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LOS ALAMOS Records Processing Facility



ER Record I.D.# 0011690

# ENVIRONMENTAL RESTORATION

## FY94-FY98 FIVE-YEAR PLAN

LOS ALAMOS NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

APRIL 1992

Received by ER-RPF  
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*[Signature]*

# LOS ALAMOS NATIONAL LABORATORY

Albuquerque Field Office  
Installation Summary  
Los Alamos National Laboratory (LANL)

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## DESCRIPTION

Los Alamos National Laboratory (LANL) occupies about 43 square miles in Los Alamos County, approximately 60 miles north-northeast of Albuquerque, and 25 miles northwest of Santa Fe. The Laboratory is situated on the Pajarito Plateau, which is made up of finger-like mesas ranging in elevation from 6,200 to 7,800 feet. Major programs at LANL include applied research in nuclear and conventional weapons development, nuclear fission and fusion, nuclear safeguards and security, and waste management. Corrective Activities include those activities to bring active or standby facilities into compliance with ambient air, water, and solid waste regulations and/or agreements, and Department of Energy (DOE) requirements. Waste management is responsible for managing the hazardous, mixed, and radioactive wastes generated by Laboratory operations. Approximately 2250 potential release sites, aggregated into 24 operable units, are currently scheduled for investigation in the Environmental Restoration Program under the Hazardous and Solid Waste Amendments (HSWA) permit. Three surplus facilities are identified for Decontamination and Decommissioning (D&D) in the Five-Year Plan.

When the Laboratory updated its Site Development Plan in 1990, waste management was a major topic, both in terms of policies as well as land use. The Laboratory's primary environment, safety, and health goal is to continue to protect the environment, the public, and Laboratory personnel and facilities. Corrective Activities and Environmental Restoration Operable Units are located throughout the Laboratory and adjacent areas and are remediated on an as-needed basis. Waste Management activities take place primarily at TA-50 and TA-54, areas which have been reserved for future development of waste management functions and operations required to meet the Laboratory's goal. The Laboratory has implemented a three-part resource management strategy that includes resource preservation, conservation, and restoration activities in order to continue to accomplish its mission while minimizing its effects on the environment.

## STRATEGIC OUTLOOK

The Los Alamos strategy to implement the DOE's Environmental Restoration/Waste Management Five-Year Plan derives from our vision, which is to seek environmental excellence. In that endeavor, we will demand best management practices in all activities, with a particular focus on complying with all applicable laws and regulations that protect the public health and environment. We will do so in a manner that is systematic and cost-effective, taking advantage of the talents of the environmental community at Los Alamos and elsewhere. Our view is a bias for appropriate action, determined by due consideration of the total program goals over its lifetime.

The Five-Year Plan is carried out by various elements of the Los Alamos National Laboratory. The Environmental Management Division is responsible for executing the operational aspects, with assistance from other divisions at Los Alamos, as necessary and appropriate. The Technology Development portion of the program likewise has many participants to draw on the breadth of the Laboratory's environmental expertise to solve our own problems and to help others as the needs arise.

All of the DOE's Five-Year Plan Activities are led by the Program Director for Applied Environmental Technologies (PD/AET). Our intent is to encourage coordination and synergism, as well as to pursue efficient and increasingly better quality in the Laboratory's environmental work. The PD/AET draws on a collection of Program Managers to execute various program elements. Most of these Program Managers reside in the line organizations and divisions having primary responsibility for specific programs.

OPERATING EXPENSES AND CAPITAL ACQUISITION BUDGET  
 FY 1992 - FY 1995  
 COMPOSITE OPERATING RATES  
 FOR YEAR-TO-YEAR OPERATING COST CHANGES

OPERATING COST RATES

Percentage Changes by Fiscal Year

<u>CATEGORY OF COST</u>	<u>FY 1992</u>	<u>FY 1993</u>	<u>FY 1994</u>	<u>FY1995</u>	<u>FY 1996</u>
Salaries	5.1%	5.0%	5.0%	5.0%	5.0%
Salaries plus Fringes	6.1%	5.0%	5.0%	5.0%	5.0%
Salaries plus Fringes, plus Burden	4.4%	2.6%	2.4%	5.0%	5.0%
Materials and Services	7.1%	9.1%	9.2%	4.9%	4.9%
Laboratory Composite	5.7%	5.7%	5.7%	5.0%	5.0%

## SUMMARY OF OBLIGATIONS AND COSTS FOR CONSTRUCTION PROJECTS

The D&D submission identifies FY 1994 to FY 1998 funding requirements as operating dollars for the constrained and unconstrained case. On October 19, 1990, the Laboratory received official guidance from DOE/BRMD concerning the use of D&D operating funds for capital equipment and construction. (See Attachment B)

OPERATING EXPENSES AND CAPITAL ACQUISITION BUDGET  
FY 1992 - FY 1995  
COMPOSITE OPERATING RATES  
FOR YEAR-TO-YEAR OPERATING COST CHANGES

Los Alamos National Laboratory  
Albuquerque Operations Office

GENERAL:

Generation of the Laboratory's composite operating rate table is a complex process. Because of the unique nature of the Laboratory's Research & Development efforts, historical costs were the major contributing aspect in determining these rates. Once determined, these rates are applied equitably to all the Laboratory's programs.

The main process, and the one most subject to internal Laboratory review, is the development of the annual operating cost factors. The operating cost factors for the identified categories in the rate table are determined through input from the Laboratory, its major subcontractor - Johnson Control, Inc. (JCI), and the Integrated Contractor Offices. These specific organizations have been chosen because they specialize in monitoring and projecting costs in these individual category areas. The major variables used in the development of these factors are the following:

- a) National economic indicators,
- b) Historical experience for prices paid for goods and services,
- c) The judgment of the individual managers/estimators who are most closely associated with a particular category.

The weighting of the cost categories was determined by using historical costs. Individual operating cost factors were determined as explained below.

Specific Factor Determination:

**SALARIES:** These rates are based upon national and regional salary surveys, published projections such as the American Compensation Association's estimate of merit increases, and the Laboratory's negotiations with DOE. As a result of the Laboratory's negotiations with DOE, the FY 1992 salary increase will average 5.1%. Salary increases the out years are projected at the rate of 5.0%.

**FRINGE:** The fringe rate for FY 1992 will increase to 21% from the previous year's rate of 20%. The out years are expected to hold at the 21% rate.

Overhead rates are established by the Laboratory to cover general and administrative, Institutional Support, Institutional Supporting Research and Development, and other indirect costs. Burden rate is applied to salary and fringe costs of all programs

OPERATING EXPENSES AND CAPITAL ACQUISITION BUDGET  
FY 1992 - FY 1995  
COMPOSITE OPERATING RATES  
FOR YEAR-TO-YEAR OPERATING COST CHANGES

except indirect and construction. The burden rates are determined by the Laboratory's management during an annual indirect cost study.

MATERIALS AND SERVICES

EXTERNAL:

- Material: Material cost estimates are derived from groups within the Laboratory that project internal spending patterns. The Producers' Price Index (PPI) and the Consumers' Price Index (CPI), published by the Bureau of Labor Statistics, and the Laboratory's own historical cost patterns are also taken into account.
- Travel: Travel costs are monitored by the Laboratory's Travel Group within the Financial Operations Division. This group estimates escalations in travel costs by observing trends in the travel industry and by factoring in the effects of contracts that the Laboratory negotiates with travel related vendors.
- Laboratory Services: These costs are estimated using expected increases in material and craft wages.
- Other Material & Services: Other M&S is a mix of material and service costs, both internal and external, that approximates the cost mix of the Laboratory as a whole. As a result, the Laboratory composite rate is considered the best rate to use for this category.
- Major Procurement: Cost factors in this category tend to follow salary cost factors in the R&D organizations, as reported in the R&D Organization Survey. These factors are further supported by conducting discussions with other national laboratories and integrated contractors.
- Integrated Contractor Procurement: The latest survey of the integrated contractors indicates little or no change in the rate of cost increases for the current year. The same conditions are expected to continue into the out years.

INTERNAL

Internal M&S consist of the Laboratory's recharge departments including Mechanical Fabrication (MEC), the Chemical Processing Facility (CCF), Procurement (MAT), and Miscellaneous Salaries. MEC, CCF, and Procurement operating costs are based on projected salary and increases. Miscellaneous Salaries follow the same trends as the Laboratory's salary

In addition to the management review process, the Laboratory has a budget validation process which covers programmatic (work scope) and cost (price) validation that is performed by analysts of the Financial Management Division for the Controller. Work scope validation is the responsibility of the LANL technical staff--those responsible for developing program resource requirements. Work scope dictates the amount of labor required which usually is the major work scope cost. LANL technical staff are in the best position to judge whether labor requirements are reasonable. Work scope validation also includes determining whether the timing of activities is practical, taking into account items such as time necessary to acquire contractor support, hire staff, procure equipment, and whether infrastructure requirements (e.g., laboratory services) are available when needed.

Cost (price) validation focuses on whether the correct burden, labor and escalation rates are applied. FIN analysts also review documents supporting the various cost components used to build the estimates and assess whether estimating techniques appear reasonable and are well supported.

FIN analysts are involved early in the budget development process. An internal review is conducted on the budget submission prior to release or in parallel with release to DOE. The independent internal review ensures scope of work, cost, and schedule estimates are reasonable, well documented, and consistent with DOE guidance.

#### **NARRATIVE DISCUSSION OF THE SCOPE, SCHEDULE, AND BUDGET ESTIMATING ASSUMPTIONS FOR THE ER PROGRAM BASELINE/FIVE-YEAR PLAN**

Attachment A describes ER's approach to developing estimates for the baseline and the FYP submission. Information includes the basis, planning approach, contingency, budget assumptions, and methodologies.

#### **BUDGET IS IN COMPLIANCE WITH ALL DOE GUIDANCE AND LIST ANY EXCEPTIONS.**

All ER Activity Data Sheet submittals for the unconstrained and constrained case have been developed in accordance with DOE Orders 5100.3 and 4700.1 and all other pertinent DOE programmatic and budget guidance. No exceptions. The constrained budget estimates for the ER program have been constrained to meet DOE requirements.

## NARRATIVE EXPLANATION OF BURDEN RATES USED

The indirect budget is developed to meet the infrastructure programmatic system requirements effort. The indirect costs will vary according to funding or more closely to manpower. Even these costs do not share an exact linear relationship with funding or manpower. Other indirect costs do not vary with funding or manpower.

Direct programmatic expenditures can be broken down into several categories such as salary, fringe, burden, travel, computer time, etc. However, LANL does not currently collect direct expenditures into some of the categories requested such as programmatic-specific maintenance. Estimates for these categories is difficult at best due to the number and variety of programs currently at the Laboratory.

