, check radiation levels by performing floor swipe surveys on a monthly basis and, weekly submittal of continuous air monitor filter paper for radionuclide analysis.

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- (b) Industrial Hygiene Group (HS-5) monitors the ventilation system and consults with the Decontamination and Decommissioning (D&D) Project Management Team on any deficiencies.
- (c) The Industrial Safety Group (HS-3) conducts periodic inspections on general safety matters, primarily fire protection.
- (d) Johnson Controls Inc., the Laboratory's maintenance contractor provides janitorial services as required.
- (e) The Waste Management Group (EM-7) is the lead organization and provides direction and coordination concerning all S&M activities.
- (f) Security of the site will be maintained as appropriate by the Laboratory's protective force.

2. Activities Completed to Date:

N/A

3. Activity Term:

The S&M Plan will be developed for 10 years, FY94-2004.

4. Current Year (FY 92) Description:

N/A

5. Budget Year (FY 93) Description:

N/A

6. Planning Year (FY 94) Description:

* Develop S&M plan to include current facilities submitted for acceptance, plus facilities to come on-line for the five year plans to FY2004. As other facilities are accepted into the D&D, S&M program, this ADS will be expanded.

* These activities will require 5.2 FTEs

7. Outyears (FY 95-FY98):

* Some reduction of requirements for S&M may occur because of close proximity of similar projects, but other projects may have begun and will require similar activities in the same general area.

* Maintenance will be limited to repairs required to preclude environmental insult, and ensure required personnel health and safety.

8. Key Assumptions:

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* The percentage of JCI Subcontracted costs and associated burden equates to 39.6% of the project costs, and the remaining 60.4% is for LANL FTE costs.

* Specific analogy method of estimating cost and schedule.

* Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of OE only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the Indirect cost per FTE supplied by the LANL Indirect Program Office.

* Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the Financial Management Handbook are used, (3) General M&S is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S; it is not based on prior years' major procurement.

9. Key Issues:

* Work on this ADS is contingent on acceptance by DOE into the current (FY95-98) Five-Year plan.

* Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring will cause delays in accomplishing scheduled work and result in milestones being pushed out.

* Availability of contract support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.

10. Regulatory Drivers/Consequences:

DOE 5820.2A/Negative cost and schedule impact on LANL D&D programs.

11. Other Consequences:

* Possible environmental impact

* Possible health and safety impact

EM-40 Progress Indicators :

Immediate/Short Term Action:

Alternate Water Supply

Site Security Measures

People Evacuated or Relocated

Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	0	0	0	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

Indicators Point of Contact:

Title:

Phone Number: 0

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Operations Office: HQ ID No.: 6007-AL

Last Update: 04/27/92

Activity Title: Albuquerque LANL Facility Transition

Installation: HEADQUARTERS

RCRA/CERCLA: NA NEPA: N/A

Category: WM Facility/WAG: ALBUQUERQUE

% Overhead: 0

Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L

WBS No.:

Level: 0

Line Item No.:

TPC:

0

TEC:

0

Contig.

0

Waste Types: HLW: N TRU: Y TRU MIX: Y LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: Y

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: N TSCA: Y CERCLA: N

NEPA: Y DOE: Y OSHA: Y IAG: Y ORD: N ST: N TRI: N FED: Y

F.O. POC: BITNER, K. FTS 845-4606

Reviewed Date:

HQ POC: HARRIS, R. FTS 233-8199

Auxiliary Fields: 1. DD

2.

3.

MILESTONES Milestone No. 1

Req. Due Date: 09/30/93 Target Due Date:

Level: FO

Source:DOE

Title: TRANSITION PLANNING

Compliance: 5820.2A

Description:

Milestone No. 2

Req. Due Date: 09/30/94 Target Due Date:

Level: FO

Source:DOE

Title: COMPLETE CHARACTERIZATION

Compliance: 5820.2A

Description:

Milestone No. 3

Req. Due Date: 09/30/94 Target Due Date:

Level: FO

Source:DOE

Title: SURVEILLANCE AND MAINTENANCE AND LANDLORD ACTIVITIES

Compliance: 5820.2A

Description: UPDATE S & M PLAN TO REFLECT CHANGES RESULTING FROM D&D
REMEDIATION ACTIVITIES

Milestone No. 4

Req. Due Date: 09/30/95 Target Due Date:

Level: FO

Source:DOE

Title: CHARACTERIZATION FOR TA16 AND TA21

Compliance: 5820.2A

Description: UPDATE S & M PLAN TO REFLECT CHANGES RESULTING FROM D&D
REMEDIATION ACTIVITIES

Milestone No. 5

Req. Due Date: 09/30/96 Target Due Date:

Level: FO

Source:DOE

Title: SURVEILLANCE AND MAINTENANCE AND LANDLORD ACTIVITIES

Compliance: 5820.2A

Description: UPDATE S & M PLAN TO REFLECT CHANGES RESULTING FROM D&D
REMEDIATION ACTIVITIES

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Milestone No. 6

Req. Due Date: 09/30/97 Target Due Date: Level: FO Source:DOE
Title: SURVEILLANCE AND MAINTENANCE AND LANDLORD ACTIVITIES
Compliance: 5820.2A
Description: UPDATE S & M PLAN TO REFLECT CHANGES RESULTING FROM D&D
REMEDIATION ACTIVITIES

Milestone No. 7

Req. Due Date: 09/30/98 Target Due Date: Level: FO Source:DOE
Title: SURVEILLANCE AND MAINTENANCE AND LANDLORD ACTIVITIES
Compliance: 5820.2A
Description: UPDATE S & M PLAN TO REFLECT CHANGES RESULTING FROM D&D
REMEDIATION ACTIVITIES

Requirements Narrative

FUNDING BREAKOUT

This table represents the breakout of activities into the four functional areas. Further discussion will be provided for the final submittal giving description of efforts associated with transition.

FY-	93	94	95	96	97	98
Trans. Plans/Implement.	1500	3753				
Characterization	1400	800	900			
Surv & Maint/Landlord	1600	2619	3706	3896	4094	4304
Total	4500	7172	4606	3896	4094	4304

NOTE: Transition planning in FY 1993 is Defense funded.

1. Technical Scope:

This activity data sheet (ADS) is to fund the Los Alamos National Laboratory Facility Transition Program, which will permit the transfer of ownership of excess facilities into the DOE EM-6 program to comply with the DOE mission.

Activities covered by this ADS are:

- * Transition Planning.
- * S&M activities to maintain a safety envelope and achieve safe operations shutdown.
- * Characterization costs associated with assessing health and safety concerns.
- * Landlord costs associated with maintaining the physical operations at the facilities affected.

. Activities Completed to Date:

Not applicable.

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3. Activity Term:

- * Transition planning, S&M, characterization and landlord activities begin in FY93.
- * Transition planning is complete in FY94.
- * Characterization is complete in FY94.
- * S&M and landlord activities continue indefinitely.

4. Current Year (FY 92) Description:

Not applicable.

5. Budget Year (FY 93) Description:

- * Transition planning, S & M, Characterization, and landlord activities begin.

6. Planning Year (FY 94) Description:

- * Transition planning will be completed.
- * Safe shutdown and S&M activities will be implemented as needed.
- * Characterization will be completed.

7. Outyears (FY 95-FY98):

- * S&M and landlord activities will continue through the entire period.

8. Key Assumptions:

- * All projects in the FY94-98 Five-Year Plan are funded.
- * S & H requirements are addressed in the S & M activities.
- * Landlord costs include security and utilities only. Costs may increase as landlord activities are better defined.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring will cause delays in accomplishing scheduled work and result in milestones being pushed out.

Availability of contractor support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and

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the analysis of samples.

10. Regulatory Drivers/Consequences:

DOE Order 5820.2A/ If this activity is not funded, characterization of each building will not be performed and the safety envelope for each site will not be maintained. This level of activity reflects a priority 3.

11. Other Consequences:

Operations Office: ALLA ID No.: 2136

Last Update: 04/27/92

Activity Title: DECOMMISSIONING OF HE CONTAMINATED BUILDINGS AT TA-16

Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: NA NEPA: CE

Category: ER Facility/WAG: HE CONTAMINATED STRUCTURES % Overhead: 9

Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L WBS No.: Level: 0

Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: N TSCA: Y CERCLA: N

NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: N TRI: N FED: Y

F.O. POC: BITNER, K FTS 845-4606

Reviewed Date: 03/02/92

HQ POC: HARRIS, R FTS 233-8199

Auxiliary Fields: 1. DD 2. 3.

MILESTONES Milestone No. 2

Req. Due Date: 05/30/94 Target Due Date: 10/01/98 Level: HQ Source:DOE

Title: PHASE II - OPERATIONS

Compliance: 5820.2A

Description: COMPLETE REMEDIATION OF BUILDING TA16-10

Milestone No. 1

Req. Due Date: 09/30/94 Target Due Date: 10/01/96 Level: HQ Source:DOE

Title: PHASE I PLANNING FOR FY94 ACTIVITIES

Compliance: 5820.2A

Description: THESE PLANNING ACTIVITIES WILL INCLUDE: SITE CHARACTERIZATION, SYSTEM REPORTING DEVELOPMENT, CERTIFICATION DEVELOPMENT, PROJECT MANAGEMENT, AND SURVEILLANCE AND MAINTENANCE

Milestone No. 3

Req. Due Date: 09/30/95 Target Due Date: 10/01/99 Level: HQ Source:DOE

Title: PHASE I PLANNING FOR FY95 ACTIVITIES

Compliance: 5820.2A

Description: THESE PLANNING ACTIVITIES WILL INCLUDE: SITE CHARACTERIZATION, SYSTEM REPORTING DEVELOPMENT, CERTIFICATION DEVELOPMENT, PROJECT MANAGEMENT, AND SURVEILLANCE AND MAINTENANCE

Milestone No. 4

Req. Due Date: 09/30/95 Target Due Date: 10/01/99 Level: HQ Source:DOE

Title: PHASE II - OPERATIONS

Compliance: 5820.2A

Description: COMPLETE REMEDIATION OF BUILDINGS TA-16-89, 90, 91

Milestone No. 6

Req. Due Date: 09/30/96 Target Due Date: 10/01/00 Level: HQ Source:DOE

Title: PHASE II - OPERATIONS

Compliance: 5820.2A

Description: COMPLETE REMEDIATION OF BUILDINGS TA-16-93, 515, 516, 92, 520, 59

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Milestone No. 5

Req. Due Date: 09/30/96 **Target Due Date:** 10/01/00 **Level:** HQ **Source:**DOE
Title: PHASE I PLANNING FOR FY96 ACTIVITIES
Compliance: 5820.2A
Description: THESE PLANNING ACTIVITIES WILL INCLUDE: SITE CHARACTERIZATION, SYSTEM REPORTING DEVELOPMENT, CERTIFICATION DEVELOPMENT, PROJECT MANAGEMENT, AND SURVEILLANCE AND MAINTENANCE.

Milestone No. 7

Req. Due Date: 09/30/97 **Target Due Date:** 10/01/00 **Level:** HQ **Source:**DOE
Title: PHASE I PLANNING FOR FY97 ACTIVITIES
Compliance: 5820.2A
Description: THESE PLANNING ACTIVITIES WILL INCLUDE: SITE CHARACTERIZATION, SYSTEM REPORTING DEVELOPMENT, CERTIFICATION DEVELOPMENT, PROJECT MANAGEMENT, AND SURVEILLANCE AND MAINTENANCE.

Milestone No. 8

Req. Due Date: 09/30/97 **Target Due Date:** 10/01/00 **Level:** HQ **Source:**DOE
Title: PHASE II - OPERATIONS
Compliance: 5820.2A
Description: COMPLETE REMEDIATION OF BUILDINGS TA-16-61, 63, 99, 517, 519, 75, 76, 77, 78

Milestone No. 9

Req. Due Date: 09/30/98 **Target Due Date:** 10/01/00 **Level:** HQ **Source:**DOE
Title: PHASE I PLANNING FOR FY98 ACTIVITIES
Compliance: 5820.2A
Description: THESE PLANNING ACTIVITIES WILL INCLUDE: SITE CHARACTERIZATION, SYSTEM REPORTING DEVELOPMENT, CERTIFICATION DEVELOPMENT, PROJECT MANAGEMENT, AND SURVEILLANCE AND MAINTENANCE

Milestone No. 10

Req. Due Date: 10/01/98 **Target Due Date:** 10/01/00 **Level:** HQ **Source:**DOE
Title: PHASE II - OPERATIONS
Compliance: 5820.2A
Description: COMPLETE REMEDIATION OF BUILDINGS TA-16-79, 80, 101, 21, 73

Requirements Narrative

1. Technical Scope:

This activity data sheet (ADS) is to request funding for the Decontamination and Decommissioning (D&D) of approximately 25 buildings and structures which were used in the research and development (R&D), and storage of high-explosives (HE), and which are in very bad condition with leaky roofs, and rotting walls. A large number of these structures have asbestos siding and some have asbestos in a more friable form such as pipe and duct insulation.

The planning phase of this project will include a plan for systematically decommissioning approximately 25 buildings and structures, some of which are contaminated with varying levels of high explosive particulates and low levels of radioactive materials. Lesser contaminated structures will be remediated first to allow taking advantage of lessons learned. This project will require considerable technical advice and support from a high

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Explosives expert with broad experience in detecting, handling, and decontamination of these materials.

List of buildings at the site to be included in this ADS:

START	COMPLETION	STRUCTURE IDENTIFICATION
10/93	05/94	16-10 Warehouse 8136 sq.ft. storage
10/93	11/94	16-27 Storage building 4001 sq.ft.
10/93	02/95	16-89 Process building 1584 sq.ft.
10/93	06/95	16-90 Process building 2165 sq.ft.
10/93	10/95	16-91 Process building 1322 sq.ft.
10/93	02/96	16-93 Process building 1627 sq.ft.
10/93	06/96	16-515 Process building 3117 sq.ft.
10/93	07/96	16-516 Process building 640 sq.ft.
10/93	09/96	16-92 Inspection building 1257 sq. ft.
10/93	10/96	16-520 Test building 656 sq.ft.
10/93	12/96	16-59 Magazine 1200 sq.ft. storage
10/93	02/97	16-61 Magazine 1227 sq.ft. storage
10/93	03/97	16-63 Storage building 495 sq.ft.
10/93	04/97	16-99 Storage building 892 sq.ft.
10/93	05/97	16-517 Equipment building 318 sq. ft. storage
10/93	06/97	16-519 Storage building 728 sq.ft.
10/93	07/97	16-75 Explosives sget 399 sq.ft. storage
10/93	08/97	16-76 Magazine 300 sq.ft. storage
10/93	09/97	16-77 Magazine 300 sq.ft. storage
10/93	11/97	16-78 Magazine 300 sq.ft. storage
10/93	01/98	16-79 Bunker 300 sq.ft storage
10/93	03/98	16-80 Magazine 300 sq.ft. storage
10/93	05/98	16-101 Guard Station 185 sq.ft.
10/93	08/98	16-21 Pumping station 324 sq.ft.
10/93	09/98	16-73 Magazine 144 sq.ft. storage

Start dates for the above activities are associated with the assessment phase (Phase I) of the operations.

Completion dates are for the completion of the remediation phase (Phase II) of the operations.

2. Activities Completed to Date:

N/A

3. Activity Term:

It is estimated that the complete D&D of the HE contaminated buildings and structures at TA-16 will take approximately 5 years.