LANL is a multi-program Laboratory and is managed in accordance with its contract that requires compliance with Cost Accounting Standards. It is not consistent with that contract or feasible, from a management or financial standpoint, for any single program or DOE to dictate the level of indirect the Laboratory should budget or cost. Nor is it allowable for any single program to dictate how much their particular program should contribute to the institutional indirect budget, without violating generally accepted accounting procedures and cost accounting standards and distorting the equity of each project paying its "fair share." The DOE and US contractual agreement assigns this responsibility to Laboratory senior management, acknowledging that detailed day-to-day management can best be performed by highly skilled on-site managers. Furthermore, Laboratory Management is acutely aware that G&A, overhead, and other indirect expenses reduce funding available for research and therefore there is a considerable incentive to carefully control these expenses.

MAJOR MILESONES	Unconstrained Date	Target Date	Status
<u>Corrective Activities</u>			
Complete construction of Hazardous Waste Treatment Facility	FY94	FY95	Slipped*
Complete construction of the Sanitary Wastewater Systems Consolidation	FY93	FY93	On Schedule
<u>Waste Operations</u>			
Begin construction of Radioactive Asbestos Bunal Pit	FY93	FY93	Slipped*
Restart of Controlled Air Incinerator	FY95	FY96	Slipped*
Start operations at the Mixed Waste Receiving and Storage Facility	FY94	FY94	On Schedule
Complete Title I Design on Low-Level and Mixed Waste Incineration Facility	FY94	-	Project Eliminated
Complete construction of High Explosive Wastewater Treatment System	FY97	FY97	Slipped*
<u>Environmental Restoration</u>			
Complete eight RCRA Facility Investigations (RFI) Work Plans	FY92	N/A	On Schedule
Complete ten RFI Work Plans	FY93	N/A	On Schedule
Complete four RFI Work Plans	FY94	N/A	On Schedule
Complete one RFI Work Plan	FY95	N/A	On Schedule
Develop Decontamination & Decommissioning Master Plan	FY92	N.A	On Schedule
Complete Decontamination & Decommissioning of Bldgs. 3 & 4 South at Technical Area 21	FY93	N/A	On Schedule
Complete Decontamination & Decommissioning of Phase Separator Pit at Technical Area 35	FY95	N/A	On Schedule

\*Slipped due to constraints in FY92 funding

## NARRATIVE REFERENCING THE DOE PROGRAMMATIC AND FISCAL GUIDANCE ON WHICH THE BUDGET IS BASED.

The Los Alamos National Laboratory Environmental Restoration (ER) FY94-FY98 Five Year Plan (FYP) has been prepared in compliance with and responds to fiscal and programmatic guidance as provided by the Department of Energy (DOE) Albuquerque Field Office (AFO) Budget and Resources Management Division (BRMD) and the AFO Environmental Restoration Project Office (ERPO). All Activity Data Sheet submittals for the unconstrained and constrained case have been developed in accordance with DOE Order 5100.3, 4700.1, and budget call guidance received on February 12, from Frank Baca, Director of Budget and Resource Management Division. The submission of the ER FYP includes 33 ADSs. For FY92 and FY93, the operating expense requirements are consistent with the DOE/BRMD directed budget levels, as provided on the Frank Baca, Director of Budget and Resources Management Division memo dated September 23, 1991. For FY94 to FY98, the constrained budget levels match the guidance received also from Frank Baca on March 10, 1992. For FY94 to FY98, the ER unconstrained case reflects a significant increase resulting from the program being funded at lower levels in FY92 and FY93 (targets) which impact activities supported within the fiscal year and others which slip into the outyears. The FY94 to FY98 unconstrained case represents the work scope and resource requirements necessary to fulfill the Laboratory's RCRA Operating permit under current the HSWA Module.

## EXPLANATION OF LABORATORY COST FACTORS AND RATES AS USED IN COMPLETING THE BUDGET.

The ER FY94-FY98 FYP submittal utilizes standard Laboratory Cost Factors as published in the Los Alamos Financial Management Handbook (Section 8025). These factors are developed using historical costs rather than consumer price indices that do not appropriately reflect the unique nature of the Laboratory's research and development efforts. They form the basis for all Laboratory budget submittals.

The ER budget estimates required on all ADSs are expressed as labor (Full Time Equivalents or FTES), burden, materials and services, and major procurements. Estimates are constructed in the same way that costs are collected through the Laboratory's financial management systems, that is, using the following categories: Salary and Fringe, Burden, Miscellaneous Salaries, Material, Travel, Services (CCF, Lab Services, Shop), Other Materials and Services (M&S) and Major Procurements. Additional information on what these categories include is available in the section entitled, "Narrative Explanation of Overhead and Rates Used."

All Environmental Restoration ongoing activities have continuing obligations (that is, uncoded commitments resulting from outstanding orders that transcend fiscal years). The obligational authority necessary to support these commitments is essential to maintain program continuity and to avoid program overobligation. Should DOE attempt to withdraw and reassign uncoded obligation authority without concurrence from the Laboratory, there is a considerable danger that could cause the affected program to be overobligated. Furthermore, closeout costs may also be incurred for goods and services ordered but for which the obligational authority is withdrawn. The Laboratory must maintain sufficient obligational authority to cover outstanding commitments, otherwise overobligation and temporary programmatic stoppages may occur.

## STATEMENT OF MANAGEMENT REVIEW PROCESS AND VALIDATION

Management review and approval is jointly conducted by the technical program proponent organization, through the level of the Assistant Director, and by the Laboratory Controller. Technical review assures that proposed program work is consistent with the strategic direction of the Laboratory and with the technical mission of the Directorate. The technical review also assures the viability of the technical approach proposed, the reasonableness of resources requested, and results in a decision to proceed or not proceed with the request. The management review by the Laboratory Controller is conducted to assure that the underlying basis of the budget request (i.e., work scope and cost (pricing) validations) have been conducted in accordance with Laboratory and DOE financial and budget development guidelines and policy.



Reported By: INSTAL DESCRIPTION  
 Database: PBCHLAER.dbf

Environmental Restoration and Waste Management  
 Activity Data Sheet Level Summary Report

Activity	LANL ENVIRONMENTAL RESTORATION PROGRAM (EXCLUDING D&D)									
	REQUIREMENTS LEVEL					TARGET LEVEL				
	94	95	96	97	98	94	95	96	97	98
...	297	426	533	515	315	311	0	0	500	500
...	5,270	6,018	4,891	1,428	998	0	500	1,000	2,000	4,000
...	14,759	23,822	23,912	23,351	24,186	15,729	14,604	16,607	17,662	16,197
...	13,767	14,258	13,862	13,614	14,027	12,713	13,273	13,862	14,500	15,900
...	1,980	1,074	4,646	10,506	1,535	0	0	0	0	0
...	137,844	189,005	215,707	202,552	152,727	74,260	92,572	108,504	121,557	135,615
...	142,362	172,246	216,351	202,902	153,529	74,260	93,072	109,504	122,352	137,515
...	142,362	172,246	216,351	202,902	153,529	74,260	93,072	109,504	122,352	137,515

Operations Office: ALLA ID No.: 1049 Last Update: 04/04/00

Activity Title: CANYONS  
 Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: R NEPA: N/A  
 Category: ER Facility/WAG: N/A % Overhead: 15  
 Cost LOC Req.: Sched. LOC Req.: H Scope LOC Req.: WBS Hold: 6.1.1 Levels: 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 SALT: N STOC: 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 ORO: N ST: Y TRI: N FED: Y

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	100	860	1,187	3,512	15,216	23,731	29,058
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>100</b>	<b>860</b>	<b>1,187</b>	<b>3,512</b>	<b>15,216</b>	<b>23,731</b>	<b>29,058</b>
FTE D	0.2	2.9	2.8	5.3	1.9	4.5	3.3
FTE I	0.1	1.2	1.1	2.1	0.9	2.1	1.5

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	100	860	1,891	3,361	4,504	6,360	8,360
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>100</b>	<b>860</b>	<b>1,891</b>	<b>3,361</b>	<b>4,504</b>	<b>6,360</b>	<b>8,360</b>
FTE D	0.2	2.9	4.4	4.6	0.5	1.2	1.1
FTE I	0.1	1.2	1.8	1.8	0.2	0.6	0.5

F.O. POC: Bitner, R. (505) 845-4606 Reviewed Date: 02/05/92  
 HQ POC: Harris, R. (505) 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

TFN Date: 11/08/91

Type of Change:

Reason for Change: LAHL 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

TFN Date: 11/08/91

Type of Change:

Reason for Change: LAHL 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

TFN Date: 11/08/91

Type of Change:

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

Tiger Team Finding Number: IWS/CF-7

TFN Date: 11/08/91

Type of Change:

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

Tiger Team Finding Number: IWS/CF-10

TFN Date: 11/08/91

Type of Change:

Reason for Change: The LAHL 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

TFN Date: 11/08/91

Type of Change:

Reason for Change: LAHL 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

TFN Date: 11/08/91

Type of Change:

Reason for Change: The LAHL Program Community Relations Plan is not in complete accordance with the RSWA Module, ER Program IEP, and EPA community relations guidance documentary requirements.

Tiger Team Finding Number: IWS/BMP-1

TFN Date: 11/08/91

Type of Change:

Reason for Change: LAHL procedures for the characterization of inactive waste sites are not consistent across Operable Units and do not include site-wide procedures to ensure compliance with the requirements of applicable regulations, and DOE Orders.

MILESTONES

Milestone No. 01M010  
Req. Due Date: 07/05/96 Target Due Date: 03/18/97 Level: HQ Source:30040  
Title: EPA/NHED 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:30040  
Title: EPA/NHED DRAFT OF PH1 REPORT  
Compliance: HSWA MODULE  
Description: A draft phase one report will be submitted to EPA and NHED 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:30040  
Title: EPA/NHED 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 NHED.

Milestone No. 01M040  
Req. Due Date: 07/05/01 Target Due Date: 09/06/05 Level: HQ Source:30040  
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:30040  
Title: EPA/NHED DRAFT OF CMS PLAN  
Compliance: HSWA MODULE  
Description: The CMS plan will be prepared and submitted to the EPA and NHED in compliance with the HSWA module.

Milestone No. 01M060  
Req. Due Date: 12/04/01 Target Due Date: 10/12/05 Level: HQ Source:30040  
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:30040  
Title: EPA/NHED DRAFT OF CMS REPORT  
Compliance: HSWA MODULE  
Description: The draft CMS report will be submitted to EPA and NHED as required for the operating permit.

B&P CODE CROSSWALKS

Program: EM Desc: RCRA/CERCLA Sub Desc: A  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	1,187	1,891
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	1,187	1,891

Unconstrained Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	100	860	1,187	3,512	15,216	23,731	29,058
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
Total	100	860	1,187	3,512	15,216	23,731	29,058

Target Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	100	860	1,891	3,361	4,604	6,360	8,360
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
Total	100	860	1,891	3,361	4,604	6,360	8,360

Requirements Narrative

1. Technical Scope:

The canyon effort addresses the impacts 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 filling sites are located in the canyons. There are potential release sites (initially effluent receiving areas) with radioactive isotopes, benzidium, unexploded ordnance, heavy metals, and high explosive concentrations. Root contamination is expected to be very low level and, therefore, remedial removal and institutional controls would be sufficient remedies. 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 Action/Remedial Study/Corrective Measures Implementation (RFI/CA/RS/CM) and RCRA Corrective Actions (VCAs) for this operable unit.

2. Activities Completed to Date:

- \* Preliminary Assessment/Study (PA/S) document submitted to the Environmental Protection Agency (EPA) on October 1, 1987. Solid Waste Management Unit (SWMU) submitted to EPA Region VI and New Mexico Environmental Protection Division (NMEPD), 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.
- \* 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 OJ.

### 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 involving geology, hydrology, and geochemistry as relevant to 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/WA 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 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 associated RCRA permit as issued to the U.S. DOE Los Alamos Area Office and the University of California, doing business as Los Alamos National Laboratory (hereafter referred to as the Permittee) to operate a disposal facility under the conditions 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.

Target Narrative

1. Impacts on FY 94:

- \* Target funding level has no-impact on scheduled HSWA-required RFI work plan FY94 activities.

2. Impacts on outyears:

- \* In order to meet target funding levels, a significant cut is required in FY95-FY98 (\$451K, \$10612K, \$17371K, and \$20898K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI work plan, RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* The RFI/CMS process is delayed by approximately 6.5 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

Milestone Calculations:

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1: Plot ADS constrained allocated cost on the cost profile.

Step 2: Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3: Project completion of the RFI field work based on the following:

- a) Large OUs do not exceed \$10-12 million per year
- b) Medium OUs do not exceed \$5-6 million per year
- c) Small OUs do not exceed \$3 million per year

Step 4: Allow one year to complete the following:

- RFI Report
- CMS Plan
- CMS Work
- CMS Report

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



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

Activity Title: CANYONS  
 Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: R 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: Y TRU: Y TRU MIX: Y LLW: Y LLW H: Y HAZ: Y SANT: Y GRC: 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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.04 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

FUNCTIONAL AREA	% of \$	Priority	Type	
			Core Comp.	Improv.
AS Aviation Safety	0			
EP Emergency Preparedness	0			
FP Fire Protection	0			
FS Firearms Safety	0			
MA Maintenance	0			
MS Medical Services	0			
OP Operations	0			
OS Occupational Safety	0			
PT Packaging and Transportation	0			
RP Radiology Protection	<del>100</del>			
Total Percent	100			

*Software won't allow  
 Change to 0.  
 Jim*

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

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REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis.  
 Therefore, operating expense dollars and FTEs are not provided.  
 Additionally, the percent of total by Functional Area is not provided.  
 Site characterization activities will comply with OSHA 1910.120 health and  
 safety requirements. Health and safety requirements are  
 compliance-related.

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 STCC: N  
 Regulatory Drivers: CAA: N CWA: N SDWA: N RCRA: Y P3004: Y TSCA: N CERCLA: Y  
 NEPA: Y DOE: Y OSHA: Y IAG: N ORD: N ST: Y TRI: N FED: Y

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	697	0	0	0	0	0	0
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>697</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE D	4.3	0.0	0.0	0.0	0.0	0.0	0.0
FTE I	1.1	0.0	0.0	0.0	0.0	0.0	0.0

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	697	0	0	0	0	0	0
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>697</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE D	4.3	0.0	0.0	0.0	0.0	0.0	0.0
FTE I	1.1	0.0	0.0	0.0	0.0	0.0	0.0

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.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet: FY 94-98  
 ALLA-1062

Date: 11/11/93  
 Time: 11:11  
 Page: 1

MILESTONES Milestone No. N/A  
 Req. Due Date: 09/30/92 Target Due Date: Level: HQ Source:30040  
 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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	0	0
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	0	0

Unconstrained Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	697	0	0	0	0	0	0
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
Total	<u>697</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

Target Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	697	0	0	0	0	0	0
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
Total	<u>697</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

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.

2. Activity Term:

This activity is being phased out in FY92.

4. Current Year (FY 92) Description:

- \* 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

Target Narrative

1. Impacts on FY94:

N/A

2. Impacts on outyears:

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

Operations Office: ALLA ID No.: 1062 Last Update: 04/24/92

Activity Title: INTERIM REMEDIAL MEASURES  
 Installation: LOS ALAMOS NATIONAL LABORATORY RCRA/CERCLA: RA 4EPA: 4/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: H LLW H: N HAZ: N SAHT: N DTCC: 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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.04 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

FUNCTIONAL AREA	% of \$	Priority	Type	
			Core	Comp. Improv.
AS Aviation Safety	0			
EP Emergency Preparedness	0			
FP Fire Protection	0			
FS Firearms Safety	0			
MA Maintenance	0			
MS Medical Services	0			
OP Operations	0			
OS Occupational Safety	0			
PT Packaging and Transportation	0			
RP Radiology Protection	0			
Total Percent	0			

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Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1063

Date: 04/24/92  
 Time: 10:09:11  
 Page: 1

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 H: N HAZ: N SANT: N STCC: 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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	0	0	0	0	0	0	0
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>						
FTE D	0.6	0.0	0.0	0.0	0.0	0.0	0.0
FTE I	0.2	0.0	0.0	0.0	0.0	0.0	0.0

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	0	0	0	0	0	0	0
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>						
FTE D	0.6	0.0	0.0	0.0	0.0	0.0	0.0
FTE I	0.2	0.0	0.0	0.0	0.0	0.0	0.0

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2. 3.

Reviewed Date: 02/25/92

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.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1063

Date: 04-04-92  
 Time: 11:09:00  
 Page: 2

B&R CODE CROSSWALKS

Program: Desc.: Sub Desc.:  
 Priority: 0 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	0	0
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	0	0

Unconstrained Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0

Target Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0

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.

\* 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

Regulatory Drivers/Consequences:

N/A

11. Other Consequences:

N/A

Target Narrative

1. Impacts on FY94:

N/A

2. Impacts on outyears:

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

Operations Office: ALLA ID No.: 1063

Last Update: 04/23/92

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 SALT: N GTOC: 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 TR: N FED: Y

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE REMEDIATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1066

Date: 02/24/92  
 Page: 10 of 10  
 Page:

Operations Office: ALLA ID No.: 1066 Last Update: 02/24/92

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 GTOG: 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: -

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	96	500	2,789	1,314	0	0	0
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>96</b>	<b>500</b>	<b>2,789</b>	<b>1,314</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE D	0.1	0.3	0.2	0.6	0.0	0.0	0.0
FTE I	0.0	0.1	0.1	0.3	0.0	0.0	0.0

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	96	500	1,500	2,000	603	0	0
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>96</b>	<b>500</b>	<b>1,500</b>	<b>2,000</b>	<b>603</b>	<b>0</b>	<b>0</b>
FTE D	0.1	0.3	0.1	0.9	0.3	0.0	0.0
FTE I	0.0	0.1	0.1	0.5	0.0	0.0	0.0

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2. 3.

Reviewed Date: 02/25/92

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

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1066

Date: 11/19/93  
 Time: 11:19:33  
 Page: 2

**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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	2,789	1,500
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	2,789	1,500

Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	96	500	2,789	1,314	0	0	0
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
Total	96	500	2,789	1,314	0	0	0

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	96	500	1,500	2,000	603	0	0
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
Total	96	500	1,500	2,000	603	0	0

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.

3. 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 Equivalents (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.

#### 8. 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 or 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) A 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 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:

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.

Target Narrative

1. Impacts on FY94:

- \* In order to meet target funding levels, a significant cut is required in FY94 (\$1289K).
- \* NEPA-related activities will be significantly delayed, which could delay construction/operation of the MWSDF by one year.

2. Impacts on outyears:

- \* Funding will be increased in FY95 and FY96 (\$686K and \$603K, respectively) to complete NEPA activities.
- \* NEPA-related activities will be significantly delayed, which could delay construction/operation of the MWSDF by one year.

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

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

FUNCTIONAL AREA	% of \$	Priority	Type	
			Core	Comp. Improv.
AS Aviation Safety	0			
EP Emergency Preparedness	0			
FP Fire Protection	0			
FS Firearms Safety	0			
MA Maintenance	0			
MS Medical Services	0			
OP Operations	0			
OS Occupational Safety	0			
PT Packaging and Transportation	0			
RP Radiology Protection	0			
Total Percent	0			

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1067

Date: 04/24/92  
 Time: 11:09:33  
 Page:

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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	463	2,670	2,865	6,033	8,183	19	0
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>463</b>	<b>2,670</b>	<b>2,865</b>	<b>6,033</b>	<b>8,183</b>	<b>19</b>	<b>0</b>
FTE D	2.6	6.7	4.5	3.7	3.7	0.1	0.0
FTE I	1.3	3.4	2.3	1.9	1.9	0.1	0.0

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	463	2,670	2,865	6,033	8,183	19	0
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>463</b>	<b>2,670</b>	<b>2,865</b>	<b>6,033</b>	<b>8,183</b>	<b>19</b>	<b>0</b>
FTE D	2.6	6.7	4.5	3.7	3.7	0.1	0.0
FTE I	1.3	3.4	2.3	1.9	1.9	0.1	0.0

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2. 3.

Reviewed Date: 02/25/92

CROSSWALK Old ADS Number: ALLA1067  
 Type of Change: ADS SAME  
 Reason for Change: Same ADS as ADS1067.

Environmental Restoration and Waste Management Five Year Plan  
Activity Data Sheet FY 94-98  
ALLA-1067

Date: 04-14-92  
Time: 11:09:33  
Page: 3

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.

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.

B&R CODE CROSSWALKS

Program: EM  
 Priority: 2

Desc.: RCRA/CERCLA  
 Title: EM, RCRA/CERCLA-C

Sub Desc.: C

FY-94 Detail	Unconstrained	Target
FY-94L	2,865	2,865
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	2,865	2,865

Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010302	463	2,670	2,865	6,033	8,183	19	0
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
Total	463	2,670	2,865	6,033	8,183	19	0

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010302	463	2,670	2,865	6,033	8,183	19	0
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
Total	463	2,670	2,865	6,033	8,183	19	0

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.

3. Activity Term:

MWSDF design activities will be continued through the completion of the final 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/LM 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 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 MS&DF.

#### 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:

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

Target Narrative

1. Impacts on FY94:

No impact.

2. Impacts on outyears:

No 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:

ADS is for MWSD. Not applicable.