4. Current Year (FY 92) Description:

N/A

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5. Budget Year (FY 93) Description:

N/A

6. Planning Year (FY 94) Description:

- * Site characterization (general)
- * Site characterization (specific building)
- * Project management plan
- * System reporting development
- * Certification development
- * Surveillance and maintenance
- * Start systems dismantlement
- * These activities will require 7.1 FTEs

7. Outyears (FY 95-FY98):

- * Site characterization (specific building)
- * Decontamination
- * Systems dismantlement
- * Building dismantlement
- * Waste disposal
- * Reporting

8. Key Assumptions:

- * The percentage of JCI Subcontracted costs, miscellaneous subcontracts and associated burden equates to 55.4% of the project costs, and the remaining 44.6% is for LANL FTE costs.
- * Specific analogy and expert opinion methods of estimating cost and schedule
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of OE only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the Indirect cost per FTE supplied by the LANL Indirect Program Office.

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Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the Financial Management Handbook are used, (3) General M&S is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S; it is not based on prior years' major procurement.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contract support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.

10. Regulatory Drivers/Consequences:

DOE Order 5820.2A, Chapter 5/Continued maintenance and surveillance

11. Other Consequences:

EM-40 Progress Indicators :

Immediate/Short Term Action:

Alternate Water Supply

Site Security Measures

People Evacuated or Relocated

Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	0	0	0	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

Indicators Point of Contact:

Title:

Phone Number: 0

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Operations Office: ALLA ID No.: 2137

Last Update: 04/27/92

Activity Title: TECHNICAL SUPPORT FOR D&D

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: NA NEPA: N/A

Category: ER Facility/WAG:

% Overhead: 13

Cost LOC Req.: M Sched. LOC Req.: M Scope LOC Req.: M

WBS No.:

Level: 0

Line Item No.:

TPC:

0

TEC:

0

Contig.

0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: N HAZ: N SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: N TSCA: Y CERCLA: N

NEPA: Y DOE: N OSHA: Y IAG: N ORD: N ST: N TRI: N FED: Y

F.O. POC: BITNER, K FTS 845-4606

Reviewed Date: 03/02/92

HQ POC: HARRIS, R FTS 233-8199

Auxiliary Fields: 1. DD

2.

3.

MILESTONES Milestone No. 1

Req. Due Date: 04/01/94 Target Due Date: 04/01/96 Level: HQ Source:DOE

Title: CREATE LIST OF D&D EQUIPMENT

Compliance: 5820.2A

Description: CREATE LIST OF EQUIPMENT PURCHASED, IN INVENTORY, AND REQUESTED FOR FUTURE YEARS.

Milestone No. 2

Req. Due Date: 09/30/94 Target Due Date: 09/30/96 Level: HQ Source:DOE

Title: UPDATE LIST OF D&D EQUIPMENT

Compliance: 5820.2A

Description: UPDATE AND MAINTAIN LIST OF D&D EQUIPMENT THAT WAS PURCHASE, IN INVENTORY, AND REQUESTED FOR FUTURE YEARS.

Milestone No. 3

Req. Due Date: 09/30/95 Target Due Date: 09/30/97 Level: HQ Source:DOE

Title: UPDATE LIST OF D&D EQUIPMENT

Compliance: 5820.2A

Description: UPDATE AND MAINTAIN LIST OF D&D EQUIPMENT THAT WAS PURCHASED, IN INVENTORY, AND REQUESTED FOR FUTURE YEARS.

Milestone No. 4

Req. Due Date: 09/30/96 Target Due Date: 09/30/98 Level: HQ Source:DOE

Title: UPDATE LIST OF D&D EQUIPMENT

Compliance: 5820.2A

Description: UPDATE AND MAINTAIN LIST OF D&D EQUIPMENT THAT WAS PURCHASED, IN INVENTORY, AND REQUESTED FOR FUTURE YEARS

Milestone No. 5

Req. Due Date: 09/30/97 Target Due Date: Level: HQ Source:DOE

Title: UPDATE LIST OF D&D EQUIPMENT

Compliance: 5820.2A

Description: UPDATE AND MAINTAIN LIST OF D&D EQUIPMENT THAT WAS PURCHASED, IN INVENTORY, AND REQUESTED FOR FUTURE YEARS

Milestone No. 6

Req. Due Date: 09/30/98 **Target Due Date:** **Level:** HQ **Source:**DOE
Title: UPDATE LIST OF D&D EQUIPMENT
Compliance: 5820.2A
Description: UPDATE AND MAINTAIN LIST OF D&D EQUIPMENT THAT WAS PURCHASED, IN INVENTORY, AND REQUESTED FOR FUTURE YEARS

Requirements Narrative

1. **Technical Scope:**

This activity provides funding to support the D&D program with the application of equipment and technical expertise to the field projects. Equipment and techniques learned through active informational exchanges with other DOE D&D activities will be applied as appropriate.

D&D equipment will be at a minimum "suspect" of being radioactively contaminated and will require rigid controls as it is shared among the ongoing field projects.

The equipment will be purchased with funds provided by this activity. Initial purchases in FY94 will be followed by systematic replacement of individual equipment items, depending on their use and expected lifetime. Funds will allow the purchase of expense and capital equipment items.

Examples of equipment are forklifts, personnel lifts, vacuum systems, backhoes, compressors, scabblers, generators, jack hammers, portable exhaust systems, equipment and personnel change trailers, and equipment to perform nondestructive assaying of special nuclear materials (SNM) holdup.

2. **Activities Completed to Date:**

N/A

3. **Activity Term:**

This will be an ongoing activity.

4. **Current Year (FY 92) Description:**

N/A

5. **Budget Year (FY 93) Description:**

N/A

6. **Planning Year (FY 94) Description:**

Because this is a new ADS and increased demands on the D&D program, significant purchases and technology needs will be required to initiate the base level of effort.

These activities will require 2.0 FTEs

7. **Outyears (FY 95-FY98):**

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This is an ongoing activity.

8. Key Assumptions:

The key assumption is that the D&D projects which this activity supports will be funded as requested in the FY94-98 Five-Year Plan.

- * The percentage of JCI Subcontracted costs and associated burden equates to 0% of the project costs. All project costs are either LANL FTE costs or procurement costs.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of OE only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the Indirect cost per FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the Financial Management Handbook are used, (3) General M&S is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S; it is not based on prior years' major procurement.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contract support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.

10. Regulatory Drivers/Consequences:

5820.2A/ If funding is not provided for this activity, the DP Program will suffer economically. There will be frequent work delays as arrangements are made to obtain equipment on short notice. Rental equipment will have to be bought "after the fact" due to its suspect contamination.

Technically the program will suffer because there will be minimal opportunity to incorporate improved techniques due to limited interactions with other D&D programs.

11. Other Consequences:

EM-40 Progress Indicators :

Immediate/Short Term Action:

Alternate Water Supply

Site Security Measures

People Evacuated or Relocated

Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	0	0	0	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

Indicators Point of Contact:

Title:

Phone Number: 0

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Operations Office: ALLA ID No.: 2134

Last Update: 04/27/92

Activity Title: DECOMMISSIONING OF TA-3, SM-35, PRESS BUILDING

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: NA NEPA: CE

Category: ER Facility/WAG: PRESS BUILDING

% Overhead: 10

Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L

WBS No.:

Level: 0

Line Item No.:

TPC:

0

TEC:

0

Contig.

0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: N TSCA: Y CERCLA: N

NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: N TRI: N FED: Y

F.O. POC: BITNER, K FTS 845-4606

Reviewed Date: 03/02/92

HQ POC: HARRIS, R FTS 233-8199

Auxiliary Fields: 1. DD

2.

3.

MILESTONES Milestone No. 1

Req. Due Date: 01/31/94 Target Due Date: 10/01/96 Level: HQ Source:DOE

Title: PHASE I - PLANNING

Compliance: 5820.2A

Description: THESE PLANNING ACTIVITIES WILL INCLUDE: SITE CHARACTERIZATION, SYSTEM REPORTING DEVELOPMENT, CERTIFICATION DEVELOPMENT, PROJECT MANAGEMENT, AND SURVEILLANCE AND MAINTENANCE.

Milestone No. 2

Req. Due Date: 09/30/94 Target Due Date: 10/01/97 Level: HQ Source:DOE

Title: PHASE II - OPERATIONS

Compliance: 5820.2A

Description: THE ACTUAL WORK INVOLVED IN DECOMMISSIONING A FACILITY AS DESCRIBED IN THE PROJECT MANAGEMENT PLAN WILL BE ACCOMPLISHED DURING THE OPERATIONS PHASE.

Requirements Narrative

1. Technical Scope:

This activity data sheet (ADS) requests funding for the assessment and remediation phases of the decontamination, and decommissioning (D&D) of the Press Building, TA-3, SM-35. The building, a materials access area (MAA), houses a 5000 ton press, and a laboratory area with associated hoods, lab benches and a ventilation system which was not designed to handle but which has been used in the processing of U-235.

The facility was built to house a 5000 ton press in the high bay area (70' high) on the south end, and a Lithium Hydride materials operation on the north. Lithium hydride was never brought into the facility for the Rover program. The press itself is not contaminated with radioactive materials, according to MST-DO personnel, but the exhaust system in the north end of the building is reportedly high contaminated. Major contaminants are U-235 and U-235 daughters.

Tasks include characterization, engineering, system development,

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certification development, systems dismantlement, decontamination, waste disposal, and building demolition.

The press will be dismantled and disposed of in a manner yet to be determined. All laboratory equipment, and ventilation ducts, fans, and associated equipment (mostly highly contaminated) will be removed and disposed of at TA-54, Area G, or stored as mixed waste at TA-54, Area L.

The building walls, floors, and equipment will receive a decontamination wipe-down prior to total dismantlement.

Surveillance and maintenance activities will be conducted until the completion of the assessment and project management plan is approved (6 months).

2. Activities Completed to Date:

N/A

3. Activity Term:

At the end of the planning period, FY98, the D&D of the press building will be complete allowing use by other activities.

4. Current Year (FY 92) Description:

N/A

5. Budget Year (FY 93) Description:

N/A

6. Planning Year (FY 94) Description:

- * Site characterization
- * Engineering
- * System reporting development
- * Certification development
- * Surveillance and maintenance
- * Systems dismantlement
- * These activities will require 3.5 FTEs

7. Outyears (FY 95-FY98):

- * Decontamination
- * Systems dismantlement
- * Building dismantlement
- * Waste disposal
- * Certification and verification
- * Reporting
- * These activities will require between 3.8 & 1.9 FTEs per year

8. Key Assumptions:

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The percentage of JCI Subcontracted costs and associated burden equates to 67.2% of the project costs, and the remaining 32.8% is for LANL FTE costs.

- * Specific analogy method of estimating cost and schedule.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of OE only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the Indirect cost per FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the Financial Management Handbook are used, (3) General M&S is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S; it is not based on prior years' major procurement.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contract support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.

10. Regulatory Drivers/Consequences:

DOE 5820.2A, chapter 5/Continued surveillance and maintenance

11. Other Consequences:

EM-40 Progress Indicators :

Immediate/Short Term Action:

Alternate Water Supply

Site Security Measures

People Evacuated or Relocated

Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	0	0	0	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

Indicators Point of Contact:

Title:

Phone Number: 0

Operations Office: ALLA ID No.: 2135

Last Update: 04/27/92

Activity Title: DECONTAMINATION TA-33, BUILDING 86, TRITIUM FACILITY

Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: NA NEPA: CE

Category: ER Facility/WAG: BUILDING 86 % Overhead: 14

Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L WBS No.: Level: 0

Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: N TSCA: Y CERCLA: N

NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: N TRI: N FED: Y

F.O. POC: BITNER, K FTS 845-4606

Reviewed Date: 03/02/92

HQ POC: HARRIS, R FTS 233-8199

Auxiliary Fields: 1. DD 2. 3.

MILESTONES Milestone No. 1

Req. Due Date: 01/31/94 Target Due Date: 10/01/96 Level: HQ Source:DOE

Title: PHASE I - PLANNING

Compliance: 5820.2A

Description: THESE PLANNING ACTIVITIES WILL INCLUDE: SITE CHARACTERIZATION, SYSTEM REPORTING DEVELOPMENT, CERTIFICATION DEVELOPMENT, PROJECT MANAGEMENT, AND SURVEILLANCE AND MAINTENANCE.

Milestone No. 2

Req. Due Date: 09/30/94 Target Due Date: 10/01/97 Level: HQ Source:DOE

Title: PHASE II - OPERATIONS

Compliance: 5820.2A

Description: THE ACTUAL WORK INVOLVED IN DECOMMISSIONING A FACILITY AS DESCRIBED IN THE PROJECT MANAGEMENT PLAN WILL BE ACCOMPLISHED DURING THE OPERATIONS PHASE. THIS PROJECT WILL BE COMPLETED IN FY94.

Requirements Narrative

1. Technical Scope:

This activity data sheet (ADS) is to fund the decontamination and decommissioning (D&D) of TA-33, Building 86, a high pressure tritium gas repackaging facility.

Tasks include characterization, engineering, system reporting development, certification development, project management plan, systems dismantlement, decontamination, and waste disposal. An environmental assessment for the shutdown and material removal is currently being prepared and is scheduled for completion by mid-1992. For this reason a categorical exclusion will be sufficient for the remediation.

All tritium processing equipment, apparatus, and laboratory furniture will be removed and disposed of according to waste classification as low level radioactive (tritium) waste at Area G, TA-54 (LLW), or stored as mixed waste if hazardous materials are also present, at Area L, TA-54.

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The buildings will be decontaminated including walls, ceilings, and floors. All decontamination wash water will be collected and treated at the Radioactive Liquid Waste Treatment Facility at TA-50. Tritium contamination levels and wash water volume are unknown at present.

The exhaust and ventilation system will be removed. A contaminated discharge line to an acid waste sump should be removed either by the D&D program or the ER program. All waste will be managed as stated above.

Asbestos insulation (contaminated and uncontaminated) will likely be encountered and removed for disposal or shipped off-site by independent contractor depending on contamination status.

Estimates of Low Level Waste (LLW), Mixed Waste (MW), and Asbestos waste are not available at this time.

The building shell will not be dismantled.

2. Activities Completed to Date:

N/A

3. Activity Term:

Site will be ready for turnover to ER for D&D by February 1994. The D&D of building 86 will begin at that time and be complete by approximately October 1994, allowing use by other activities.

4. Current Year (FY 92) Description:

N/A

5. Budget Year (FY 93) Description:

N/A

6. Planning Year (FY 94) Description:

- * Site characterization
- * Engineering
- * System reporting development
- * Certification development
- * Surveillance and maintenance
- * Systems dismantlement
- Decontamination
- * Waste disposal

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* These activities will require 2.8 FTEs

7. Outyears (FY 95-FY98):

* Certification

* Reporting

* The D&D will be completed in FY 1994

8. Key Assumptions:

* The percentage of JCI Subcontracted costs and associated burden equates to 49.8% of the project costs, and the remaining 50.2% is for LANL FTE costs.

* Specific analogy method of estimating cost and schedule

* Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of OE only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the Indirect cost per FTE supplied by the LANL Indirect Program Office.

* Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the Financial Management Handbook are used, (3) General M&S is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S; it is not based on prior years' major procurement.