Indicators Point of Contact:

Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<<- All Costs are in Thousands (\$000's) ->>

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

FUNCTIONAL AREA	% of \$	Priority	Type	
			Core	Comp. Improv.
AS Aviation Safety	0			
EP Emergency Preparedness	0			
FP Fire Protection	0			
FS Firearms Safety	0			
MA Maintenance	0			
MS Medical Services	0			
OP Operations	0			
OS Occupational Safety	0			
PT Packaging and Transportation	0			
RP Radiology Protection	0			
Total Percent	0			

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

Operations Office: ALLA ID No.: 1071

Last Update: 05/01/92

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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	769	2,789	15,670	4,891	17,610	10,464	1,519
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>769</b>	<b>2,789</b>	<b>15,670</b>	<b>4,891</b>	<b>17,610</b>	<b>10,464</b>	<b>1,519</b>

FTE D	2.4	1.4	1.3	1.1	1.4	2.0	2.8
FTE I	1.0	0.7	0.7	0.5	0.7	0.9	1.1

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	769	2,789	5,789	10,082	12,135	10,464	10,109
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>769</b>	<b>2,789</b>	<b>5,789</b>	<b>10,082</b>	<b>12,135</b>	<b>10,464</b>	<b>10,109</b>

FTE D	2.4	1.4	4.8	2.3	0.9	2.0	1.9
FTE I	1.0	0.7	2.6	1.0	0.5	0.9	0.8

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 O&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 LAAD 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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title: EM, RCRA/CERCLA-A

FY-94 Detail	Unconstrained	Target
FY-94L	15,670	5,789
FY-94ESH	0	0
FY-94D	0	0
<b>Total</b>	<b>15,670</b>	<b>5,789</b>

Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	769	2,789	15,670	4,891	17,610	10,464	1,515
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>769</b>	<b>2,789</b>	<b>15,670</b>	<b>4,891</b>	<b>17,610</b>	<b>10,464</b>	<b>1,515</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	769	2,789	5,789	10,082	12,135	10,464	10,109
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>769</b>	<b>2,789</b>	<b>5,789</b>	<b>10,082</b>	<b>12,135</b>	<b>10,464</b>	<b>10,109</b>

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 Equivalents (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.

#### Target Narrative

##### 1. Impacts on FY94:

- \* In order to meet target funding levels, a significant cut is required in FY94 (\$9881K).
- \* Target funding level significantly impacts scheduled HSWA-required RFI FY94 activities.

##### 2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY98 (\$5191, -\$5475, \$0, and \$8590K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI work plan, RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process is delayed by approximately 1.5 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

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	13858	cu yd
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 restric

Indicators Point of Contact: Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

Operations Office: ALLA ID No.: 1071

Last Update: 04

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.
1993	0.0	0.0	0.0	0.0	0.0	0.
1994	0.0	0.0	0.0	0.0	0.0	0.
1995	0.0	0.0	0.0	0.0	0.0	0.
1996	0.0	0.0	0.0	0.0	0.0	0.
1997	0.0	0.0	0.0	0.0	0.0	0.
1998	0.0	0.0	0.0	0.0	0.0	0.
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

FUNCTIONAL AREA	% of \$	Priority	Type	
			Core	Comp. Improv.
AS Aviation Safety	0			
EP Emergency Preparedness	0			
FP Fire Protection	0			
FS Firearms Safety	0			
MA Maintenance	0			
MS Medical Services	0			
OP Operations	0			
OS Occupational Safety	0			
PT Packaging and Transportation	0			
RP Radiology Protection	0			
Total Percent	0			

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1078

Date: 04/24/92  
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 Page:

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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	790	3,218	1,745	6,098	1,363	1,326	803
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>790</b>	<b>3,218</b>	<b>1,745</b>	<b>6,098</b>	<b>1,363</b>	<b>1,326</b>	<b>803</b>
FTE D	2.3	1.9	1.4	1.3	2.7	2.7	2.7
FTE I	0.7	0.7	0.5	0.6	1.2	1.2	1.2

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	790	3,218	3,950	3,950	3,422	1,450	899
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>790</b>	<b>3,218</b>	<b>3,950</b>	<b>3,950</b>	<b>3,422</b>	<b>1,450</b>	<b>899</b>
FTE D	2.3	1.9	1.1	1.4	3.0	3.0	1.7
FTE I	0.7	0.2	0.5	0.6	1.3	1.3	0.8

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2. 3.

Reviewed Date: 02/26/92

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.

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.

Environmental Restoration and Waste Management Five Year Plan  
Activity Data Sheet FY 94-98  
ALLA-1078

Date: 04-10-98  
Time: 11:09:33  
Page: 1

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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title: EM, RCRA/CERCLA-A

FY-94 Detail	Unconstrained	Target
FY-94L	1,745	3,950
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	1,745	3,950

Unconstrained Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	790	3,218	1,745	6,098	1,363	1,326	803
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
Total	<u>790</u>	<u>3,218</u>	<u>1,745</u>	<u>6,098</u>	<u>1,363</u>	<u>1,326</u>	<u>803</u>

Target Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	790	3,218	3,950	3,950	3,422	1,450	899
35EW2010	0	0	0	0	0	0	0
EW2010	0	0	0	0	0	0	0
EW2010	0	0	0	0	0	0	0
Total	<u>790</u>	<u>3,218</u>	<u>3,950</u>	<u>3,950</u>	<u>3,422</u>	<u>1,450</u>	<u>899</u>

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.
- \* 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.

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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 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 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.

#### Target Narrative

##### 1. Impacts on FY94:

- \* Target funding level is increased by \$2205K.
- \* Target funding level expedites scheduled HSWA-required RFI FY94 activities.

##### 2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY97 (-\$2148K, \$2059K, -\$124K, and \$96K, respectively).

Target funding level expedites some scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).

- \* However, the total RFI/CMS process timeframe remains essentially unchanged.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

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 disposa.

Indicators Point of Contact:

Bitner, K.

Title: F.O. POC

Phone Number:

5058454606

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/O  
 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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	869	1,560	8,839	5,718	1,253	513	820
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>869</b>	<b>1,560</b>	<b>8,839</b>	<b>5,718</b>	<b>1,253</b>	<b>513</b>	<b>820</b>
FTE D	3.2	3.9	1.8	0.6	2.6	1.3	0.9
FTE I	1.4	1.6	0.8	0.3	1.1	0.6	0.4

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	869	1,560	4,560	5,560	5,112	1,585	935
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>869</b>	<b>1,560</b>	<b>4,560</b>	<b>5,560</b>	<b>5,112</b>	<b>1,585</b>	<b>935</b>
FTE D	3.2	3.9	0.9	2.1	2.1	3.0	1.0
FTE I	1.4	1.6	0.4	1.2	1.0	1.4	0.4

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2.

Reviewed Date: 02/26/92

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 LAAD 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. 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.

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.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1079

Date: 04-24-92  
 Time: 10:47:46  
 Page:

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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	869	1,560	8,839	5,718	1,253	513	820
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>869</b>	<b>1,560</b>	<b>8,839</b>	<b>5,718</b>	<b>1,253</b>	<b>513</b>	<b>820</b>
FTE D	3.2	3.9	1.8	0.6	2.6	1.3	0.4
FTE I	1.4	1.6	0.8	0.3	1.1	0.6	0.4

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	869	1,560	4,560	5,560	5,112	1,585	935
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>869</b>	<b>1,560</b>	<b>4,560</b>	<b>5,560</b>	<b>5,112</b>	<b>1,585</b>	<b>935</b>
FTE D	3.2	3.9	0.9	2.1	2.1	3.0	1.0
FTE I	1.4	1.6	0.4	1.2	1.0	1.4	0.4

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.

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.

Environmental Restoration and Waste Management Five Year Plan  
Activity Data Sheet FY 94-98  
ALLA-1079

Date: 04/24/92  
Time: 12:47:46  
Page: 3

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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title: EM, RCRA/CERCLA-A

FY-94 Detail	Unconstrained	Target
FY-94L	8,839	4,560
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	8,839	4,560

Unconstrained Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	869	1,560	8,839	5,718	1,253	513	820
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
Total	869	1,560	8,839	5,718	1,253	513	820

Target Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	869	1,560	4,560	5,560	5,112	1,585	935
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
Total	869	1,560	4,560	5,560	5,112	1,585	935

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/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.
- \* 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.

Target Narrative

1. Impacts on FY94:

- \* In order to meet target funding levels, a significant cut is required in FY94 (\$4279K).
- \* Target funding level significantly impacts scheduled HSWA-required RFI FY94 activities.

2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY97 (-\$158K, \$3859K, \$1072K, and \$115K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* However, the RFI/CMS schedule is essentially within the HSWA module 10-year window.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

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

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis.  
 Therefore, operating expense dollars and FTEs are not provided.  
 Additionally, the percent of total by Functional Area is not provided.  
 Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1082

Date: 04/24/92  
 Time: 12:44:50  
 Page: 1

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 SART: 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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	1,500	2,018	2,750	17,241	17,600	19,800	18,623
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>1,500</b>	<b>2,018</b>	<b>2,750</b>	<b>17,241</b>	<b>17,600</b>	<b>19,800</b>	<b>18,623</b>
FTE D	5.1	4.8	0.5	3.0	1.9	16.9	30.0
FTE I	2.6	2.1	0.2	1.6	1.0	7.7	12.9

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	1,500	2,018	0	1,000	3,000	7,000	10,000
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>1,500</b>	<b>2,018</b>	<b>0</b>	<b>1,000</b>	<b>3,000</b>	<b>7,000</b>	<b>10,000</b>
FTE D	5.1	4.8	0.0	0.1	0.3	6.0	4.7
FTE I	2.6	2.1	0.0	0.1	0.2	3.0	2.0

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.

Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	1,500	2,018	2,750	17,241	17,600	19,800	18,623
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>1,500</b>	<b>2,018</b>	<b>2,750</b>	<b>17,241</b>	<b>17,600</b>	<b>19,800</b>	<b>18,623</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	1,500	2,018	0	1,000	3,000	7,000	10,000
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>1,500</b>	<b>2,018</b>	<b>0</b>	<b>1,000</b>	<b>3,000</b>	<b>7,000</b>	<b>10,000</b>

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:

- 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.

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- Cost Estimating Assumptions: (1) Official LANL salary factors (salary + fringe) for Direct labor are used, (2) Official LANL escalation rates

Five Year Plan  
Y 94-98

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Page: 7

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- \* 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.
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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

#### Target Narrative

##### 1. Impacts on FY94:

- \* In order to meet target funding levels, a significant cut is required in FY94 (\$2750K).
- \* Target funding level significantly impacts scheduled HSWA-required RFI FY94 activities.

##### 2. Impacts on outyears:

- \* In order to meet target funding levels, significant cuts are required in FY95-FY98 (\$16241K, \$14600K, \$12800K, and \$8623K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process is extended approximately 7 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

#### Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

Operations Office: ALLA ID No.: 1082

Last Update: 04/24

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

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 LAAD 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.	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.						