9. Key Issues:

* Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring will cause delays in accomplishing scheduled work and result in milestones being pushed out.

* Availability of contract support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.

* Completion of Environmental Assessment pending

* February 1994 start contingent on completion of material inventory removal by the operating group and turnover to the D&D group

10. Regulatory Drivers/Consequences:

DOE Order 5820.2A, Chapter 5/Extended surveillance and maintenance

11. Other Consequences:

EM-40 Progress Indicators :

Immediate/Short Term Action:

Alternate Water Supply

Site Security Measures

People Evacuated or Relocated

Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	0	0	0	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

Indicators Point of Contact:

Title:

Phone Number: 0

Operations Office: ALLA ID No.: 1054

Last Update: 04/27/92

Activity Title: PHASE SEPARATOR PIT DECOMMISSIONING

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: NA NEPA: CE

Category: ER Facility/WAG: TSL-3

% Overhead: 5

Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L

WBS No.: Level: 0

Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: N TSCA: Y CERCLA: N

NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: N TRI: N FED: Y

F.O. POC: BITNER, K FTS 845-4606

Reviewed Date: 03/02/92

HQ POC: HARRIS, R FTS 233-8199

Auxiliary Fields: 1. DD 2. 3.

CROSSWALK Old ADS Number: ALLA2121

Type of Change: ADS COMBINED

Reason for Change: REMEDIATION, PHASE SEPARATOR PIT DECOMMISSIONING

MILESTONES Milestone No. 1

Req. Due Date: 03/30/93 Target Due Date: 09/30/93 Level: HQ Source:DOE

Title: CHARACTERIZATION

Compliance: 5820.2A

Description: SITE CHARACTERIZATION, SYSTEM REPORTING DEVELOPMENT, CERTIFICATION DEVELOPMENT, PROJECT MANAGEMENT, AND SURVEILLANCE AND MAINTENANCE.

Milestone No. 2

Req. Due Date: 03/30/93 Target Due Date: 09/30/93 Level: HQ Source:DOE

Title: NEPA DOCUMENTATION

Compliance: 5820.2A

Description: THE LABORATORY WILL PREPARE THE NECESSARY NEPA DOCUMENT REQUIRED BY THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) (42 U.S.C. 4321 ET SEQ. 40 CFR 1500-1508) AND DOE IMPLEMENTING REGULATIONS (DOE ORDER 5440.1D).

Milestone No. 3

Req. Due Date: 05/30/93 Target Due Date: 09/30/93 Level: HQ Source:DOE

Title: PROJECT MANAGEMENT PLAN

Compliance: 5820.2A

Description: ESTABLISH APPROVED PROJECT SCOPE AND TECHNICAL PERFORMANCE REQUIREMENTS, SCHEDULES, RESOURCE PLANS, LEVELS OF RESPONSIBILITY AND AUTHORITY, ORGANIZATIONAL INTERFACES, IMPLEMENTATION PLANS, AND ACCOUTABILITY.

Milestone No. 4

Req. Due Date: 08/30/93 **Target Due Date:** 03/30/95 **Level:** HQ **Source:**DOE
Title: REMOVAL OF STORAGE TANKS AND LEAD BRICKS
Compliance: 5820.2A
Description: THE REMOVAL EFFORT WILL INCLUDE THE FOLLOWING: DRAINING TANKS AND DISPOSING OF WASTE, REMOVING INTERIOR TANKS AND ASSOCIATED PIPING, AND REMOVING APPROXIMATELY 1000 LEAD BRICKS.

Milestone No. 5

Req. Due Date: 09/30/94 **Target Due Date:** 03/30/95 **Level:** HQ **Source:**DOE
Title: REMOVAL OF EXTERNAL STRUCTURE
Compliance: 5820.2A
Description: THE REMOVAL EFFORT WILL INCLUDE THE FOLLOWING: RAZE STRUCTURE TA 35-7, EXCAVATE AND REMOVE BURIED VENTILATION DUCTS, UNDERGROUND WASTE LINES VENT LINES, TANKS, EXHAUST STACK, FILTERS, CONCRETE FLOOR, RAZE STRUCTURE, AND REMOVE CONTAMINATED SOIL.

Requirements Narrative

1. Technical Scope:

This activity data sheet (ADS) requests funding to decommission an underground structure of approximately 2,150 sq.ft. that provided ventilation exhaust for the Los Alamos Molten Plutonium Reactor Facility I (LAMPRE I) and supporting structures, tanks, waste lines and ventilation ducting. The scope includes relocation of existing functioning ventilation equipment from support structure TA-35-7 and razing structure TA-35-7. The structure contains seven waste storage tanks and associated ducts and piping, as well as several thousand lead bricks (shielding) which are expected to be contaminated with radioactive and other hazardous materials.

2. Activities Completed to Date:

Not applicable to this project (see Technical Scope).

3. Activity Term:

At the end of the planning period, FY98, the Phase Separator Pit and structure TA-35-7 will have been decommissioned.

4. Current Year (FY 92) Description:

Not applicable to this project; no funding requested.

5. Budget Year (FY 93) Description:

- * Site characterization
- * Engineering
- * System reporting development
- * Certification development

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Sampling

- * Project management plan and completion of Assessment Phase
- * Relocation of active exhaust systems
- * Razing of structure TA-35-7
- * These activities will require 3.1 FTEs

6. Planning Year (FY 94) Description:

The project will be completed this year.

- * Systems dismantlement in structure TA-35-3
- * Removal of underground lines and tanks
- * Razing of TA-35-3
- * Waste disposal
- * Reporting
- * Certification

These activities will require 3.8 FTEs

7. Outyears (FY 95-FY98):

The project will be completed in FY94.

8. Key Assumptions:

Key assumptions which influence this activity include:

- * The Department of Energy (DOE) will continue to require the Laboratory to maintain compliance with environmental orders.
- * Waste disposal requirements will not change dramatically prior to completion of this activity.
- * The percentage of JCI Subcontracted costs and associated burden equates to 69.8% of the project costs, and the remaining 30.2% is for LANL FTE costs.
- * The Specific Analogy Technique was used to estimate costs.
- * This activity is a Priority 3. In the absence of decontamination and decommissioning activities, the structure poses a threat to the environment.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of OE only, (2) Indirect resources (\$ and FTEs) are based on

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Direct FTE effort, (3) After estimating direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect costs by the Indirect cost per FTE supplied by the LANL Indirect Program Office.

- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the Financial Management Handbook are used, (3) General M&S is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S; it is not based on prior years' major procurement.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contract support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.

10. Regulatory Drivers/Consequences:

This D&D activity must be accomplished in accordance with DOE Order 5820.2A, Radioactive Waste Management.

Atomic Energy Act	Atomic Energy Act
HSWA	Hazardous and Solid Waste Amendments of 1984
RCRA	Resource Conservation and Recovery Act
NM	DOE/NM Agreement
NMHWMR	New Mexico Hazardous Waste Management Regulations
RCRA	RCRA Operating Permit
5820.2-	Radioactive Waste Management

11. Other Consequences:

There is no alternative to this decommissioning activity because the facility has the potential to release radioactive and chemical contaminants to the environment.

EM-40 Progress Indicators :

Immediate/Short Term Action:

Alternate Water Supply

Site Security Measures

People Evacuated or Relocated

Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	0	0	0	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

Indicators Point of Contact:

Title:

Phone Number: 0

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Operations Office: ALLA ID No.: 1055

Last Update: 04/27/92

Activity Title: DECONTAMINATION AND DECOMMISSIONING OF TA-21, DP WEST SITE
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: NA NEPA: CE
Category: ER Facility/WAG: DP WEST % Overhead: 6
Cost LOC Req.: L Sched. LOC Req.: L Scope LOC Req.: L WBS No.: Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: N TSCA: Y CERCLA: N
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: N TRI: N FED: Y

F.O. POC: BITNER, K. FTS 845-4606 Reviewed Date: 03/02/92
HQ POC: HARRIS, R. FTS 233-8199
Auxiliary Fields: 1. DD 2. 3.

CROSSWALK Old ADS Number: ALLA2122
Type of Change: ADS COMBINED
Reason for Change: REMEDIATION PHASE OF BUILDINGS 3 & 4, SOUTH

MILESTONES Milestone No. 1
Req. Due Date: 04/01/93 Target Due Date: 04/01/93 Level: HQ Source:DOE
Title: FINISH PHASE I ASSESSMENT FOR BUILDINGS 3&4 SOUTH
Compliance: 5820.2A
Description: COMPLETE THE PHASE I ASSESSMENT OF TA-21 BUILDINGS 3&4 SOUTH, AND
RECEIVE ACCEPTANCE OF PROGRAM MANAGEMENT PLAN FOR THESE TWO
BUILDINGS

Milestone No. 2
Req. Due Date: 12/31/93 Target Due Date: 04/01/95 Level: HQ Source:DOE
Title: PHASE I - PLANNING FOR FY94 ACTIVITIES
Compliance: 5820.2A
Description: COMPLETE D&D REMEDIATION AND PUBLISH FINAL REPORT FOR TA-21
BUILDINGS 3&4 SOUTH

Milestone No. 3
Req. Due Date: 09/30/94 Target Due Date: Level: HQ Source:DOE
Title: PHASE I PLANNING FOR REMAINDER OF SITE
Compliance: 5820.2A
Description: THESE PLANNING ACTIVITIES INCLUDE: SITE CHARACTERIZATION, SYSTEM
REPORTING DEVELOPMENT, CERTIFICATION DEVELOPMENT, PROJECT
MANAGEMENT AND SURVEILLANCE AND MAINTENANCE

Milestone No. 4
Req. Due Date: 09/30/94 Target Due Date: Level: HQ Source:DOE
Title: PHASE II - OPERATIONS FINISH REMEDIATION FOR BLDG. 4 SOUTH
Compliance: 5820.2A
Description: THE ACTUAL WORK INVOLVED IN DECOMMISSIONING A FACILITY AS
DESCRIBED THE PROJECT MANAGEMENT PLAN WILL BE ACCOMPLISHED DURING
THE OPERATIONS PHASE

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Milestone No. 5

Req. Due Date: 09/30/95 **Target Due Date:** **Level:** HQ **Source:**DOE
Title: PHASE I PLANNING FOR FY96 ACTIVITIES
Compliance: 5820.2A
Description: THESE PLANNING ACTIVITIES INCLUDE: SITE CHARACTERIZATION, SYSTEM REPORTING DEVELOPMENT, CERTIFICATION DEVELOPMENT, PROJECT MANAGEMENT AND SURVEILLANCE AND MAINTENANCE

Milestone No. 6

Req. Due Date: 09/30/95 **Target Due Date:** **Level:** HQ **Source:**DOE
Title: PHASE II - OPERATIONS
Compliance: 5820.2A
Description: COMPLETE REMEDIATION OF BLDG. TA-21-146, 324

Milestone No. 7

Req. Due Date: 09/30/96 **Target Due Date:** **Level:** HQ **Source:**DOE
Title: PHASE I PLANNING FOR FY97 ACTIVITIES
Compliance: 5820.2A
Description: THESE PLANNING ACTIVITIES WILL INCLUDE: SITE CHARACTERIZATION, SYSTEM REPORTING DEVELOPMENT, CERTIFICATION DEVELOPMENT, PROJECT MANAGEMENT, AND SURVEILLANCE AND MAINTENANCE.

Milestone No. 8

Req. Due Date: 09/30/96 **Target Due Date:** **Level:** HQ **Source:**DOE
Title: PHASE II - OPERATIONS
Compliance: 5820.2A
Description: COMPLETE REMEDIATION OF BUILDING TA-21-5 SOUTH

Milestone No. 9

Req. Due Date: 09/30/97 **Target Due Date:** **Level:** HQ **Source:**DOE
Title: PHASE I PLANNING FOR FY98 ACTIVITIES
Compliance: 5820.2A
Description: THESE PLANNING ACTIVITIES WILL INCLUDE: SITE CHARACTERIZATION, SYSTEM REPORTING DEVELOPMENT, CERTIFICATION DEVELOPMENT, PROJECT MANAGEMENT, AND SURVEILLANCE AND MAINTENANCE.

Milestone No. 10

Req. Due Date: 09/30/97 **Target Due Date:** **Level:** HQ **Source:**DOE
Title: PHASE II - OPERATIONS
Compliance: 5820.2A
Description: COMPLETE REMEDIATION OF BUILDING 21-5 NORTH

Milestone No. 11

Req. Due Date: 09/30/98 **Target Due Date:** **Level:** HQ **Source:**DOE
Title: PHASE I PLANNING FOR FY99 ACTIVITIES
Compliance: 5820.2A
Description: THESE PLANNING ACTIVITIES WILL INCLUDE: SITE CHARACTERIZATION, SYSTEM REPORTING DEVELOPMENT, CERTIFICATION DEVELOPMENT, PROJECT MANAGEMENT, AND SURVEILLANCE AND MAINTENANCE.

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Milestone No. 12

Req. Due Date: 09/30/98 Target Due Date: Level: HQ Source:DOE
Title: PHASE II - OPERATIONS
Compliance: 5820.2A
Description: COMPLETE REMEDIATION OF BUILDING TA-21-21

Requirements Narrative

1. Technical Scope:

This activity data sheet (ADS) is to fund the Decommissioning of the TA-21, DP West Site. This encompasses several process building in which Pu-238, PU-239, U-235, and U-238 as the major radio-isotopes, were handled, and the support buildings such as those housing ventilation and filtration systems and storage buildings.

The planning phase of this D&D project will include a plan for systematically decommissioning the whole site. This type of strategy minimizes the need for bypassing or re-routing numerous utility systems.

This current scope is a major change from the initial ADS-1055 and ADS-2122 which only included the assessment for buildings 3&4 South. Some of the buildings at TA-21 are still in use, but will be excessed in time to be included in the overall project covered by this ADS.

List of buildings at the site to be included in this ADS:

START	COMPLETION	STRUCTURE IDENTIFICATION
10/91	09/93	Building 21-3 South-Process building
10/91	09/94	Building 21-4 South-Process building
10/93	09/95	Building 21-146 Old filter building and stack
10/93	09/95	Building 21-324 Filter building and stack
10/93	09/96	Building 21-5 South-Process building
10/93	09/97	Building 21-5 North-Process building
10/93	09/98	Building 21-21 Radioactive materials storage vault
10/93	09/99	Building 21-2 South-Process building
10/93	09/99	Building 21-2 North-Process building
10/93	09/00	Building 21-3 North-Process building
10/93	09/01	Building 21-4 North-Process building
10/93	09/02	Building 21-150 Process building
10/93	09/03	Building 21-286 Storage
10/93	09/03	Building 21-402 Storage
10/93	09/04	Building 21-257 Liquid radioactive waste treatment plant and collection system
10/93	09/04	Building 21-228 Storage

Start dates for the above activities are associated with the assessment phase (Phase I) of the operations.

Completion dates are for the completion of phase II (Remediation) operations.

2. Activities Completed to Date:

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NEPA documentation (Categorical Exclusion) reviewed and approved in 1991 for buildings 3 & 4 South.

3. Activity Term:

It is estimated that the complete D&D of TA-21, DP West Site will require approximately 10 years.

4. Current Year (FY 92) Description:

- * Begin and complete phase I activities for buildings 3 & 4 south.
- * Begin phase II operations for buildings 3 & 4 south.
- * These activities will require 3.6 FTEs

5. Budget Year (FY 93) Description:

- * Continue phase II operations for D&D of buildings 3 & 4 south.
- * These activities will require 4.8 FTEs

6. Planning Year (FY 94) Description:

- * Continue Phase II operations for D&D of buildings 3 & 4 south
- * Site characterization (general) of remaining buildings
- * Site characterization (specific buildings of immediate concern) of remaining buildings
- * Start Project Management Plan for remaining buildings
- * System reporting development for remaining buildings
- * Certification development for remaining buildings
- * Surveillance and maintenance for remaining buildings
- * These activities will require 24.5 FTEs

7. Outyears (FY 95-FY98):

- * Final close-out for buildings 3 & 4 south
- * Phased decontamination of remaining buildings
- * Phased systems dismantlement of remaining buildings
- * Phased building dismantlement of remaining buildings

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Waste disposal (on-going)

- * Certification and verification
- * Reporting

8. Key Assumptions:

- * The percentage of JCI Subcontracted costs and associated burdens equates to 46.4% of the project costs and the remaining 53.6% is for LANL FTE costs.
- * Specific analogy method of estimating cost and schedule
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of OE only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the Indirect cost per FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General M&S is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' major procurement.

9. Key Issues:

- * Some TA-21 buildings which are still in use will be declared excess in time to be covered by this ADS.
- * This D&D schedule complements the ER activities planned at TA-21 over the same 10 year period.
- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contract support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.

10. Regulatory Drivers/Consequences:

OE 5820.2A, Chapter 5/Extended surveillance and maintenance

11. Other Consequences:

EM-40 Progress Indicators :

Immediate/Short Term Action:

Alternate Water Supply

Site Security Measures

People Evacuated or Relocated

Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	0	0	0	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

Indicators Point of Contact:

Title:

Phone Number: 0

Operations Office: ALLA ID No.: 1051-B

Last Update: 04/27/92

Activity Title: PROGRAM MANAGEMENT - NON DEFENSE PROGRAMS (NON-DP) PROJECTS
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: NA NEPA: N/A
Category: ER Facility/WAG: Decontamination & Decommissioning % Overhead: 27
Cost LOC Req.: M Sched. LOC Req.: M Scope LOC Req.: M WBS No.: Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: N HAZ: N SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: N TSCA: Y CERCLA: N
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: N TRI: N FED: Y

F.O. POC: BITNER, K FTS 845-4606 Reviewed Date: 03/02/92
HQ POC: HARRIS, R FTS 233-8199
Auxiliary Fields: 1. DD 2. 3.

MILESTONES

Milestone No. 1

Req. Due Date: 09/30/93 Target Due Date: 09/30/93 Level: HQ Source:DOE

Title: COORDINATE ER AND D&D ACTIVITIES

Compliance: 5820.2A

Description: BECAUSE D&D ACTIVITIES PERIODICALLY OCCUR WITHIN OR NEAR AN EXISTING SOLID WASTE MANAGEMENT UNIT (SWMU) COORDINATION OF ER AND D&D ACTIVITIES IS ESSENTIAL FOR OPTIMUM EXECUTION IN EFFECTIVELY REMEDIATING A SITE OR FACILITY.

Milestone No. 2

Req. Due Date: 09/30/93 Target Due Date: 09/30/93 Level: HQ Source:DOE

Title: COMPLY WITH CHAPTER 5 OF DOE ORDER 5820.2A

Compliance: 5820.2A

Description: D&D ACTIVITIES WILL BE PERFORMED IN ACCORDANCE WITH CHAPTER 5 (DECOMMISSIONING OF RADIOACTIVELY CONTAMINATED FACILITIES) OF DOE ORDER 5820.2A.

Milestone No. 3

Req. Due Date: 09/30/93 Target Due Date: 09/30/93 Level: HQ Source:DOE

Title: PROVIDE DIRECTION TO OVERALL D&D EFFORT

Compliance: 5820.2A

Description: D&D ACTIVITIES WILL FOLLOW THE ESTABLISHED POLICIES AND GUIDELINES FOR DECONTAMINATION AND DECOMMISSIONING OF RADIOACTIVELY CONTAMINATED FACILITIES UNDER DOE OWNERSHIP OR CONTROL.

Milestone No. 4

Req. Due Date: 09/30/93 Target Due Date: 09/30/93 Level: HQ Source:DOE

Title: PROVIDE DIRECTION TO ONGOING FIELD ACTIVITIES

Compliance: 5820.2A

Description: PROGRAM MANAGEMENT WILL SUPPORT THE NECESSARY DIRECTION PROJECT LEADERS DEEM NECESSARY TO PERFORM ONGOING D&D FIELD ACTIVITIES.

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Milestone No. 5

Req. Due Date: 09/30/94 **Target Due Date:** 09/30/94 **Level:** HQ **Source:**DOE
Title: COORDINATE ER AND D&D ACTIVITIES
Compliance: 5820.2A
Description: BECAUSE D&D ACTIVITIES PERIODICALLY OCCUR WITHIN OR NEAR AN EXISTING SOLID WASTE MANAGEMENT UNIT (SWMU) COORDINATION OF ER AND D&D ACTIVITIES IS ESSENTIAL FOR OPTIMUM EXECUTION IN EFFECTIVELY REMEDIATING A SITE OR FACILITY.

Milestone No. 6

Req. Due Date: 09/30/94 **Target Due Date:** 09/30/94 **Level:** HQ **Source:**DOE
Title: COMPLY WITH CHAPTER 5 OF DOE ORDER 5820.2A
Compliance: 5820.2A
Description: D&D ACTIVITIES WILL BE PERFORMED IN ACCORDANCE WITH CHAPTER 5 (DECOMMISSIONING OF RADIOACTIVELY CONTAMINATED FACILITIES) OF DOE ORDER 5820.2A.

Milestone No. 7

Req. Due Date: 09/30/94 **Target Due Date:** 09/30/94 **Level:** HQ **Source:**DOE
Title: PROVIDE DIRECTION TO OVERALL D&D EFFORT
Compliance: 5820.2A
Description: D&D ACTIVITIES WILL FOLLOW THE ESTABLISHED POLICIES AND GUIDELINES FOR DECONTAMINATION AND DECOMMISSIONING OF RADIOACTIVELY CONTAMINATED FACILITIES UNDER DOE OWNERSHIP OR CONTROL.

Milestone No. 8

Req. Due Date: 09/30/94 **Target Due Date:** 09/30/94 **Level:** HQ **Source:**DOE
Title: PROVIDE DIRECTION TO ONGOING FIELD ACTIVITIES
Compliance: 5820.2A
Description: PROGRAM MANAGEMENT WILL SUPPORT THE NECESSARY DIRECTION PROJECT LEADERS DEEM NECESSARY TO PERFORM ONGOING D&D FIELD ACTIVITIES.

Requirements Narrative

1. Technical Scope:

This activity data sheet (ADS) is to fund a Los Alamos National Laboratory (LANL) Decontamination and Decommissioning (D&D) Program which will identify all excess Non-Defense facilities at LANL and their Phase I needs. The initial focus will be on D&D Projects scheduled for FY92 and FY93 projects, and will be expanded to include all activities included in the Five-Year Plan.

The Assessment phase of the D&D of LAPRE II (ALLA 1053A) and the Remediation (ALLA 2120) have been completed.

The Assessment ADS for the Phase Separator Pit (ALLA 1054) and the Remediation ADS (ALLA 2121) have been combined into a single ADS with the ADS number ALLA 1054.

When first submitted into the Five-Year Plan these two activities were one, to support the base D&D program at LANL. At the request of DOE/HQ the activity was separated into two so that DP projects could be tracked separately from Non-DP projects.

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The total program requirements are for 5 FTEs. Specific positions are a program manager, an administrative secretary, a project management analyst, and two technical staff members.

2. Activities Completed to Date:

A LANL Master Plan was initiated which will identify all excess facilities at LANL and their Phase I needs. Phase I planning activities were initiated for outyear projects.

Work has been completed on ALLA 1053A and ALLA 2120 the Assessment and Remediation of the LAPRE II reactor.

3. Activity Term:

This ADS covers Non-Defense Programs D&D management activities

4. Current Year (FY 92) Description:

Not applicable, no funding requested.

5. Budget Year (FY 93) Description:

A LANL D&D Master Plan will be initiated which will identify all excess facilities at LANL and their Phase I needs. The ER Program SWMU activity coordination will be expanded into the D&D activities program. Phase I planning activities will continue for outyear projects.

- * Develop D&D Master Plan
- * Develop Phase I Activities for FY92-93 projects
- * Provide direction to overall D&D effort
- * Coordinate ER and D&D activities
- * Provide direction to field activities
- * These activities will require 2.0 FTEs

6. Planning Year (FY 94) Description:

A Laboratory Master Plan of D&D projects will be completed which will identify all excess facilities at LANL and their Phase I needs. In addition, the coordination of the ER Program, SWMU activities with D&D activities will occur in order to provide a cost-efficient and effective total program.

- * Continue development of D&D master plan to include new projects
- * Coordinate ER and D&D activities
- * Develop Phase I activities for FY94-95 projects

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- * Develop Phase II activities for FY95-98 projects
- * Provide direction to overall D&D effort
- * Provide direction to field activities
- * These activities will require 1.2 FTEs

7. Outyears (FY 95-FY98):

The activities under this ADS will be included in ADS 1051 beginning in FY 1995.

8. Key Assumptions:

Key assumptions which influence this activity include:

- * D&D and ER activities will continue as planned.
- * The Department of Energy (DOE) will continue to require the Laboratory to maintain compliance with environmental orders
- * DOE Order 5820.2A requirements will remain in force
- * Effective coordination of D&D and ER programs is required to manage the projects and limit overall costs.
- * Effective elimination of ES&H environmental impact problems is required to meet regulatory compliance
- * The percentage of JCI subcontracted costs and associated burdens equates to 0% of the project costs. All projects costs are LANL FTE and material and services costs.
- * The specific analogy technique was used to estimate the cost of this activity. Estimates are based on similar projected Laboratory FTE charges over the five years.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of OE only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the Indirect cost per FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the Financial Management Handbook are used, (3) General M&S is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S; it is not based on prior years' major procurement.

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9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring will cause delays in accomplishing scheduled work and result in milestones being pushed out.
- * Availability of contract support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the analysis of samples.

10. Regulatory Drivers/Consequences:

This D&D activity must comply with the requirements of DOE Order 5820.2A, Chapter 5, Radioactive Waste Management.

If this ADS is not funded, each new D&D task will experience a relearning process which results in costly loss of time and quality of operations, as well as increasing the overall cost.

11. Other Consequences:

N/A

EM-40 Progress Indicators :

Immediate/Short Term Action:

Alternate Water Supply

Site Security Measures

People Evacuated or Relocated

Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	0	0	0	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

Indicators Point of Contact:

Title:

Phone Number: 0

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Operations Office: ALLA ID No.: 1051

Last Update: 04/27/92

Activity Title: PROGRAM MANAGEMENT - DEFENSE PROGRAM (DP) PROJECTS
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: NA NEPA: N/A
Category: ER Facility/WAG: Decontamination & Decommissioning % Overhead: 16
Cost LOC Req.: M Sched. LOC Req.: M Scope LOC Req.: M WBS No.: Level: 0
Line Item No.: TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: N HAZ: N SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: N TSCA: Y CERCLA: N
NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: N TRI: N FED: Y

F.O. POC: BITNER, K FTS 845-4606

Reviewed Date: 03/02/92

HQ POC: HARRIS, R FTS 233-8199

Auxiliary Fields: 1. DD

2.

3.

MILESTONES Milestone No. 1

Req. Due Date: 09/30/92 Target Due Date: 09/30/92 Level: HQ Source:DOE

Title: DEVELOP D&D MASTER PLAN

Compliance: 5820.2A

Description: THE DEVELOPMENT OF THE D&D MASTER PLAN WAS INITIATED. THE MASTER PLAN DESCRIBES LANLs APPROACH FOR THE D&D PROGRAM.

Milestone No. 2

Req. Due Date: 09/30/92 Target Due Date: 09/30/92 Level: HQ Source:DOE

Title: COORDINATE ER AND D&D ACTIVITIES

Compliance: 5820.2A

Description: BECAUSE D&D ACTIVITIES PERIODICALLY OCCUR WITHIN OR NEAR AN EXISTING SOLID WASTE MANAGEMENT UNIT (SWMU) COORDINATION OF ER & D&D ACTIVITIES IS ESSENTIAL FOR OPTIMUM EXECUTION IN EFFECTIVELY REMEDIATING A SITE OR FACILITY.

Milestone No. 3

Req. Due Date: 09/30/92 Target Due Date: 09/30/92 Level: HQ Source:DOE

Title: COMPLY WITH CHAPTER 5 OF DOE ORDER 5820.2A

Compliance: 5820.2A

Description: D&D ACTIVITIES WILL BE PERFORMED IN ACCORDANCE WITH CHAPTER 5 (DECOMMISSIONING OF RADIOACTIVELY CONTAMINATED FACILITIES) OF DOE ORDER 5820.2A.

Milestone No. 4

Req. Due Date: 09/30/92 Target Due Date: 09/30/92 Level: HQ Source:DOE

Title: PROVIDE DIRECTION TO OVERALL D&D EFFORT

Compliance: 5820.2A

Description: D&D ACTIVITIES WILL FOLLOW THE ESTABLISHED POLICIES AND GUIDELINES FOR DECONTAMINATION, AND DECOMMISSIONING OF RADIOACTIVELY CONTAMINATED FACILITIES UNDER DOE OWNERSHIP OR CONTROL.

Milestone No. 5

Req. Due Date: 09/30/92 **Target Due Date:** 09/30/92 **Level:** HQ **Source:**DOE
Title: PROVIDE DIRECTION TO ONGOING FIELD ACTIVITIES
Compliance: 5820.2A
Description: PROGRAM MANAGEMENT WILL SUPPORT THE NECESSARY DIRECTION PROJECT LEADERS DEEM NECESSARY TO PERFORM ONGOING D&D FIELD ACTIVITIES.

Milestone No. 6

Req. Due Date: 09/30/93 **Target Due Date:** 09/30/93 **Level:** HQ **Source:**DOE
Title: COORDINATE ER AND D&D ACTIVITIES
Compliance: 5820.2A
Description: BECAUSE D&D ACTIVITIES PERIODICALLY OCCUR WITHIN OR NEAR AN EXISTING SOLID WASTE MANAGEMENT UNIT (SWMU) COORDINATION OF ER AND D&D ACTIVITIES IS ESSENTIAL FOR OPTIMUM EXECUTION IN EFFECTIVELY REMEDIATING A SITE OR FACILITY.

Milestone No. 7

Req. Due Date: 09/30/93 **Target Due Date:** 09/30/93 **Level:** HQ **Source:**DOE
Title: COMPLY WITH CHAPTER 5 OF DOE ORDER 5820.2A
Compliance: 5820.2A
Description: D&D ACTIVITIES WILL BE PERFORMED IN ACCORDANCE WITH CHAPTER 5 (DECOMMISSIONING OF RADIOACTIVELY CONTAMINATED FACILITIES) OF DOE ORDER 5820.2A.