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1085

Date: 04/24/92  
 Time: 12:47:28  
 Page: 1

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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	0	483	584	7,548	5,034	3,770	760
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>483</b>	<b>584</b>	<b>7,548</b>	<b>5,034</b>	<b>3,770</b>	<b>760</b>
FTE D	0.0	2.1	1.8	0.9	1.0	1.8	
FTE I	0.0	0.9	0.8	0.5	0.5	0.8	0.6

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	0	483	665	0	500	2,000	4,000
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>483</b>	<b>665</b>	<b>0</b>	<b>500</b>	<b>2,000</b>	<b>4,000</b>
FTE D	0.0	2.1	2.1	0.0	0.1	1.0	2.0
FTE I	0.0	0.9	0.9	0.0	0.0	0.4	0.8

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2. 3.

Reviewed Date: 02/27/92

CROSSWALK Old ADS Number: ALLA1085  
 Type of Change: ADS SAME  
 Reason for Change: Same ADS as ADS1085.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1085

Date: 04/24/92  
 Time: 12:47:28  
 Page: 3

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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	584	665
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	584	665

Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	0	483	584	7,548	5,034	3,770	750
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>483</b>	<b>584</b>	<b>7,548</b>	<b>5,034</b>	<b>3,770</b>	<b>760</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	0	483	665	0	500	2,000	4,000
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>483</b>	<b>665</b>	<b>0</b>	<b>500</b>	<b>2,000</b>	<b>4,000</b>

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.

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

- \* 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

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 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.

#### Target Narrative

##### 1. Impacts on FY94:

- \* Target funding level has no impact on scheduled HSWA-required RFI FY94 activities.

##### 2. Impacts on outyears:

- \* In order to meet target funding levels, a significant cut is required in FY95-FY98 (-\$7548K, -\$4534K, -\$1770K, and \$3240K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process is extended approximately 3 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

M-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

#### Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

Environmental Restoration and Waste Management Five Year Plan  
 Safety & Health Information (ADS FY 94-98)  
 ALLA-1085

Date: 04/24/92  
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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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

FUNCTIONAL AREA	% of \$	Priority	Core	Type	
				Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

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.

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 ALLA-1086

Date: 04/24/92  
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Operations Office: ALLA ID No.: 1086

Last Update: 04/24/92

Activity Title: TA-15  
 Installation: LOS ALAMOS NATIONAL LABORATORY  
 Category: ER Facility/WAG: N/A RCRA/CERCLA: RI NEPA: N/D  
 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 % Overhead: 2

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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	900	1,443	9,268	6,246	8,758	8,774	2,207
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>900</b>	<b>1,443</b>	<b>9,268</b>	<b>6,246</b>	<b>8,758</b>	<b>8,774</b>	<b>2,207</b>
FTE D	3.0	3.4	2.6	1.1	1.2	2.2	2.4
FTE I	1.2	1.5	1.1	0.6	0.7	1.1	1.7

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	900	1,443	0	1,000	3,000	6,000	6,000
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>900</b>	<b>1,443</b>	<b>0</b>	<b>1,000</b>	<b>3,000</b>	<b>6,000</b>	<b>6,000</b>
FTE D	3.0	3.4	0.0	0.2	0.4	1.6	1.6
FTE I	1.2	1.5	0.0	0.1	0.2	0.8	0.7

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.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1086

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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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	9,268	0
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	9,268	0

Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	900	1,443	9,268	6,246	8,758	8,774	2,207
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>900</b>	<b>1,443</b>	<b>9,268</b>	<b>6,246</b>	<b>8,758</b>	<b>8,774</b>	<b>2,207</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	900	1,443	0	1,000	3,000	6,000	6,000
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>900</b>	<b>1,443</b>	<b>0</b>	<b>1,000</b>	<b>3,000</b>	<b>6,000</b>	<b>6,000</b>

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.

#### 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

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.
- \* 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.

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.

#### Target Narrative

##### 1. Impacts on FY94:

- \* In order to meet target funding levels, a significant cut is required in FY94 (\$9268K).
- \* Target funding level significantly impacts scheduled HSWA-required RFI FY94 activities.

##### 2. Impacts on outyears:

In order to meet target funding levels, funding adjustments are required in FY95-FY98 (-\$5246K, -\$5758K, -\$2774K, and \$3793K,

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

respectively).

- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process is extended approximately 2 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

#### Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

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 Safety & Health Information (ADS FY 94-98)  
 ALLA-1086

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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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

--> All Costs are in Thousands (\$000's) <--

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

FUNCTIONAL AREA	% of \$	Priority	Type	
			Core	Comp. Improv.
AS Aviation Safety	0			
EP Emergency Preparedness	0			
FP Fire Protection	0			
FS Firearms Safety	0			
MA Maintenance	0			
MS Medical Services	0			
OP Operations	0			
OS Occupational Safety	0			
PT Packaging and Transportation	0			
RP Radiology Protection	0			
Total Percent	0			

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

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 (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.

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.

124020

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.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1093

Date: 04/24/92  
 Time: 11:09:33  
 Page:

Operations Office: ALLA ID No.: 1093

Last Update: 04/24/92

Activity Title: TA-18, 27, 65  
 Installation: LOS ALAMOS NATIONAL LABORATORY  
 Category: ER Facility/WAG: N/A  
 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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	850	475	7,544	6,335	4,222	753	903
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>850</b>	<b>475</b>	<b>7,544</b>	<b>6,335</b>	<b>4,222</b>	<b>753</b>	<b>903</b>
FTE D	3.2	1.7	1.3	1.1	2.9	1.8	1.6
FTE I	1.3	0.8	0.6	0.5	1.2	0.8	0.5

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	850	475	0	500	1,000	4,000	5,000
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>850</b>	<b>475</b>	<b>0</b>	<b>500</b>	<b>1,000</b>	<b>4,000</b>	<b>5,000</b>
FTE D	3.2	1.7	0.0	0.1	0.7	2.8	3.5
FTE I	1.3	0.8	0.0	0.0	0.3	1.3	1.6

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2.

Reviewed Date: 02/27/92

3.

CROSSWALK Old ADS Number: ALLA1093  
 Type of Change: ADS SAME  
 Reason for Change: Same ADS as ADS1093.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1093

Date: 04/24/92  
 Time: 11:09:33  
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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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	7,544	0
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	7,544	0

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1093

Date: 04-24-92  
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Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	850	475	7,544	6,335	4,222	753	903
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>850</b>	<b>475</b>	<b>7,544</b>	<b>6,335</b>	<b>4,222</b>	<b>753</b>	<b>903</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	850	475	0	500	1,000	4,000	5,000
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>850</b>	<b>475</b>	<b>0</b>	<b>500</b>	<b>1,000</b>	<b>4,000</b>	<b>5,000</b>

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 is (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/CHI) and Voluntary Corrective Actions (VCAs) for this operable unit. CHI 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.

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:

- \* 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

- \* 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.

#### 1. 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.

#### Target Narrative

##### 1. Impacts on FY94:

- \* In order to meet target funding levels, a significant cut is required in FY94 (\$7544K).
- \* Target funding level significantly impacts scheduled HSWA-required RFI FY94 activities.

##### 2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY98 (-\$5855K, -\$3222K, \$3247K, and \$4097K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process is extended approximately 4 years.

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

- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

#### Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:.

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<< All Costs are in Thousands (\$000's) >>

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	-0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

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

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1098

Date: 04/24/92  
 Time: 11:09:33  
 Page: 1

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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	800	636	1,689	635	2,118	1,563	628
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>800</b>	<b>636</b>	<b>1,689</b>	<b>635</b>	<b>2,118</b>	<b>1,563</b>	<b>628</b>
FTE D	3.0	2.2	1.0	0.8	1.0	3.3	1.0
FTE I	1.4	1.1	0.5	0.4	0.5	1.4	0.6

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	800	636	0	500	500	1,000	2,000
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>800</b>	<b>636</b>	<b>0</b>	<b>500</b>	<b>500</b>	<b>1,000</b>	<b>2,000</b>
FTE D	3.0	2.2	0.0	0.7	0.2	0.5	1.0
FTE I	1.4	1.1	0.0	0.4	0.1	0.2	0.5

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 management unit (SWMU) areas.

Tiger Team Finding Number: IWS/CF-7

TTFN Date: 11/08/91

Type of Change:

Reason for Change: LANL and LAAD 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.      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.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1098

Date: 04/24/92  
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Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	800	636	1,689	635	2,118	1,563	628
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>800</b>	<b>636</b>	<b>1,689</b>	<b>635</b>	<b>2,118</b>	<b>1,563</b>	<b>628</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	800	636	0	500	500	1,000	2,000
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>800</b>	<b>636</b>	<b>0</b>	<b>500</b>	<b>500</b>	<b>1,000</b>	<b>2,000</b>

Requirements Narrative

1. Technical Scope:

Technical Area-2 (TA-2) is the Omega West Reactor which is an BW-2 water cooled reactor fueled by ninety-three percent uranium-235. Two other reactors, a water boiler reactor and a fast reactor called Clementine, are 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.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1098

Date: 04/24/92  
 Time: 11:09:33  
 Page: 3

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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	1,689	0
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	1,689	0

- \* 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 Equivalent (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 be 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/LM 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'

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.

#### Target Narrative

##### 1. Impacts on FY94:

- \* In order to meet target funding levels, a significant cut is required in FY94 (\$1689K). Target funding level significantly impacts scheduled HSWA-required RFI FY94 activities.

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

2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY98 (-\$135K, -\$1618K, -\$563K, and \$1372K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process is extended approximately 2 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

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	
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Tanks	4	5	1	0	
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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 restrict

Indicators Point of Contact: Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

Environmental Restoration and Waste Management Five Year Plan  
Safety & Health Information (ADS FY 94-98)  
ALLA-1098

Date: 04/24/92  
Time: 09:25:43  
Page: 2

FUNCTIONAL AREA	% of \$	Priority	Core	Type	
				Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

Environmental Restoration and Waste Management Five Year Plan  
 Safety & Health Information (ADS FY 94-98)  
 ALLA-1098

Date: 1-2-92  
 Time: 09:35:43  
 Page:

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	-0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1100

Date: 04/24/92  
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Operations Office: ALLA ID No.: 1100

Last Update: 04/24/92

Activity Title: TA-20, 53, 72  
 Installation: LOS ALAMOS NATIONAL LABORATORY  
 Category: ER Facility/WAG: N/A  
 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

RCRA/CERCLA: RI NEPA: N/D  
 % Overhead: 16

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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	0	1,076	804	5,100	2,787	6,454	1,466
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>1,076</b>	<b>804</b>	<b>5,100</b>	<b>2,787</b>	<b>6,454</b>	<b>1,466</b>
FTE D	0.0	3.8	2.3	1.2	0.8	1.9	1.2
FTE I	0.0	1.6	1.0	0.5	0.4	0.9	1.2

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	0	1,076	901	0	500	2,000	4,000
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>1,076</b>	<b>901</b>	<b>0</b>	<b>500</b>	<b>2,000</b>	<b>4,000</b>
FTE D	0.0	3.8	2.6	0.0	0.1	0.6	1.2
FTE I	0.0	1.6	1.1	0.0	0.0	0.3	0.5

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2. 3.

Reviewed Date: 02/28/92

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 LAAD 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.

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.					

Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 91
EW2010301	0	1,076	804	5,100	2,787	6,454	1,4
35EW2010	0	0	0	0	0	0	
39EW2010	0	0	0	0	0	0	
39EW2010	0	0	0	0	0	0	
<b>Total</b>	<b>0</b>	<b>1,076</b>	<b>804</b>	<b>5,100</b>	<b>2,787</b>	<b>6,454</b>	<b>1,4</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 91
EW2010301	0	1,076	901	0	500	2,000	4,0
35EW2010	0	0	0	0	0	0	
39EW2010	0	0	0	0	0	0	
39EW2010	0	0	0	0	0	0	
<b>Total</b>	<b>0</b>	<b>1,076</b>	<b>901</b>	<b>0</b>	<b>500</b>	<b>2,000</b>	<b>4,0</b>

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/CHI) 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

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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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	804	901
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	804	901

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 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 Equivalents (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

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.

#### Target Narrative

##### 1. Impacts on FY94:

- \* Target funding level has no impact on scheduled HSWA-required RFI FY94 activities.

##### 2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY98 (-\$5100K, -\$2287K, -\$4454K, and \$2534K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process is extended approximately 3 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the

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.

University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

#### Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

M-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 restrictive

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

FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

RELATED ISSUES:

COMMENTS:

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

Environmental Restoration and Waste Management Five Year Plan  
 Safety & Health Information (ADS FY 94-98)  
 ALLA-1100

Date: 04/24/92  
 Time: 09:05:43  
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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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	
1993	0.0	0.0	0.0	0.0	0.0	
1994	0.0	0.0	0.0	0.0	0.0	
1995	0.0	0.0	0.0	0.0	0.0	
1996	0.0	0.0	0.0	0.0	0.0	
1997	0.0	0.0	0.0	0.0	0.0	
1998	0.0	0.0	0.0	0.0	0.0	
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1106

Date: 04/24/92  
 Time: 11:09:33  
 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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	4,051	4,016	7,383	8,479	9,273	8,064	6,765
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>4,051</b>	<b>4,016</b>	<b>7,383</b>	<b>8,479</b>	<b>9,273</b>	<b>8,064</b>	<b>6,765</b>
FTE D	8.8	8.9	11.7	12.4	12.8	14.3	
FTE I	3.9	4.1	4.9	5.3	5.4	6.1	4.2

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	4,051	4,016	7,778	8,278	8,500	9,586	9,500
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>4,051</b>	<b>4,016</b>	<b>7,778</b>	<b>8,278</b>	<b>8,500</b>	<b>9,586</b>	<b>9,500</b>
FTE D	8.8	8.9	12.4	12.0	11.7	17.0	16.8
FTE I	3.9	4.1	5.1	5.0	5.0	7.1	7.2

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2.

Reviewed Date: 02/28/92

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.

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.

Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	4,051	4,016	7,383	8,479	9,273	8,064	6,765
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>4,051</b>	<b>4,016</b>	<b>7,383</b>	<b>8,479</b>	<b>9,273</b>	<b>8,064</b>	<b>6,765</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	4,051	4,016	7,778	8,278	8,500	9,586	9,500
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>4,051</b>	<b>4,016</b>	<b>7,778</b>	<b>8,278</b>	<b>8,500</b>	<b>9,586</b>	<b>9,500</b>

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.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1106

Date: 04/24/92  
 Time: 11:09:33  
 Page: 7

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	7,383	7,778
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	7,383	7,778

- \* 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 Equivalents (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

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 be a further erosion of public confidence in both organizations.

D&D schedules are not driven by ER Program regulatory requirements;

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,

however, they will impact RFI field work schedules and priorities if effective D&D/ER integration is to be achieved.

#### Target Narrative

##### 1. Impacts on FY94:

- \* Target funding level has no significant impact on scheduled HSWA-required RFI FY94 activities.

##### 2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY98 (-\$201K, -\$773K, \$1522K, and \$2735K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear activities.
- \* Completion of the RFI/CMS process is extended approximately 6 months.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

#### Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- large OUs do not exceed \$10-12 million per year
- medium OUs do not exceed \$5-6 million per year
- small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- RFI report
- CMS plan
- CMS work
- CMS report

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 restricted

Indicators Point of Contact:

Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

Environmental Restoration and Waste Management Five Year Plan  
 Safety & Health Information (ADS FY 94-98)  
 ALLA-1106

Date: 04/23/92  
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Operations Office: ALLA ID No.: 1106

Last Update: 04/20

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc:  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1111

Date: 04/24/92  
 Time: 11:39:33  
 Page: 1

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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	1,150	1,560	4,510	3,761	5,790	5,650	2,152
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>1,150</b>	<b>1,560</b>	<b>4,510</b>	<b>3,761</b>	<b>5,790</b>	<b>5,650</b>	<b>2,152</b>
FTE D	4.9	5.4	3.9	2.1	2.9	2.8	
FTE I	1.8	2.6	1.6	1.0	1.4	1.3	1..

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	1,150	1,560	0	500	1,000	2,000	3,000
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>1,150</b>	<b>1,560</b>	<b>0</b>	<b>500</b>	<b>1,000</b>	<b>2,000</b>	<b>3,000</b>
FTE D	4.9	5.4	0.0	0.3	0.5	1.0	1.5
FTE I	2.1	3.1	0.0	0.1	0.2	0.5	0.6

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2. 3.

Reviewed Date: 02/28/92

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 vent 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.            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.

Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
W2010301	1,150	1,560	4,510	3,761	5,790	5,650	2,152
5EW2010	0	0	0	0	0	0	0
9EW2010	0	0	0	0	0	0	0
9EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>1,150</b>	<b>1,560</b>	<b>4,510</b>	<b>3,761</b>	<b>5,790</b>	<b>5,650</b>	<b>2,152</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
W2010301	1,150	1,560	0	500	1,000	2,000	3,000
5EW2010	0	0	0	0	0	0	0
9EW2010	0	0	0	0	0	0	0
9EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>1,150</b>	<b>1,560</b>	<b>0</b>	<b>500</b>	<b>1,000</b>	<b>2,000</b>	<b>3,000</b>

Requirements Narrative

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 costly 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. Units -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 Recovery Act (RCRA) Facility Investigation/Corrective Measures Study/Corrective Measures Implementation (RFI/CMS/CHI) and Voluntary Corrective Actions (VCAs) of this OU.

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.

Activity Term:

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1111

Date  
 Time  
 Page

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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.:  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	4,510	0
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	4,510	0

- \* 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 SUMUs 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 Equivalents (FTEs) (4.9) will 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 SUMUs 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.

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.

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.

#### Target Narrative

##### 1. Impacts on FY94:

\* In order to meet target funding levels, a significant cut is required in FY94 (\$4510K).

Target funding level significantly impacts scheduled HSWA-required RFI FY94 activities.

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

2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY98 (-\$3261K, -\$4790K, -\$3650K, and \$848K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process is delayed approximately 2.5 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

M-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

FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

Operations Office: ALLA ID No.: 1111

Last Update: 04/24

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1114

Date: 04/24/92  
 Time: 12:50:03  
 Page: 1

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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	1,300	881	1,650	8,489	8,800	13,200	11,268
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>1,300</b>	<b>881</b>	<b>1,650</b>	<b>8,489</b>	<b>8,800</b>	<b>13,200</b>	<b>11,268</b>
FTE D	3.3	3.0	1.3	2.1	2.5	8.8	19.0
FTE I	1.7	1.6	0.7	1.2	1.4	4.1	8.0

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	1,300	881	0	500	1,000	2,000	3,000
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>1,300</b>	<b>881</b>	<b>0</b>	<b>500</b>	<b>1,000</b>	<b>2,000</b>	<b>3,000</b>
FTE D	3.3	3.0	0.0	0.1	0.3	1.3	2.0
FTE I	1.7	1.6	0.0	0.1	0.2	0.6	0.9

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.

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/NHED 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.

Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	1,300	881	1,650	8,489	8,800	13,200	11,268
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>1,300</b>	<b>881</b>	<b>1,650</b>	<b>8,489</b>	<b>8,800</b>	<b>13,200</b>	<b>11,268</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	1,300	881	0	500	1,000	2,000	3,000
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>1,300</b>	<b>881</b>	<b>0</b>	<b>500</b>	<b>1,000</b>	<b>2,000</b>	<b>3,000</b>

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/CHI) 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.

Environmental Restoration and Waste Management Five Year Plan  
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Date: 04/24/92  
 Time: 12:50:03  
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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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	1,650	0
FY-94ESH	0	0
FY-94D	0	0
Total	1,650	0

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'

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.

#### Target Narrative

##### 1. Impacts on FY94:

- \* In order to meet target funding levels, a significant cut is required in FY94 (\$1650K).  
Target funding level significantly impacts scheduled HSWA-required RFI FY94 activities.

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 MM0890010515	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

2. Impacts on outyears:

- \* In order to meet target funding levels, a significant cut is required in FY95-FY98 (\$7989K, \$7800K, \$11200K, and \$8268K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* The RFI/CMS process is delayed approximately 3 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

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

FUNCTIONAL AREA	% of \$	Priority	Type	
			Core	Comp. Improv.
AS Aviation Safety	0			
EP Emergency Preparedness	0			
FP Fire Protection	0			
FS Firearms Safety	0			
MA Maintenance	0			
MS Medical Services	0			
OP Operations	0			
OS Occupational Safety	0			
PT Packaging and Transportation	0			
RP Radiology Protection	0			
Total Percent	0			

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

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 Safety & Health Information (ADS FY 94-98)  
 ALLA-1114

Date: 04/24/92  
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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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

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 ALLA-1122

Date: 04/24/92  
 Time: 11:09:33  
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Operations Office: ALLA ID No.: 1122

Last Update: 04/24/92

Activity Title: TA-33  
 Installation: LOS ALAMOS NATIONAL LABORATORY  
 Category: ER Facility/WAG: N/A  
 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

RCRA/CERCLA: RI NEPA: N/D  
 % Overhead: 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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	492	2,429	8,442	6,247	9,820	2,276	556
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>492</b>	<b>2,429</b>	<b>8,442</b>	<b>6,247</b>	<b>9,820</b>	<b>2,276</b>	<b>556</b>
FTE D	2.4	1.2	1.3	1.3	1.2	4.4	0
FTE I	0.9	0.5	0.6	0.6	0.5	1.8	0.4

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	492	2,429	2,929	3,429	3,600	4,000	5,000
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>492</b>	<b>2,429</b>	<b>2,929</b>	<b>3,429</b>	<b>3,600</b>	<b>4,000</b>	<b>5,000</b>
FTE D	2.4	1.2	0.5	0.7	0.8	0.8	0.7
FTE I	0.9	0.5	0.2	0.3	0.3	0.3	0.3

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2. 3.