Milestone No. 8

Req. Due Date: 09/30/93 **Target Due Date:** 09/30/93 **Level:** HQ **Source:**DOE
Title: PROVIDE DIRECTION TO OVERALL D&D EFFORT
Compliance: 5820.2A
Description: D&D ACTIVITIES WILL FOLLOW THE ESTABLISHED POLICIES AND GUIDELINES FOR DECONTAMINATION, AND DECOMMISSIONING OF RADIOACTIVELY CONTAMINATED FACILITIES UNDER DOE OWNERSHIP OR CONTROL.

Milestone No. 9

Req. Due Date: 09/30/93 **Target Due Date:** 09/30/93 **Level:** HQ **Source:**DOE
Title: PROVIDE DIRECTION TO ONGOING FIELD ACTIVITIES
Compliance: 5820.2A
Description: PROGRAM MANAGEMENT WILL SUPPORT THE NECESSARY DIRECTION PROJECT LEADERS DEEM NECESSARY TO PERFORM ONGOING D&D FIELD ACTIVITIES.

Milestone No. 10

Req. Due Date: 09/30/94 **Target Due Date:** 09/30/94 **Level:** HQ **Source:**DOE
Title: COORDINATE ER AND D&D ACTIVITIES
Compliance: 5820.2A
Description: BECAUSE D&D ACTIVITIES PERIODICALLY OCCUR WITHIN OR NEAR AN EXISTING SOLID WASTE MANAGEMENT UNIT (SWMU) COORDINATION OF ER AND D&D ACTIVITIES IS ESSENTIAL FOR OPTIMUM EXECUTION IN EFFECTIVELY REMEDIATING A SITE OR FACILITY.

Milestone No. 11

Req. Due Date: 09/30/94 **Target Due Date:** 09/30/94 **Level:** HQ **Source:**DOE
Title: COMPLY WITH CHAPTER 5 OF DOE ORDER 5820.2A
Compliance: 5820.2A
Description: D&D ACTIVITIES WILL BE PERFORMED IN ACCORDANCE WITH CHAPTER 5
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ORDER 5820.2A.

Milestone No. 12

Req. Due Date: 09/30/94 **Target Due Date:** 09/30/94 **Level:** HQ **Source:**DOE
Title: PROVIDE DIRECTION TO OVERALL D&D EFFORT
Compliance: 5820.2A
Description: D&D ACTIVITIES WILL FOLLOW THE ESTABLISHED POLICIES AND
GUIDELINES FOR DECONTAMINATION AND DECOMMISSIONING OF
RADIOACTIVELY CONTAMINATED FACILITIES UNDER DOE OWNERSHIP OR
CONTROL.

Milestone No. 13

Req. Due Date: 09/30/94 **Target Due Date:** 09/30/94 **Level:** HQ **Source:**DOE
Title: PROVIDE DIRECTION TO ONGOING FIELD ACTIVITIES
Compliance: 5820.2A
Description: PROGRAM MANAGEMENT WILL SUPPORT THE NECESSARY DIRECTION PROJECT
LEADERS DEEM NECESSARY TO PERFORM ONGOING D&D FIELD ACTIVITIES.

Milestone No. 14

Req. Due Date: 09/30/95 **Target Due Date:** 09/30/95 **Level:** HQ **Source:**DOE
Title: COORDINATE ER AND D&D ACTIVITIES
Compliance: 5820.2A
Description: BECAUSE D&D ACTIVITIES PERIODICALLY OCCUR WITHIN OR NEAR AN
EXISTING SOLID WASTE MANAGEMENT UNIT (SWMU) COORDINATION OF ER
AND D&D ACTIVITIES IS ESSENTIAL FOR OPTIMUM EXECUTION IN
EFFECTIVELY REMEDIATING A SITE OR FACILITY.

Milestone No. 15

Req. Due Date: 09/30/95 **Target Due Date:** 09/30/95 **Level:** HQ **Source:**DOE
Title: COMPLY WITH CHAPTER 5 OF DOE ORDER 5820.2A
Compliance: 5820.2A
Description: D&D ACTIVITIES WILL BE PERFORMED IN ACCORDANCE WITH CHAPTER 5
(DECOMMISSIONING OF RADIOACTIVELY CONTAMINATED FACILITIES) OF DOE
ORDER 5820.2A.

Milestone No. 16

Req. Due Date: 09/30/95 **Target Due Date:** 09/30/95 **Level:** HQ **Source:**DOE
Title: PROVIDE DIRECTION TO OVERALL D&D EFFORT
Compliance: 5820.2A
Description: D&D ACTIVITIES WILL FOLLOW THE ESTABLISHED POLICIES AND
GUIDELINES FOR DECONTAMINATION AND DECOMMISSIONING OF
RADIOACTIVELY CONTAMINATED FACILITIES UNDER DOE OWNERSHIP OR
CONTROL.

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Milestone No. 17

Req. Due Date: 09/30/95 **Target Due Date:** 09/30/95 **Level:** HQ **Source:**DOE
Title: PROVIDE DIRECTION TO ONGOING FIELD ACTIVITIES
Compliance: 5820.2A
Description: PROGRAM MANAGEMENT WILL SUPPORT THE NECESSARY DIRECTION PROJECT LEADERS DEEM NECESSARY TO PERFORM ONGOING D&D FIELD ACTIVITIES.

Milestone No. 18

Req. Due Date: 09/30/96 **Target Due Date:** 09/30/96 **Level:** HQ **Source:**DOE
Title: COORDINATE ER AND D&D ACTIVITIES
Compliance: 5820.2A
Description: BECAUSE D&D ACTIVITIES PERIODICALLY OCCUR WITHIN OR NEAR AN EXISTING SOLID WASTE MANAGEMENT UNIT (SWMU) COORDINATION OF ER AND D&D ACTIVITIES IS ESSENTIAL FOR OPTIMUM EXECUTION IN EFFECTIVELY REMEDIATING A SITE OR FACILITY.

Milestone No. 19

Req. Due Date: 09/30/96 **Target Due Date:** 09/30/96 **Level:** HQ **Source:**DOE
Title: COMPLY WITH CHAPTER 5 OF DOE ORDER 5820.2A
Compliance: 5820.2A
Description: D&D ACTIVITIES WILL BE PERFORMED IN ACCORDANCE WITH CHAPTER 5 (DECOMMISSIONING OF RADIOACTIVELY CONTAMINATED FACILITIES) OF DOE ORDER 5820.2A.

Milestone No. 20

Req. Due Date: 09/30/96 **Target Due Date:** 09/30/96 **Level:** HQ **Source:**DOE
Title: PROVIDE DIRECTION TO OVERALL D&D EFFORT
Compliance: 5820.2A
Description: D&D ACTIVITIES WILL FOLLOW THE ESTABLISHED POLICIES AND GUIDELINES FOR DECONTAMINATION AND DECOMMISSIONING OF RADIOACTIVELY CONTAMINATED FACILITIES UNDER DOE OWNERSHIP OR CONTROL.

Milestone No. 21

Req. Due Date: 09/30/96 **Target Due Date:** 09/30/96 **Level:** HQ **Source:**DOE
Title: PROVIDE DIRECTION TO ONGOING FIELD ACTIVITIES
Compliance: 5820.2A
Description: PROGRAM MANAGEMENT WILL SUPPORT THE NECESSARY DIRECTION PROJECT LEADERS DEEM NECESSARY TO PERFORM ONGOING D&D FIELD ACTIVITIES.

Milestone No. 22

Req. Due Date: 09/30/97 **Target Due Date:** 09/30/97 **Level:** HQ **Source:**DOE
Title: COORDINATE ER AND D&D ACTIVITIES
Compliance: 5820.2A
Description: BECAUSE D&D ACTIVITIES PERIODICALLY OCCUR WITHIN OR NEAR AN EXISTING SOLID WASTE MANAGEMENT UNIT (SWMU) COORDINATION OF ER AND D&D ACTIVITIES IS ESSENTIAL FOR OPTIMUM EXECUTION IN EFFECTIVELY REMEDIATING A SITE OR FACILITY.

Milestone No. 23

Req. Due Date: 09/30/97 **Target Due Date:** 09/30/97 **Level:** HQ **Source:**DOE
Title: COMPLY WITH CHAPTER 5 OF DOE ORDER 5820.2A
Compliance: 5820.2A
Description: D&D ACTIVITIES WILL BE PERFORMED IN ACCORDANCE WITH CHAPTER 5
(DECOMMISSIONING OF RADIOACTIVELY CONTAMINATED FACILITIES) OF DOE
ORDER 5820.2A.

Milestone No. 24

Req. Due Date: 09/30/97 **Target Due Date:** 09/30/97 **Level:** HQ **Source:**DOE
Title: PROVIDE DIRECTION TO OVERALL D&D EFFORT
Compliance: 5820.2A
Description: D&D ACTIVITIES WILL FOLLOW THE ESTABLISHED POLICIES AND
GUIDELINES FOR DECONTAMINATION AND DECOMMISSIONING OF
RADIOACTIVELY CONTAMINATED FACILITIES UNDER DOE OWNERSHIP OR
CONTROL.

Milestone No. 25

Req. Due Date: 09/30/97 **Target Due Date:** 09/30/97 **Level:** HQ **Source:**DOE
Title: PROVIDE DIRECTION TO ONGOING FIELD ACTIVITIES
Compliance: 5820.2A
Description: PROGRAM MANAGEMENT WILL SUPPORT THE NECESSARY DIRECTION PROJECT
LEADERS DEEM NECESSARY TO PERFORM ONGOING D&D FIELD ACTIVITIES.

Milestone No. 26

Req. Due Date: 09/30/98 **Target Due Date:** 09/30/98 **Level:** HQ **Source:**DOE
Title: COORDINATE ER AND D&D ACTIVITIES
Compliance: 5820.2A
Description: BECAUSE D&D ACTIVITIES PERIODICALLY OCCUR WITHIN OR NEAR AN
EXISTING SOLID WASTE MANAGEMENT UNIT (SWMU) COORDINATION OF ER
AND D&D ACTIVITIES IS ESSENTIAL FOR OPTIMUM EXECUTION IN
EFFECTIVELY REMEDIATING A SITE OR FACILITY.

Milestone No. 27

Req. Due Date: 09/30/98 **Target Due Date:** 09/30/98 **Level:** HQ **Source:**DOE
Title: COMPLY WITH CHAPTER 5 OF DOE ORDER 5820.2A
Compliance: 5820.2A
Description: D&D ACTIVITIES WILL BE PERFORMED IN ACCORDANCE WITH CHAPTER 5
(DECOMMISSIONING OF RADIOACTIVELY CONTAMINATED FACILITIES) OF DOE
ORDER 5820.2A.

Milestone No. 28

Req. Due Date: 09/30/98 **Target Due Date:** 09/30/98 **Level:** HQ **Source:**DOE
Title: PROVIDE DIRECTION FOR OVERALL D&D EFFORT
Compliance: 5820.2A
Description: D&D ACTIVITIES WILL FOLLOW THE ESTABLISHED POLICIES AND
GUIDELINES FOR DECONTAMINATION AND DECOMMISSIONING OF
RADIOACTIVELY CONTAMINATED FACILITIES UNDER DOE OWNERSHIP OR
CONTROL.

Milestone No. 29

Req. Due Date: 09/30/98 Target Due Date: 09/30/98 Level: HQ Source:DOE
Title: PROVIDE DIRECTION TO ONGOING FIELD ACTIVITIES
Compliance: 5820.2A
Description: PROGRAM MANAGEMENT WILL SUPPORT THE NECESSARY DIRECTION PROJECT
LEADERS DEEM NECESSARY TO PERFORM ONGOING D&D FIELD ACTIVITIES.

Requirements Narrative

1. Technical Scope:

This activity data sheet (ADS) is to fund a Los Alamos National Laboratory (LANL) Decontamination & Decommissioning (D & D) Program which will identify all excess facilities at LANL and their Phase I needs. The initial focus will be on D & D Projects scheduled for FY92 and for FY93 projects, and will be expanded to include all activities included in the Five-Year Plan.

When first submitted into the Five-Year plan these two activities were one, to support the base D&D program at LANL. At the request of DOE/HQ the activity was separated into two so that DP projects could be tracked separately from Non-DP projects.

The total program requirements are for 5 FTEs. Specific positions are a program manager, an administrative secretary, a project management analyst, and two technical staff members.

The assessment ADS for buildings 3 & 4 South (ALLA-1055) and the remediation of ADS (ALLA-2122) have been combined into a single ADS with the ADS number ALLA-1055.

The following ADSs have been deleted from the ER/D&D program:

ALLA 1070
ALLA 1056
ALLA 2111
ALLA 2112
ALLA 2113
ALLA 2121 (combined with ALLA 1054)
ALLA 2123
ALLA 2124
ALLA 2125
ALLA 2126
ALLA 2122 (combined with ALLA 1055)

2. Activities Completed to Date:

A LANL Master Plan was initiated which will identify all excess facilities at LANL and their Phase I needs. Phase I planning activities were initiated for outyear projects. New projects were identified (see ADSs ALLA 2134, 2135, 2136, 2137, and 2138).

3. Activity Term:

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This ADS covers Defense Programs D&D management activities through FY98.

4. Current Year (FY 92) Description:

- * A LANL D&D Master Plan will be initiated which will identify all excess facilities at LANL and their Phase I needs. The ER program SWMU activity coordination will be expanded into the D&D activities program. Phase I planning activities will continue for outyear projects.
- * Develop D&D Master Plan
- * Develop Phase I activities for FY92-FY93 projects
- * Provide direction to overall D&D effort
- * Coordinate ER and D&D activities
- * Provide direction to field activities
- * These activities will require 5.4 FTEs.

5. Budget Year (FY 93) Description:

- * Develop D&D Master Plan
- * Develop Phase I activities for FY92-FY93 projects
- * Provide direction to overall D&D effort
- * Coordinate ER and D&D activities
- * Provide direction to field activities
- * These activities will require 4.0 FTEs

6. Planning Year (FY 94) Description:

- * Continue development of D&D master plan to include new projects
- * Coordinate ER and D&D activities
- * Develop Phase I activities for FY94-95 projects
- * Develop Phase II activities for FY95-98 projects
- * Provide direction to overall D&D effort
- * Provide direction to field activities
- * These activities will require 4.8 FTEs

7. Outyears (FY 95-FY98):

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Laboratory Master Plan of D&D projects will be completed which will identify all excess facilities at LANL and their Phase I needs. In addition, the coordination of the ER Program, SWMU activities with D&D activities will occur in order to provide a cost-efficient and effective total program.

8. Key Assumptions:

Key assumptions which influence this activity include:

- * D & D and ER activities will continue as planned.
- * The Department of Energy (DOE) will continue to require the Laboratory to maintain compliance with environmental orders.
- * DOE Order 5820.2A requirements will remain in force.
- * Effective coordination of D & D and ER programs is required to manage the projects and limit overall costs.
- * Effective elimination of ES&H environmental impact problems is required to meet regulatory compliance.
- * The percentage of JCI Subcontracted costs and associated burdens equates to 0% of the project costs. All project costs are LANL FTE and material and services costs.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of OE only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE salary plus fringe, and (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the Indirect cost per FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the Financial Management Handbook are used, (3) General M&S is based on FY91 ER/WM M&S costs, and (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S; it is not based on prior years' major procurement.

9. Key Issues:

- * Funding is the primary key issue. To be able to meet the requirements for deliverables (milestones), funding must remain within a relevant range. Delaying or deferring will cause delays in accomplishing scheduled work and result in milestones being pushed out.