Reviewed Date: 02/28/92

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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	8,442	2,929
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	8,442	2,929

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 Activity Data Sheet FY 94-98  
 ALLA-1122

Date: 04/24/92

Time: 11:09:33

Page: 4

Unconstrained Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	492	2,429	8,442	6,247	9,820	2,276	556
35EW2010	0	0	0	0	0	0	
39EW2010	0	0	0	0	0	0	
39EW2010	0	0	0	0	0	0	
<b>Total</b>	<b>492</b>	<b>2,429</b>	<b>8,442</b>	<b>6,247</b>	<b>9,820</b>	<b>2,276</b>	<b>556</b>

Target Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	492	2,429	2,929	3,429	3,600	4,000	5,000
35EW2010	0	0	0	0	0	0	
39EW2010	0	0	0	0	0	0	
39EW2010	0	0	0	0	0	0	
<b>Total</b>	<b>492</b>	<b>2,429</b>	<b>2,929</b>	<b>3,429</b>	<b>3,600</b>	<b>4,000</b>	<b>5,000</b>

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/CHI) 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 Terms:

- \* 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 1 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

- 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

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:

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.

#### Target Narrative

##### 1. Impacts on FY94:

- \* In order to meet target funding levels, a significant cut is required in FY94 (\$5513K).
- \* Target funding level significantly impacts scheduled HSWA-required RFI FY94 activities.

##### 2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY98 (-\$2818K, -\$6220K, \$1724K, and \$4444K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).

- \* Completion of the RFI/CMS process is delayed approximately 3 years. See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

#### Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

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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	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  
 Safety & Health Information (ADS FY 94-98)  
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FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

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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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	21	0	0	0	0	0	0
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE D	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FTE I	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	21	0	0	0	0	0	0
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE D	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FTE I	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Reviewed Date: 03/01/92

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2.

CROSSWALK Old ADS Number: ALLA1127  
 Type of Change: ADS SAME  
 Reason for Change: Same ADS as ADS1127.

No activities remain.

4. Current Year (FY 92) Description:

- \* Final closure report will be prepared and submitted to NMED for approval.

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

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Activity Data Sheet FY 94-98  
ALLA-1127

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**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.

B&R CODE CROSSWALKS

Program:    EM                                      Desc.:    RCRA                                      Sub Desc.:    C  
Priority:    2                                      Title:    EM, RCRA-C

FY-94 Detail	Unconstrained	Target
FY-94L	0	0
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	0	0

Unconstrained Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97
EW2010202	21	0	0	0	0	0
35EW2010	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0
<b>Total</b>	<u>21</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

Target Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97
EW2010202	21	0	0	0	0	0
35EW2010	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0
<b>Total</b>	<u>21</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

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.

j. Activity Term (Life-Cycle):

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' 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

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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.

Target Narrative

1. Impacts on FY94:

N/A.

2. Impacts on outyears:

N/A.

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1127

Date: 04/24/92  
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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	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

FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1129

Date: 04/24/92  
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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  
 Category: ER Facility/WAG: N/A  
 Cost LOC Req.: L Sched. LOC Req.: M Scope LOC Req.: L  
 Line Item No.: TPC: 0 TEC: 0 WBS No.: 6.1.18 Level: 0  
 RCRA/CERCLA: RI NEPA: N/D  
 % Overhead: 4  
 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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	800	3,155	3,850	6,934	14,269	8,207	2,929
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>800</b>	<b>3,155</b>	<b>3,850</b>	<b>6,934</b>	<b>14,269</b>	<b>8,207</b>	<b>2,929</b>
FTE D	3.1	2.1	1.9	4.1	4.6	3.8	2.9
FTE I	1.3	0.9	0.8	1.7	2.1	1.6	1.5

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	800	3,155	3,656	4,156	4,200	5,000	5,500
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>800</b>	<b>3,155</b>	<b>3,656</b>	<b>4,156</b>	<b>4,200</b>	<b>5,000</b>	<b>5,500</b>
FTE D	3.1	2.1	1.8	2.5	2.5	3.0	3.3
FTE I	1.3	0.9	0.8	1.1	1.2	1.3	1.7

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2.

Reviewed Date: 03/01/92

3.

CROSSWALK Old ADS Number: ALLA1129  
 Type of Change: ADS SAME  
 Reason for Change: Same ADS as ADS1129.

Environmental Restoration and Waste Management Five Year Plan  
Activity Data Sheet FY 94-98  
ALLA-1129

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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					
	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.					
	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.					
	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.					
	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.					
	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.					
	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.					

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 LAAD 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.

Environmental Restoration and Waste Management Five Year Plan  
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B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA  
 Priority: 2 Title: EM, RCRA/CERCLA-A

Sub Desc.: A

FY-94 Detail	Unconstrained	Target
FY-94L	3,850	3,656
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	3,850	3,656

Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	800	3,155	3,850	6,934	14,269	8,207	2,929
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
Total	800	3,155	3,850	6,934	14,269	8,207	2,929

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	800	3,155	3,656	4,156	4,200	5,000	5,500
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
Total	800	3,155	3,656	4,156	4,200	5,000	5,500

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/CHI) 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.
- \* SUMU 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.
- \* 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 SUMUs 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.

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 # NH0890010515	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

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

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, 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.

#### Target Narrative

##### Impacts on FY94:

- \* In order to meet target funding levels, a significant cut is required in FY94 (\$194K).
- \* Target funding level impacts scheduled HSWA-required RFI FY94 activities.

##### 2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY98 (-\$2778K, -\$10069K, \$3207K, and \$2571K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process will be delayed approximately 5 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

#### Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

Environmental Restoration and Waste Management Five Year Plan  
 Safety & Health Information (ADS FY 94-98)  
 ALLA-1129

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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  
 Category: ER Facility/WAG: N/A RCRA/CERCLA: RI NEPA: N/D  
 Cost LOC Req.: L Sched. LOC Req.: M Scope LOC Req.: L WBS No.: 6.1.18 % Overhead: 4  
 Line Item No.: TPC: 0 TEC: 0 Contig. Level: 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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

-- All Costs are in Thousands (\$000's) -->

Hist.	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
1992	0.0	0.0	0.0	0.0	0.0	
1993	0.0	0.0	0.0	0.0	0.0	
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0	0.0	0.0
Total Remaining Costs:		0.0				

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 restri

Indicators Point of Contact:

Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

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 Activity Data Sheet FY 94-98  
 ALLA-1130

Date: 04/24/92  
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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.

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.

B&R CODE CROSSWALKS

Program: EM  
 Priority: 2

Desc.: CERCLA

Sub Desc.: A

Title:

FY-94 Detail	Unconstrained	Target
FY-94L	998	0
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	998	0

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1130

Date: 04/24/92  
 Time: 11:29:33  
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Administrations 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

Inconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
DE	550	853	998	1,741	644	450	732
DE	0	0	0	0	0	0	0
3PP	0	0	0	0	0	0	0
.I	0	0	0	0	0	0	0
<b>Total</b>	<b>550</b>	<b>853</b>	<b>998</b>	<b>1,741</b>	<b>644</b>	<b>450</b>	<b>732</b>
TE D	2.4	1.4	0.8	0.8	1.8	1.1	0.7
TE I	1.1	0.7	0.4	0.4	0.8	0.5	0.4

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
E	550	853	0	500	1,000	1,000	1,000
E	0	0	0	0	0	0	0
PP	0	0	0	0	0	0	0
I	0	0	0	0	0	0	0
<b>Total</b>	<b>550</b>	<b>853</b>	<b>0</b>	<b>500</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>
TE D	2.4	1.4	0.0	0.4	0.5	0.5	3.0
TE I	1.1	0.7	0.0	0.2	0.2	0.2	1.5

POC: Bitner, K. FTS 845-4606  
 POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2. 3.

Reviewed Date: 03/01/92

CROSSWALK Old ADS Number: ALLA1130  
 Type of Change: ADS SAME  
 Reason for Change: Same ADS as ADS1130.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1130

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Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010101	550	853	998	1,741	644	450	732
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>550</b>	<b>853</b>	<b>998</b>	<b>1,741</b>	<b>644</b>	<b>450</b>	<b>732</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010101	550	853	0	500	1,000	1,000	1,000
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>550</b>	<b>853</b>	<b>0</b>	<b>500</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>

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:

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.

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 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

(4) Major procurement (contracts, large purchase orders), is estimated separately from General M&S, it is not based on prior years' or procurement.

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

Remediation 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 3-year window.

Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
Module VIII 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 (U.S.C. 6901, et seq.) and the HSWA of 1984, a permit is issued to the 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.

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, State, 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)).

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.

#### 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 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/LM M&S costs,

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.

#### Target Narrative

##### \*. Impacts on FY94:

In order to meet target funding levels, a significant cut is required in FY94 (\$998K).

- \* Target funding level significantly impacts scheduled HSWA-required RFI FY94 activities.

2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY98 (-\$1241K, \$356K, \$550K, and \$268K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process will be delayed by approximately 3 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

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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

FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

Environmental Restoration and Waste Management Five Year Plan  
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 ALLA-1132

Date: 04/27/92  
 Time: 08:59:27  
 Page:

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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	551	877	1,650	18,911	19,032	22,000	16,739
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>551</b>	<b>877</b>	<b>1,650</b>	<b>18,911</b>	<b>19,032</b>	<b>22,000</b>	<b>16,739</b>
FTE D	2.1	2.2	0.2	2.0	1.2	3.1	26.4
FTE I	0.9	1.0	0.0	1.0	0.6	1.5	11.3

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	551	877	0	500	1,500	4,000	4,000
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>551</b>	<b>877</b>	<b>0</b>	<b>500</b>	<b>1,500</b>	<b>4,000</b>	<b>4,000</b>
FTE D	2.1	2.2	0.0	0.1	0.2	0.4	0.4
FTE I	0.9	1.0	0.0	0.0	0.1	0.2	0.2

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2. 3.

Reviewed Date: 03/01/92

CROSSWALK Old ADS Number: ALLA1132  
 Type of Change: ADS SAME  
 Reason for Change: Same ADS as ADS1132.

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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title: EM, RCRA/CERCLA-A

FY-94 Detail	Unconstrained	Target
FY-94L	1,650	0
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	1,650	0

Environmental Restoration and Waste Management Five Year Plan  
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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. 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.