Availability of contract support, including analytical support, is also a significant key issue. Contract support must be available at the required time for accomplishment of field work and the

analysis of samples.

- * The specific analogy technique was used to estimate the cost of this activity. Estimates are based on similar projected Laboratory FTE charges over the five years.

10. Regulatory Drivers/Consequences:

This D&D activity must comply with the requirements of DOE Order 5820.2A, Chapter 5, Radioactive Waste Management.

If this ADS is not funded, each new D&D task will experience a relearning process which results in costly loss of time and quality of operations, as well as increasing the overall cost.

11. Other Consequences:

N/A

EM-40 Progress Indicators :

Immediate/Short Term Action:

Alternate Water Supply

Site Security Measures

People Evacuated or Relocated

Actions to Stabilize, Contain, treat, or Remove Materials

Assessment and Physical Amounts Section

<u>Media/Structures</u>	<u>Nature/ Composition</u>	<u>Extent and Fate Rating (1-5)</u>	<u>Remediation Technologies</u>	<u>Physical Quantities</u>	<u>Units</u>
Soil	0	0	0	0	
Groundwater	0	0	0	0	
Surface Water	0	0	0	0	
Tanks	0	0	0	0	
Buildings/Structures	0	0	0	0	
Air	0	0	0	0	
Waste Pond	0	0	0	0	
Other	0	0	0	0	
Other	0	0	0	0	

Technology and Contaminants

Technologies Used:

Classes Of Chemical Contaminants:

Narrative:

Indicators Point of Contact:

Title:

Phone Number: 0

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Operations Office: ALLA ID No.: 42

Last Update: 04/27/92

Activity Title: ES&H IMPROVEMENTS (HAZ. WASTE TREAT. FAC.)

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: NA NEPA: N/D

Category: CA Facility/WAG: TA-63

% Overhead: 0

Cost LOC Req.: M Sched. LOC Req.: M Scope LOC Req.: M WBS No.: 3.1.3.6. Level: 0

Line Item No.: 90-D-103 TPC: 11500 TEC: 11500 Contig. 1855

Waste Types: HLW: N TRU: N TRU MIX: N LLW: Y LLW M: Y HAZ: Y SANT: N GTCC: N

Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y R3004: N TSCA: N CERCLA: N

NEPA: N DOE: N OSHA: N IAG: N ORD: N ST: Y TRI: N FED: N

F.O. POC: CRITCHFIELD, O./HANSEN, M.

Reviewed Date:

HQ POC: SEIBACH, P./SMITH, L.

Auxiliary Fields: 1.

2.

3.

CROSSWALK Old ADS Number: ALLA 42

Type of Change: ADS SAME

Reason for Change: OLD TITLE: HAZARDOUS WASTE TREATMENT FACILITY

MILESTONES Milestone No. 42-1

Req. Due Date: 05/31/92 Target Due Date: 07/31/92 Level: HQ Source: RCRA

Title: COMPLETE TITLE I DESIGN HAZ. WASTE TREATMENT FACILITY

Compliance: 40 CFR 270, NMWMMR, PART 264,

Description:

Milestone No. 42-2

Req. Due Date: 07/01/92 Target Due Date: 07/01/92 Level: FO Source: RCRA

Title: START TITLE II DESIGN

Compliance: 40 CFR 270, NMWMMR, Part 264,

Description: START OPERATIONS AT THE HAZARDOUS WASTE TREATMENT FACILITY

Milestone No. 42-3

Req. Due Date: 04/01/93 Target Due Date: 04/01/93 Level: FO Source: RCRA

Title: START TITLE III CONSTRUCTION

Compliance: 40 CFR 270, NMHWMMR, Part 264

Description: START OPERATIONS AT THE HAZARDOUS WASTE TREATMENT FACILITY

Milestone No. 42-4

Req. Due Date: 05/31/93 Target Due Date: 07/31/93 Level: FO Source: RCRA

Title: COMPLETE TITLE II DESIGN

Compliance: 40 CFR 270, NMHWMMR, Part 264

Description: START OPERATIONS AT THE HAZARDOUS WASTE TREATMENT FACILITY

Milestone No. 42-5

Req. Due Date: 12/31/94 Target Due Date: 12/31/94 Level: FO Source: RCRA

Title: COMPLETE TITLE III CONSTRUCTION

Compliance: 40 CFR 270, NMHWMMR, Part 264

Description: START OPERATIONS AT THE HAZARDOUS WASTE TREATMENT FACILITY

Requirements Narrative

1. Activity Scope:

This Activity Data Sheet (ADS) requests funding for the design and construction of a hazardous waste treatment facility including a waste management office and two covered hazardous waste storage pads at Technical Area 50 (TA-50), the Laboratory's primary waste management site.

This activity is required to achieve compliance with Resource Conservation and Recovery Act (RCRA) regulations. The new facility will replace existing facilities at TA-54 and Area L, which will no longer be available due to the expansion of the radioactive waste management site (TA-54, Area G). The new facility will consolidate all existing onsite hazardous waste treatment processes, upgrade existing waste treatment facilities to comply with regulations, and provide treatment for hazardous mixed wastes that are now being accumulated and stored. The treatment facility includes sections for waste oil recycling, lead recycling, D38/reactive compounds treating, general purpose solidifying, plating wastes neutralizing and treating, sampling, and drum recycling. This activity was approved as a corrective activity in the previous Five-Year Plan.

2. Historical To Date:

Over the last several years, Los Alamos National Laboratory (LANL) has been cited for noncompliance with hazardous waste regulations by the New Mexico Environment Department (NMED) on the existing waste management systems. To enable compliance with RCRA waste management regulation criteria, the Laboratory has responded on an as-needed basis with the result that a variety of treatment processes have been installed at various locations throughout the area. The current waste management system does not ensure full compliance with RCRA regulations, creates higher risks of unnecessary transportation on public roads, high exposure of personnel and public to hazardous wastes, increased waste handling risks, and continued operations of a chemically contaminated facility. This facility will provide treatment for some mixed waste subject to RCRA for which no treatment alternative exists. Conceptual design was completed in FY90 and the project was validated by DOE/HQ (AD-22). Title I design was started in the fourth quarter of FY91. A determination that an Environmental Assessment (EA) should be prepared was made by DOE/HQ (EH-25) on April 26, 1991. The EA was started in the first quarter of FY92.

3. Five-Year Project Plan/Activity Term:

At the end of the planning period this facility will be in operation. Provisions for treatment of all hazardous wastes created on site will be an ongoing activity and compliance with all RCRA regulations will be achieved.

4. Current Year FY92 Description:

Title II design will be initiated. The Environmental Assessment (EA) will be submitted for approval by DOE/HQ. Funding for these activities is carried over from FY91.

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5. Budget Year FY93 Description:

- * The RCRA permit modification will be initiated and completed, and Title II design will be completed.
- * NEPA documentation will be completed and construction will be initiated.

6. Formulation Year FY94 Description:

- * Construction will continue using Line Item funding received in FY93.

7. Planning Years FY95-FY98 Description:

- * Construction will be completed in FY95 using Line Item funding received in FY93.
- * Operating funding covering the cost of facility start-up is requested in Waste Management ADS 4172.

8. Key Assumptions:

- * The construction of this facility is required to comply with RCRA regulations, to reduce unnecessary transportation costs, to prevent increased waste handling risks, to eliminate high exposure of personnel, the public, and the environment to hazardous waste and mixed waste, and to close operations at an existing contaminated site.
- * Scope, cost and schedule have been developed in the Conceptual Design Report and are based upon engineering estimates.

9. Key Issues:

- * Permit modification must be obtained prior to commencement of construction.
- * Timely review and approval of NEPA documentation.
- * The Laboratory will continue to be at risk of high exposure of personnel, the public, and the environment to hazardous waste unless new facilities are completed.
- * The Laboratory will continue to be subject to fines and penalties under RCRA unless handling and storage of hazardous waste is upgraded.

10. Regulatory Drivers:

- * The Laboratory has been found to be non-compliant with RCRA in the handling and storage of hazardous waste. This facility will ensure compliance with RCRA, and the Laboratory's Part B Operating permit.

1. Consequences:

Lack of funding for this ADS will result in failure to achieve RCRA regulatory compliance, the transportation of hazardous waste on public roads at additional expense, increased waste handling risks to personnel, and higher exposure of the public and environment to hazardous waste. If not funded, the Laboratory would operate with a high risk of hazardous waste contamination, and existing waste disposal facilities could not be expanded to meet federal and state regulations. Lack of funding at this stage would negate any investment in environmental safety and greatly increase potential health risks to operating personnel and the environment due to continuation of existing treatment practices.

Operations Office: ALLA ID No.: 51

Last Update: 04/27/92

Activity Title: SANITARY WASTEWATER SYSTEMS CONSOLIDATION

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: NA NEPA: FONSI

Category: CA Facility/WAG: LAB-WIDE

% Overhead: 0

Cost LOC Req.: H Sched. LOC Req.: H Scope LOC Req.: H

WBS No.: 3.1.3.5. Level: 0

Line Item No.: 88-D-102

TPC: 16700

TEC: 16700

Contig. 835

835

Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: N HAZ: N SANT: Y GTCC: N

Regulatory Drivers: CAA: N CWA: Y SDWA: N RCRA: N R3004: N TSCA: N CERCLA: N

NEPA: N DOE: N OSHA: N IAG: Y ORD: Y ST: N TRI: N FED: N

F.O. POC: CRITCHFIELD, O/HANSEN, M.

Reviewed Date:

HQ POC: SIEBACH, P/SMITH, L.

Auxiliary Fields: 1.

2.

3.

Tiger Team Finding Number: SW-2

TTFN Date: 11/01/91

Type of Change:

Reason for Change: WASTEWATER DISCHARGES FROM LANL EXCEED EFFLUENT LIMITATIONS CONTAINED I THE NPDES PERMIT, AO AND FFCA.

Old ADS Number: ALLA 51

Type of Change: ADS SAME

Reason for Change: SANITARY WASTEWATER SYSTEMS CONSOLIDATION

Milestone No. 2

Req. Due Date: 08/01/92 Target Due Date: Level: HQ Source: N/A

Title: BEGIN START UP TESTING SANITARY WASTE WATER SYSTEMS

Compliance:

Description:

Milestone No. 51-1

Req. Due Date: 09/30/92 Target Due Date: 09/30/92 Level: FO Source: CWA

Title: COMPLETE TITLE III CONSTRUCTION

Compliance: FFCA, AO, LANL's NPDES PERMIT

Description: START OPERATIONS AT THE SANITARY WASTEWATER TREATMENT FACILITY

1. Activity Scope:

This activity data sheet (ADS) requests funding for the construction of a sanitary wastewater treatment facility which will replace eight existing wastewater treatment plants and approximately thirty septic tanks at the Laboratory. The existing wastewater treatment facilities are more than thirty years old, and the discharges are in violation of federal and state regulations. The new consolidated treatment plant will include Laboratory-wide collection and treatment, and will comply with all federal and state regulations. The treatment plant will consist of flow equalization, primary and secondary treatment, disinfection, recycling for water conservation, and a laboratory to perform on-site analysis of effluent quality. This project is required under the Laboratory's Administrative Order (AO), Federal Facility Compliance Agreement (FFCA)

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with the Environmental Protection Agency.

2. Historical To Date:

Title I and Title II Design have been completed. Title III Construction was initiated in FY91.

3. Five-Year Project Plan/Activity Term:

The Sanitary Wastewater Systems Consolidation (SWSC) Project is scheduled to be fully operational in FY92.

4. Current Year FY92 Description:

Title III Construction was initiated in FY91 and is scheduled to be completed in FY92.

5. Budget Year FY93 Description:

Not applicable.

6. Formulation Year FY94 Description:

Not applicable.

7. Planning Years FY95-FY98 Description:

Not applicable.

8. Key Assumptions:

Project scope, cost and schedule were developed from engineering estimates during Title I and Title II Design.

9. Key Issues:

The Laboratory will continue to violate its NPDES Permit, AO and FFCA unless new facilities are completed.

10. Regulatory Drivers:

The primary regulatory drivers for this activity include: the Federal Facility Compliance Agreement (FFCA), Administrative Order (AO), the Laboratory's National Pollutant Discharge Elimination System (NPDES) Permit, and the Federal Clean Water Act, as amended by the Water Quality Act of 1987.

11. Consequences:

Consequences if not funded include continued violations of the Laboratory's NPDES Permit, Administrative Order, and FFCA, and potential fines and penalties, and shutdown of facilities.

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Operations Office: ALLA ID No.: 74

Last Update: 04/23/92

Activity Title: NEW STACK AT LAMPF

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: NA NEPA: N/D

Category: CA Facility/WAG: TA-53

% Overhead: 0

Cost LOC Req.: M Sched. LOC Req.: M Scope LOC Req.: M WBS No.: 3.1.3.7. Level: 0

Line Item No.: 92-E-602 TPC: 3505 TEC: 3505 Contig. 701

Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: N HAZ: N SANT: N GTCC: N

Regulatory Drivers: CAA: Y CWA: N SDWA: N RCRA: N R3004: N TSCA: N CERCLA: N

NEPA: N DOE: N OSHA: N IAG: N ORD: N ST: Y TRI: N FED: N

F.O. POC: CRITCHFIELD, O./HANSEN, M.

Reviewed Date:

HQ POC: SIEBACH, P/SMITH, L.

Auxiliary Fields: 1.

2.

3.

Old ADS Number: ALLA 74

Type of Change: ADS SAME

Reason for Change: NEW STACK AT LAMPF

Milestone No. 74-1

Req. Due Date: 09/30/92 Target Due Date: 09/30/92 Level: FO Source:CAA

Title: COMPLETE TITLE I

Compliance: NESHAPS, 40 CFR PART 61 (H)

Description: TREAT RADIOACTIVE AIR EMISSIONS AT LAMPF TO MEET THE NEW AIR QUALITY REQUIREMENTS

Milestone No. 74-2

Req. Due Date: 09/30/92 Target Due Date: 09/30/93 Level: FO Source:CAA

Title: COMPLETE TITLE II DESIGN OF AIR EXHAUST MODIFICATIONS AT TA-53

Compliance: NESHAPS, 40 CFR PART 61 (H)

Description: TREAT RADIOACTIVE AIR EMISSIONS AT LAMPF TO MEET NEW AIR QUALITY REQUIREMENTS

Milestone No. 74-3

Req. Due Date: 09/30/93 Target Due Date: 09/30/94 Level: FO Source:CAA

Title: COMPLETE TITLE III CONSTRUCTION OF AIR EXHAUST MODIFICATIONS

Compliance: NESHAPS, 40 CFR PART 61 (H)

Description: TREAT RADIOACTIVE AIR EMISSIONS AT LAMPF TO MEET NEW AIR QUALITY REQUIREMENTS

1. Activity Scope:

This activity data sheet (ADS) requests funding for design and construction of modifications of the existing stack and air quality treatment system at Technical Area 43 (TA-53), Los Alamos Meson Physics Facility (LAMPF), to meet the new air quality requirements. The previous limit for offsite exposure under the Federal Clean Air Act (FCAA) was 25 mrem per year. The existing LAMPF stack was emitting approximately 11 mrem per year prior to 1989. New regulations adopted in 1989 require a 10 mrem limit to be met. The proposed new stack at LAMPF would provide

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Additional detention time for short-lived radioactivity and would allow the new limit of 10 mrem to be met consistently without shutdown of facilities. The LAMPF stack is presently the highest offsite emitter of radioactivity to the atmosphere in the DOE complex.

2. Historical To Date:

A Conceptual Design Report has also been completed for this project and the project has been validated by DOE/HQ. Monitoring instrumentation is being installed Laboratory-wide to accurately monitor cumulative annual radioactive air emissions. This monitoring will more precisely quantify Laboratory emissions for comparison with predictive modeling.

3. Five-Year Project Plan/Activity Term:

At the end of FY94, the design and construction of a new stack at LAMPF should be complete.

4. Current Year FY92 Description:

Title I should be completed in FY92.

5. Budget Year FY93 Description:

Title II Design should be completed in FY93 utilizing Line Item funding carried over from FY92.

6. Formulation Year FY94 Description:

Title III Construction should be completed in FY94 utilizing Line Item funding carried over from FY92.

7. Planning Years FY95-FY98 Description:

Not applicable.

8. Key Assumptions:

Scope, cost and schedule have been developed in the Conceptual Design Report and are based on engineering estimates. Operational startup costs are funded by site landlords.

9. Key Issues:

Operation of the accelerator at LAMPF must be curtailed unless regulatory requirements for air emissions are met.

10. Regulatory Drivers:

The primary regulatory driver for this activity is a revision to Stack Emissions Monitoring Under National Emission Standards for Hazardous Air Pollutants (NESHAPS) - Federal Clean Air Act (FCAA), 40 CFR, Part 61, Subpart H, which was adopted in November of 1989. This regulatory driver limits the dose from airborne releases to members of the public to 10

rem/year (effective dose equivalent).

11. Consequences:

If this project is not funded, the Laboratory will exceed the annual emission standard and be in violation of the FCAA and NESHAPS, and LAMPF operations could be curtailed or shut down.

Operations Office: ALLA ID No.: 81

Last Update: 04/23/92

Activity Title: CORRECTIVE ACTIVITIES MASTER ADS

Installation: LOS ALAMOS NATIONAL LABORATORY

RCRA/CERCLA: NA NEPA: N/D

Category: CA Facility/WAG: LAB-WIDE

% Overhead: 16

Cost LOC Req.: M Sched. LOC Req.: M Scope LOC Req.: M

WBS No.: 3.1.3.9.

Level: 0

Line Item No.: N/A

TPC: 0

TEC: 0

Contig. 0

0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: N HAZ: Y SANT: Y GTCC: N

Regulatory Drivers: CAA: N CWA: Y SDWA: Y RCRA: Y R3004: N TSCA: Y CERCLA: N

NEPA: N DOE: N OSHA: N IAG: Y ORD: Y ST: Y TRI: N FED: N

F.O. POC: CRITCHFIELD, O/HANSEN, M.

Reviewed Date:

HQ POC: SIEBACH, P/SMITH, L.

Auxiliary Fields: 1.

2.

3.

Old ADS Number: ALLA 43

Type of Change: ADS COMBINED

Reason for Change: OPERATING FUNDS HAVE BEEN COMBINED FOR CORRECTIVE ACTIVITIES PER NEW DO GUIDANCE.

Old ADS Number: ALLA 49

Type of Change: ADS COMBINED

Reason for Change: OPERATING FUNDS HAVE BEEN COMBINED FOR CORRECTIVE ACTIONS PER NEW DOE GUIDANCE

Old ADS Number: ALLA 55

Type of Change: ADS COMBINED

Reason for Change: OPERATING FUNDS HAVE BEEN COMBINED FOR CORRECTIVE ACTIVITIES PER NEW DO GUIDANCE

Old ADS Number: ALLA 70

Type of Change: ADS COMBINED

Reason for Change: OPERATING FUNDS HAVE BEEN COMBINED FOR CORRECTIVE ACTIVITIES PER NEW DO GUIDANCE.

Old ADS Number: ALLA 80

Type of Change: ADS COMBINED

Reason for Change: OLD ADS 80 CONSOLIDATES ADS-46, ADS-47, ADS-52, AND ADS-54, DURING PREV FYP SUBMISSIONS UNDER EARLIER GUIDANCE. OPERATING FUNDS HAVE BEEN COMBI FOR CORRECTIVE ACTIVITIES

Old ADS Number: ALLA3263

Type of Change: ADS COMBINED

Reason for Change: OPERATING FUNDS HAVE BEEN COMBINED FOR CORRECTIVE ACTIVITIES PER NEW DO GUIDANCE.

Tiger Team Finding Number: SW-2

TTFN Date: 11/01/91

Type of Change:

Reason for Change: LANL DISCHARGES EXCEED EFFLUENT LIMITATIONS CONTAINED IN THE NPDES PERM
FFCA AND AO.

Tiger Team Finding Number: T&CM 1,2,3

TTFN Date: 11/01/91

Type of Change:

Reason for Change: (T&CM 1,2,3,4,5) LANL'S MANAGEMENT OF PCBs IS INADEQUATE.

Tiger Team Finding Number: SW-10

TTFN Date: 11/01/91

Type of Change:

Reason for Change: LANL DOES NOT HAVE A FORMAL, WRITTEN BACKFLOW PREVENTION AND CROSS-
CONNECTION PROGRAM TO ENSURE COMPLIANCE WITH NMRGWS.

Tiger Team Finding Number: SW-1,2,3,4

TTFN Date: 11/01/91

Type of Change:

Reason for Change: (SW-1,2,3,4,5) LANL NPDES COMPLIANCE IS INADEQUATE.

Tiger Team Finding Number: SW-7

TTFN Date: 11/01/91

Type of Change:

Reason for Change: LANL DOES NOT HAVE EFFECTIVE LAB-WIDE PROGRAMS OR SITE-WIDE PROGRAMS FO
STORM WATER RUNOFF

Old ADS Number: ALLA 51

Type of Change: ADS COMBINED

Reason for Change: OPERATING FUNDS HAVE BEEN COMBINED FOR CORRECTIVE ACTIONS PER NEW DOE
GUIDANCE

Milestone No. 81-1

Req. Due Date: 09/30/92 Target Due Date: 09/30/92 Level: FO Source:CWA

Title: COMPLETE PRE-TITLE I WORK FOR HE FACILITY

Compliance: LANL'S NPDES PERMIT

Description: START OPERATIONS AT THE HIGH EXPLOSIVE (HE) WASTEWATER TREATMENT
FACILITY

Milestone No. 81-2

Req. Due Date: 09/30/92 Target Due Date: 09/30/92 Level: FO Source:TSCA

Title: COMPLETE REPLACE/RETROFILL OF PCB TRANSFORMERS

Compliance: 40 CFR 761

Description: COMPLETE REMOVAL/REPLACEMENT OF PCB CONTAINING ELECTRICAL
EQUIPMENT

Milestone No. 81-3

Req. Due Date: 09/30/92 Target Due Date: 09/30/92 Level: FO Source:ST

Title: COMPLETE REPLACEMENT OF PETROLEUM USTs

Compliance: NEW MEXICO UST REGULATIONS

Description: COMPLETE UST UPGRADES TO ACHIEVE COMPLIANCE WITH NM UST
REGULATIONS

Milestone No. 81-4

Req. Due Date: 09/30/93 **Target Due Date:** 09/30/93 **Level:** FO **Source:**SDWA
Title: COMPLETE CROSS CONNECTION, MICRO AND LEAD SURVEYS
Compliance: NMRGWS, 40 CFR 141
Description: COMPLETE IDENTIFICATION AND CORRECTION OF PIPING ARRANGEMENTS AND CONNECTIONS THAT DO NOT MEET NMRGWS STANDARDS

Milestone No. 81-5

Req. Due Date: 09/30/93 **Target Due Date:** 09/30/93 **Level:** FO **Source:**CWA
Title: COMPLETE PERMITS FOR NPDES COMPLIANCE
Compliance: 40 CFR 122, LANL's NPDES PERMI
Description: OLD ADS-80 CLEAN WATER ACT PROJECTS

Milestone No. 81-6

Req. Due Date: 09/30/93 **Target Due Date:** 09/30/93 **Level:** FO **Source:**RCRA
Title: COMPLETE CHARACTERIZATION OF FIRING SITES
Compliance: 40 CFR 270,LANLs PART B PERMIT
Description: COMPLETE SOIL AND WATER CONTAMINATION MONITORING EFFORTS AND CONSTRUCTION OF RUNON/RUNOFF CONTROL STRUCTURES TO ACHIEVE COMPLIANCE WITH RCRA AND CWA

Milestone No. 81-7

Req. Due Date: 09/30/93 **Target Due Date:** 09/30/93 **Level:** FO **Source:**CWA
Title: SANITARY WASTEWATER SYSTEMS START-UP
Compliance: FFCA, AO, LANL's NPDES PERMIT
Description: START OPERATIONS AT THE SANITARY WASTEWATER TREATMENT FACILITY

Milestone No. 81-8

Req. Due Date: 09/30/94 **Target Due Date:** 09/30/94 **Level:** FO **Source:**TSCA
Title: COMPLETE RETROFILL OF PCB CONTAMINATED EQUIPMENT
Compliance: 40 CFR 761
Description: COMPLETE REMOVAL/REPLACEMENT OF PCB CONTAINING ELECTRICAL EQUIPMENT

Milestone No. 81-9

Req. Due Date: 09/30/94 **Target Due Date:** 09/30/94 **Level:** FO **Source:**CWA
Title: COMPLETE WASTE STREAM CHARACTERIZATION FOR NPDES PERMIT
Compliance: FFCA, AO, LANL's NPDES PERMIT
Description: COMPLETE VERIFICATION OF WASTESTREAMS TO ENSURE PROPER SEGREGATION AND MOITORING TO ACHIEVE COMPLIANCE WITH THE LABORATORY'S NPDES PERMIT, FFCA AND AO

Milestone No. 81-10

Req. Due Date: 09/30/97 **Target Due Date:** 09/30/97 **Level:** FO **Source:**SDWA
Title: COMPLETE IMPROVEMENTS FOR WATER SYSTEM COMPLIANCE
Compliance: NMRGWS, 40 CFR 141
Description: COMPLETE IDENTIFICATION AND CORRECTION OF PIPING ARRANGEMENTS AND CORRECTIONS THAT DO NOT MEET NMRGWS STANDARDS

Milestone No. 81-11

Req. Due Date: 09/30/97 **Target Due Date:** 09/30/97 **Level:** FO **Source:**CWA
Title: COMPLETE IMPROVEMENTS FOR NPDES COMPLIANCE
Compliance: FFCA, AO, LANL's NPDES PERMIT
Description: COMPLETE NPDES PROJECT UPGRADES AND IMPROVEMENTS TO ACHIEVE
COMPLIANCE WITH THE LABORATORY'S NPDES PERMIT, FFCA, AND AO

Milestone No. 81-12

Req. Due Date: 09/30/97 **Target Due Date:** 09/30/97 **Level:** FO **Source:**RCRA
Title: COMPLETE RUNOFF CONTROLS FOR FIRING SITES
Compliance: 40 CFR 270,LANLs PART B PERMIT
Description: COMPLETE SOIL AND WATER CONTAMINATION MONITORING EFFORTS AND
CONSTRUCTION OF RUNON/RUNOFF CONTROL STRUCTURES TO ACHIEVE
COMPLIANCE WITH RCRA AND CWA

1. Activity Scope:

This ADS is a consolidation of the following Corrective Activities ADS's:

* ADS 43-Centralized HE Waste Water Facility: The purpose of this project is to provide operating funds in FY92 to conduct treatability studies for the selection of the appropriate treatment process, to initiate NEPA and SWMU reviews, to develop design criteria, and to complete other pre-Title I requirements. This project will combine approximately 12 HE waste water discharges into a new treatment facility. Reference ADS No. ALLA-43A for Facility Construction Activity.

ADS 49-PCB Transformers and Capacitors: The purpose of this project is to reduce the amount of PCB liquids at the Laboratory. Reduction has been accomplished by replacement and retrofilling of PCB transformers and disposal of PCB capacitors and other equipment under previous DOE Five-Year Plan guidance. Reduction of PCB liquids by retrofilling and dechlorination is included for FY94 under the new guidance.

* ADS 51-Sanitary Wastewater Systems Start-up: The purpose of this project is to provide initial start-up and operation of the new Sanitary Wastewater Treatment Plant constructed as a Line Item Project under ADS No. ALLA-51.

* ADS 55-Underground Storage Tanks: The purpose of this project is to replace noncomplying underground storage tanks at the Laboratory and to complete related testing. This project was approved by the DOE during previous DOE Five-Year Plan guidance and is scheduled to end in FY92.

* ADS 70-Water Supply System Compliance: This project includes funding for cross-connection controls required to prevent nonpotable water from entering the drinking water supply, for preparation of a plan to improve microbiological quality, and for completing a survey to eliminate high levels of lead from drinking water outlets.

* ADS 80-Clean Water Act Projects: The purpose of this project is to achieve compliance with the Clean Water Act, the Laboratory's NPDES permit, Federal Facilities Compliance Agreement (FFCA) and Administrative Order (AO) regarding effluent discharges. This work includes waste stream characterization to verify that waste streams are properly segregated and monitored as required under the Laboratory's FFCA and AO. Also, development of permits for storm water discharges and sludge disposal, and implementation of toxicity testing (biomonitoring) of effluent discharges

re included. Planning, design and construction of improvements to existing treatment facilities as required to meet the conditions of the Laboratory's NPDES permit, FFCA and AO are included in this project. Improvements to prevent waste water overflows and releases, and implementation of SPCC Plan requirements are also included.

* ADS 3263-RCRA Active Firing Sites: The purpose of this project is to achieve compliance with the Clean Water Act (CWA) and the Resource Conservation and Recovery Act (RCRA) at the 20 active firing sites at the Laboratory. The scope of this project includes characterization of the runoff from these sites to determine if any hazardous constituents are present and to construct runoff/runoff control structures as required.

2. Historical To Date:

* ADS 43-Centralized HE Waste Water Facility: An updated conceptual design report for this project was completed in FY91. Waste stream characterization and minimization has been completed for all HE waste water discharges.

* ADS 49-PCB Transformers and Capacitors: Approximately 130 PCB transformers (PCBs > 500ppm) at the Laboratory will be replaced or retrofilled by the end of FY92. Remaining PCB equipment includes approximately 70 PCB contaminated transformers and other equipment (PCBs < 500ppm, > 50ppm).

* ADS 51-Sanitary Wastewater Systems Start-up: Title III construction of this project will be completed in FY92.

* ADS 55-Underground Storage Tanks: Approximately 40 underground petroleum product storage tanks have been removed since 1987. Two major replacement tanks were completed in FY91.

* ADS 70-Water Supply System Compliance: This project is scheduled to begin in FY92. A building by building survey is being initiated to verify that adequate protection of the drinking water supply is provided and that no cross connections exist.

* ADS 80-Clean Water Act Projects: Waste stream characterization is approximately 25 percent complete and is on schedule with the FFCA and AO. Other projects to improve compliance with the NPDES Permit have been completed.

* ADS 3263-RCRA Active Firing Sites: This project is scheduled to begin in FY92. Preliminary planning has been initiated.

3. Five-Year Project Plan/Activity Term:

* ADS 43-Centralized HE Waste Water Facility: This project is scheduled to be completed as a Line Item ADS 43-A under the WM program.

* ADS 49-PCB Transformers and Capacitors: This project was eliminated for FY93. Funding for retrofilling and dechlorination of remaining PCB contaminated equipment is requested for FY94 under the new Five-Year Plan guidance.

* ADS 51-Sanitary Wastewater Systems Start-up: Start-up of this project will be completed in FY93.

* ADS 55-Underground Storage Tanks: This project was eliminated from the Five-Year Plan by the DOE. After FY92, the project will become an operating group responsibility.

* ADS 70-Water Supply System Compliance: This project is scheduled to run from FY92 to FY97. This six-year period is required to complete

lab-wide surveys for cross-connections, microbiological contamination and high lead levels in drinking water, and to complete corrective actions.

* ADS 80-Clean Water Act Projects: This project is scheduled to run until FY97. This period is required to achieve compliance with the CWA, the Laboratory's NPDES Permit, FFCA, and AO.

* ADS 3263-RCRA Active Firing Sites: This project is scheduled to run from FY92 to FY97. This six-year period is required to complete characterization work, complete permitting requirements, and to construct required runoff controls.

4. Current Year FY92 Description:

* ADS 43-Centralized HE Waste Water Facility: During FY92, treatability studies will be conducted, NEPA and SWMU reviews will be initiated, and other pre-Title I requirements will be completed.

* ADS 49-PCB Transformers and Capacitors: During FY92, approximately 50 PCB transformers will be replaced or retrofilled.

* ADS 51-Sanitary Wastewater Systems Start-up: Title III Construction of this project will be completed in FY92.

* ADS 55-Underground Storage Tanks: Work is continuing on eight additional replacement tanks.

* ADS 70-Water Supply System Compliance: Preliminary planning has been completed for building surveys to insure compliance.

* ADS 80-Clean Water Act Projects: During FY92, waste stream characterization is continuing and construction is scheduled to start on the TA-53 Lagoons Elimination Project.

* ADS 3263-RCRA Active Firing Sites: This project is scheduled to begin in FY92. Characterization of runoff/runoff and monitoring is planned.

5. Budget Year FY93 Description:

* ADS 51-Sanitary Wastewater Systems Start-up: Start-up of this project will be completed in FY93.

* ADS 70-Water Supply System Compliance: Complete field surveys and prepare recommendations.

* ADS 80-Clean Water Act Projects: Continue waste stream characterization and related CWA projects.

* ADS 3263-RCRA Active Firing Sites: Continue characterization of runoff/runoff and development of preliminary designs for controls.

6. Formulation Year FY94 Description:

* ADS 43-Centralized HE Waste Water Facility: See ADS 43-A under Waste Management.

* ADS 49-PCB Transformers and Capacitors: Funding for retrofilling and dechlorination of remaining PCB contaminated equipment is requested for FY94 under the new Five-Year Plan guidance. Funding is also requested for associated disposal and PCB cleanups.

* ADS 70-Water Supply System Compliance: Design and install improvements for compliance with SDWA and NMRGWS.

* ADS 80-Clean Water Act Projects: Design and install improvements for compliance with the CWA, Laboratory's NPDES permit, FFCA and AO.

* ADS 3263-RCRA Active Firing Sites: Design and install improvements for compliance with CWA and RCRA.

7. Planning Years FY95-FY98 Description:

- * ADS 43-Centralized HE Waste Water Facility: See ADS 43-A under Waste Management.
- * ADS 70-Water Supply System Compliance: Design and install improvements for compliance with SDWA and NMRGWS.
- * ADS 80-Clean Water Act Projects: Design and install improvements for compliance with the CWA, Laboratory's NPDES Permit, FFCA, and AO.
- * ADS 3263-RCRA Active Firing Sites: Design and install improvements for compliance with CWA and RCRA.

8. Key Assumptions:

- * ADS 43-Centralized HE Waste Water Facility: A preliminary engineering study was conducted to develop the scope, cost and schedule.
- * ADS 49-PCB Transformers and Capacitors: The scope of this project includes removal of all PCB liquids at the Laboratory. Cost estimates and schedules have been based on previous experience.
- * ADS 51-Sanitary Wastewater Systems Start-up: The scope, cost and schedule are based on previous experience.
- * ADS 55-Underground Storage Tanks: The scope of the project includes replacement of noncomplying underground storage tanks on a priority basis. Cost estimates and schedules have been based on previous experience.
- * ADS 70-Water Supply System Compliance: The scope, cost and schedule for this project are based upon similar environmental surveys.
- * ADS 80-Clean Water Act Projects: The scope, cost and schedule for this project are based upon experience in conducting waste stream characterization and in construction of similar improvements.
- * ADS 3263-RCRA Active Firing Sites: The scope, cost and schedule for this project are based upon similar environmental surveys and construction at the Laboratory.
- * Direct/Indirect FTE Assumptions: (1) Direct and Indirect FTEs are a part of OE only, (2) Indirect resources (\$ and FTEs) are based on Direct FTE effort, (3) After estimating Direct FTEs, Indirect cost is derived as a percentage (91.8%) of the Total Cost of Direct FTE Salary plus Fringe, (4) Indirect FTEs are calculated by dividing the total estimated Indirect cost by the Indirect cost per FTE supplied by the LANL Indirect Program Office.
- * Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates as published in the LANL Financial Management Handbook are used, (3) General materials and services (M&S) is based on FY91 ER/WM M&S costs, (4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S; it is not based on prior years' major procurement.

9 & 10. Key Issues/Regulatory Drivers:

- * ADS 43-Centralized HE Wastewater Facility: Regulatory drivers include 40 CFR Part 260-263 of the Laboratory's RCRA Part B Operating Permit, Clean Water Act (CWA), and the Laboratory's NPDES permit.
- * ADS 49-PCB Transformers and Capacitors: All PCB liquids should be

removed from the Laboratory to eliminate risk of PCB fires and spills and noncompliance with TSCA, 40 CFR 761.

* ADS 51-Sanitary Wastewater Systems Start-up: Start-up of this project is required to meet the NPDES permit, FFCA and AO.

* ADS 55-Underground Storage Tanks: The Laboratory's underground storage tanks do not meet the standards of the New Mexico Underground Storage Tank Regulations.

* ADS 70-Water Supply System Compliance: The Laboratory does not meet regulatory requirements for protection of the water supply system under the Safe Drinking Water Act (SDWA), 40 CFR 141, and New Mexico Regulations Governing Water Supplies (NMRGWS).

* ADS 80-Clean Water Act Projects: The Laboratory must complete waste stream characterization, develop permits, and design and construct improvements to comply with the CWA, NPDES Permit, FFCA and AO.

* ADS 3263-RCRA Active Firing Sites: The Laboratory must complete characterization of the runoff/runoff, permitting of the discharges and construction of controls to comply with the Laboratory's NPDES Permit under CWA and NMHWMR-6, Part 264, Subpart X under RCRA.

11. Consequences:

* ADS 43-Centralized HE Wastewater Facility: Consequences include potential violations of RCRA, CWA and the Laboratory's NPDES permit and potential shutdown of HE facilities and operations.

* ADS 49-PCB Transformers and Capacitors: Consequences if not funded include violations of TSCA 40 CFR 761 as reported in the Tiger Team finding and continued risks of PCB fires and spills.

* ADS 51-Sanitary Wastewater Systems Start-up: Consequences include potential violations of the NPDES permit, FFCA and AO.

* ADS 55-Underground Storage Tanks: Consequences if not funded include continued violation of underground tank requirements.

* ADS 70-Water Supply System Compliance: Consequences if not funded include continued risk of unsafe substances entering the drinking water supply and violations of public health requirements.

* ADS 80-Clean Water Act Projects: Consequences if not funded include potential fines and penalties and shutdown of Laboratory facilities.

* ADS 3263-RCRA Active Firing Sites: Consequences if not funded include potential fines and penalties and shutdown of firing sites.

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Operations Office: ALLA ID No.: 82

Last Update: 04/23/92

Activity Title: CORRECTIVE ACTIVITIES GPP ADS
Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: NA NEPA: N/D
Category: CA Facility/WAG: LAB-WIDE % Overhead: 0
Cost LOC Req.: M Sched. LOC Req.: M Scope LOC Req.: M WBS No.: 3.1.3.3. Level: 0
Line Item No.: N/A TPC: 0 TEC: 0 Contig. 0

Waste Types: HLW: N TRU: N TRU MIX: N LLW: N LLW M: N HAZ: Y SANT: Y GTCC: N

Regulatory Drivers: CAA: N CWA: Y SDWA: N RCRA: N R3004: N TSCA: Y CERCLA: N
NEPA: N DOE: N OSHA: N IAG: Y ORD: Y ST: N TRI: N FED: N

F.O. POC: CRITCHFIELD, O/HANSEN, M. Reviewed Date:
HQ POC: SIEBACH, P/SMITH, L.
Auxiliary Fields: 1. 2. 3.

Old ADS Number: ALLA 49
Type of Change: ADS COMBINED
Reason for Change: GPP FUNDS HAVE BEEN COMBINED FOR CORRECTIVE ACTIVITIES PER NEW DOE GUID

Old ADS Number: ALLA 80
Type of Change: ADS COMBINED
Reason for Change: GPP FUNDS HAVE BEEN COMBINED FOR CORRECTIVE ACTIVITES PER NEW DOE GUIDA

Tiger Team Finding Number: T&CM 1,2, TTFN Date: 11/01/91
Type of Change:
Reason for Change: (T&CM 1,2,3,4,5) LANL's MANAGEMENT OF PCBs IS INADEQUATE

Tiger Team Finding Number: SW-1,2,3,4 TTFN Date: 11/01/91
Type of Change:
Reason for Change: (SW-1,2,3,4,5) LANL's NPDES COMPLIANCE IS INADEQUATE

Milestone No. 82-1
Req. Due Date: 09/30/92 Target Due Date: 09/30/92 Level: FO Source: TSCA
Title: COMPLETE REPLACE/RETROFILL OF PCB TRANSFORMERS
Compliance: 40 CFR 761
Description: COMPLETE REMOVAL/REPLACEMENT OF PCB-CONTAINING ELECTRICAL EQUIPMENT

Milestone No. 82-2
Req. Due Date: 09/30/97 Target Due Date: 09/30/97 Level: FO Source: CWA
Title: COMPLETE IMPROVEMENTS FOR NPDES COMPLIANCE
Compliance: FFCA, AO, LANLs NPDES PERMIT
Description: COMPLETE NPDES PROJECT UPGRADES AND IMPROVEMENTS TO ACHIEVE COMPLIANCE WITH THE LABORATORY'S NPDES PERMIT AND FFCA & AO.

1. Activity Scope:

ADS-49 PCB Transformer and Capacitors: The purpose of this project is to reduce the amount of PCB liquids at the Laboratory. Reduction has been accomplished by replacement and retrofilling

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of PCB transformers and disposal of PCB capacitors and other equipment under previous DOE Five-year Plan guidance. GPP funding is included in FY92 to cover the larger replacement and retrofilling projects.

- * ADS-80 Clean Water Act Projects: The purpose of this project is to achieve compliance with the Clean Water Act (CWA), the Laboratory's NPDES Permit, Federal Facilities Compliance Agreement (FFCA), and Administrative Order (AO) regarding effluent discharges. This work includes waste stream characterization to verify that waste streams are properly segregated and monitored as required under the Laboratory's FFCA and AO. Also, development of permits for storm water discharges and sludge disposal, and implementation of toxicity testing (biomonitoring) of effluent discharges are included. Planning, design and construction of improvements to existing treatment facilities as required to meet the conditions of the Laboratory's NPDES Permit, FFCA and AO are included in this project. Improvements to prevent wastewater overflows and releases, upgrade of septic tanks systems and implementation of SPCC Plan requirements are also included. GPP funding is included to cover the larger improvements to existing treatment facilities.

2. Historical To Date:

- * ADS-49 PCB Transformers and Capacitors: Approximately 130 PCB transformers (PCBs > 500 ppm) at the Laboratory will be replaced or retrofilled by the end of FY92. Remaining PCB equipment includes approximately 70 PCB contaminated transformers and other equipment (PCBs < 500 ppm, > 50 ppm).
- * ADS-80 Clean Water Act Projects: Waste stream characterization is approximately 25 percent complete and is on schedule with the FFCA and AO. Other projects to improve compliance with the NPDES Permit have also been completed.

3. Five Year Project Plan/Activity Term:

- * ADS-49 PCB Transformers and Capacitors: GPP funding for this project is scheduled to end in FY92. GPP funding is included to cover the larger replacement and retrofilling projects.
- * ADS-80 Clean Water Act Projects: This project is scheduled to run until FY97. This period is required to achieve compliance with the CWA, the Laboratory's NPDES Permit, FFCA and AO. GPP funding is included to cover the larger improvements to existing treatment facilities.

4. Current Year FY92 Description:

- * ADS-49 PCB Transformers and Capacitors: During FY92, approximately 50 PCB transformers will be replaced or retrofilled under the old Five-Year Plan guidance. GPP funding will cover the larger projects in FY92.
- ADS-80 Clean Water Act Projects: During FY92, waste stream characterization is continuing and construction is scheduled to start on the TA-53 Lagoons Elimination Project. GPP funding will

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cover the TA-53 Project and other larger projects in FY92.

5. Budget Year FY93 Description:

- * ADS-80 Clean Water Act Projects: Continue waste stream characterization and related CWA projects in FY93.

6. Formulation Year FY94 Description:

- * ADS-80 Clean Water Act Projects: Design and install improvements for compliance with the CWA, Laboratory's NPDES Permit, FFCA, and AO. GPP funding is requested to cover larger projects in FY94.

7. Planning Years FY95-FY98 Description:

- * ADS-80 Clean Water Act Projects: Design and install improvements for compliance with the CWA, Laboratory's NPDES Permit, FFCA, and AO. GPP funding is requested to cover larger projects in FY95-98.

8. Key Assumptions:

- * ADS-49 PCB Transformers and Capacitors: The scope of this project includes removal of all liquids at the Laboratory. Cost estimates and schedules have been based on previous experience.
- * ADS-80 Clean Water Act Projects: The scope, cost and schedule for this project are based upon experience in conducting waste stream characterization and in the design and construction of similar improvements.

9. Key Issues:

- * ADS-49 PCB Transformers and Capacitors: The Laboratory will continue to be at risk of PCB fires and spills unless all PCB liquids are removed.
- * ADS-80 Clean Water Act Projects: The Laboratory will continue to generate wastewater and must comply with the Clean Water Act, NPDES Permit, FFCA and AO.

10. Regulatory Drivers:

- * ADS-49 PCB Transformers and Capacitors: All PCB liquids should be removed from the Laboratory to eliminate risk of PCB fires and spills and noncompliance with TSCA, 40 CFR 761.
- * ADS-80 Clean Water Act Projects: The Laboratory must complete waste stream characterization, develop permits, and design and construct improvements to comply with the CWA, the Laboratory's NPDES Permit, FFCA and AO.

11. Consequences:

ADS-49 PCB Transformers and Capacitors: Consequences if not funded include violations of TSCA 40 CFR 761 as reported in the Tiger Team findings and continued risk of PCB fires and spills.

ADS-80 Clean Water Act Projects: Consequences if not funded include violations of the Laboratory's NPDES Permit, potential fines and penalties and shut down of Laboratory facilities.