Environmental Restoration and Waste Management Five Year Plan  
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Unconstrained Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	551	877	1,650	18,911	19,032	22,000	16,739
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>551</b>	<b>877</b>	<b>1,650</b>	<b>18,911</b>	<b>19,032</b>	<b>22,000</b>	<b>16,739</b>

Target Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	551	877	0	500	1,500	4,000	4,000
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>551</b>	<b>877</b>	<b>0</b>	<b>500</b>	<b>1,500</b>	<b>4,000</b>	<b>4,000</b>

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 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

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 # NMOB90010515	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

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

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.

#### Target Narrative

##### 1. Impacts on FY94:

- \* In order to meet target funding levels, a significant cut is required in FY94 (\$1650K).
- \* Target funding level significantly impacts scheduled HSWA-required RFI FY94 activities.

##### 2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY98 (\$18411K, \$17532K, \$18000K, and \$12739K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process is delayed approximately 4.5 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

### Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

M-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

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 restr

Indicators Point of Contact: Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

Operations Office: ALLA ID No.: 1132

Last Update: 04/24/92

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA Sub Desc.: C  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	0	0
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	0	0

Unconstrained Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010202	644	167	0	0	0	0	0
55EW2010	0	0	0	0	0	0	0
59EW2010	0	0	0	0	0	0	0
59EW2010	0	0	0	0	0	0	0
Total	<u>644</u>	<u>167</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

Target Level (Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010202	644	167	0	0	0	0	0
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
Total	<u>644</u>	<u>167</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

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.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1135

Date: 04/24/92  
 Time: 11:09:33  
 Page: 1

Operations Office: ALLA ID No.: 1135

Last Update: 04/24/92

Activity Title: TA-40 SCRAP DETONA. SITE CLOSURE  
 Installation: LOS ALAMOS NATIONAL LABORATORY  
 Category: ER Facility/WAG: N/A RCRA/CERCLA: RD NEPA: CE  
 Cost LOC Req.: M Sched. LOC Req.: M Scope LOC Req.: M WBS No.: 6.1.21 % Overhead: 0 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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	644	167	0	0	0	0	0
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>644</b>	<b>167</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE D	2.6	0.5	0.0	0.0	0.0	0.0	0.0
FTE I	1.3	0.2	0.0	0.0	0.0	0.0	0.0

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	644	167	0	0	0	0	0
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>644</b>	<b>167</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE D	2.6	0.5	0.0	0.0	0.0	0.0	0.0
FTE I	1.3	0.2	0.0	0.0	0.0	0.0	0.0

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2.

Reviewed Date: 03/01/92

3.

CROSSWALK Old ADS Number: ALLA1135  
 Type of Change: ADS SAME  
 Reason for Change: Same ADS as ADS1135.

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
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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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HSWA Module VIII	RFI/CMS cost and schedules	Notice of
D # NM0890010515	to achieve identified	Deficiency/
	MILESTONES, which are	Notice of
	consistent with annually	Violation and
	updated Installation Work	associated
	Plan.	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.

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.

Target Narrative

1. Impacts on FY94:

N/A.

2. Impacts on outyears:

N/A.

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION AND REMEDIATION H&S

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/24/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

FUNCTIONAL AREA	% of \$	Priority	Type	
			Core Comp.	Improv.
AS Aviation Safety	0			
EP Emergency Preparedness	0			
FP Fire Protection	0			
FS Firearms Safety	0			
MA Maintenance	0			
MS Medical Services	0			
OP Operations	0			
OS Occupational Safety	0			
PT Packaging and Transportation	0			
RP Radiology Protection	0			
Total Percent	0			

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

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.            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.

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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

Unconstrained Level

(Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	0	100	229	543	583	593	606
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>100</b>	<b>229</b>	<b>543</b>	<b>583</b>	<b>593</b>	<b>606</b>
FTE D	0.0	0.2	0.5	0.6	0.8	0.9	1.3
FTE I	0.0	0.1	0.3	0.4	0.5	0.5	0.8

Target Level

(Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	0	100	238	0	0	1,000	1,000
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>100</b>	<b>238</b>	<b>0</b>	<b>0</b>	<b>1,000</b>	<b>1,000</b>
FTE D	0.0	0.2	0.5	0.0	0.0	1.5	1.5
FTE I	0.0	0.1	0.3	0.0	0.0	0.8	0.9

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2. 3.

Reviewed Date: 03/01/92

CROSSWALK Old ADS Number: ALLA1136  
 Type of Change: ADS SAME  
 Reason for Change: Same ADS as ADS1136.

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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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	229	238
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	229	238

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Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	0	100	229	543	583	593	606
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>100</b>	<b>229</b>	<b>543</b>	<b>583</b>	<b>593</b>	<b>606</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	0	100	238	0	0	1,000	1,000
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>100</b>	<b>238</b>	<b>0</b>	<b>0</b>	<b>1,000</b>	<b>1,000</b>

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/CHI) 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 Terms:

- \* 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

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

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:

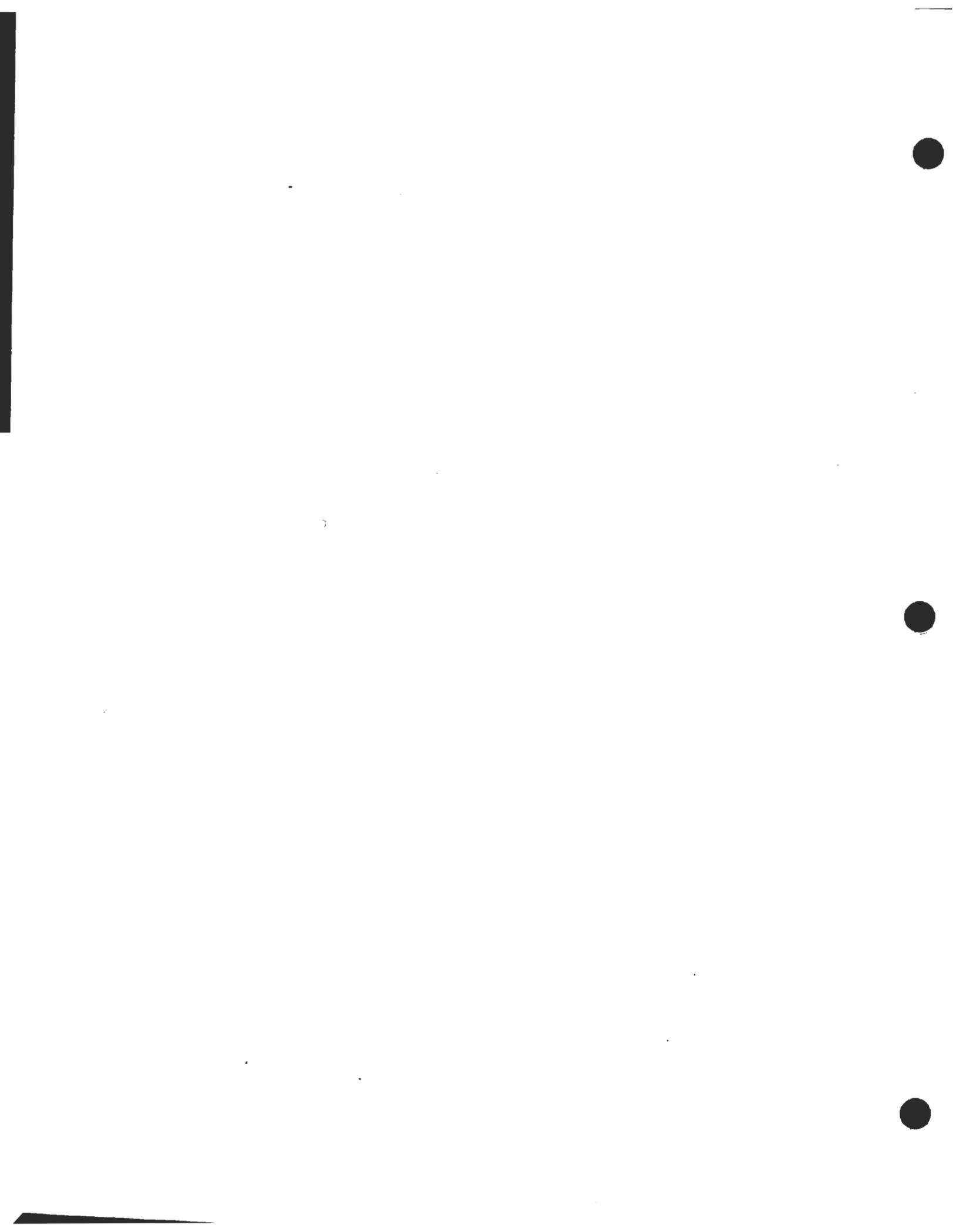
- \* Submittal of the work plan to EPA will occur in this fiscal year.
- \* The draft work plan will be modified as necessary after its review.
- \* VCAs will be conducted as appropriate.
- \* Most LANL Direct FTEs (0.5) will be associated with RFI work plan preparation.

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.



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

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

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	0	
Other	0	0	0	386	cuyd
				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

(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.

#### Target Narrative

##### 1. Impacts on FY94:

- \* Target funding level has no impact on scheduled HSWA-required RFI FY94 activities.

##### 2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY98 (-\$543K, -\$583K, \$407K, and \$394K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements.
- \* However, completion of the RFI/CMS process is delayed by only approximately 6 months.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

#### Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

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 LAAD 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.      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.

FUNCTIONAL AREA	% of \$	Priority	Type	
			Core	Comp. Improv.
AS Aviation Safety	0			
EP Emergency Preparedness	0			
FP Fire Protection	0			
FS Firearms Safety	0			
MA Maintenance	0			
MS Medical Services	0			
OP Operations	0			
OS Occupational Safety	0			
PT Packaging and Transportation	0			
RP Radiology Protection	0			
Total Percent	0			

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

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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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	3,387	0
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	3,387	0

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Date: 04/24/92  
 Time: 11:09:33  
 Page: 1

Operations Office: ALLA - ID No.: 1140

Last Update: 04/24/92

Activity Title: TA-46 ASSESSMENT  
 Installation: LOS ALAMOS NATIONAL LABORATORY  
 Category: ER Facility/WAG: N/A  
 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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	650	819	3,387	2,933	2,499	821	900
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>650</b>	<b>819</b>	<b>3,387</b>	<b>2,933</b>	<b>2,499</b>	<b>821</b>	<b>900</b>
FTE D	2.6	2.9	1.3	1.1	2.9	1.5	0.9
FTE I	1.1	1.2	0.7	0.5	1.3	0.6	0.4

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	650	819	0	500	1,000	2,000	2,000
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>650</b>	<b>819</b>	<b>0</b>	<b>500</b>	<b>1,000</b>	<b>2,000</b>	<b>2,000</b>
FTE D	2.6	2.9	0.0	0.2	0.4	0.7	0.7
FTE I	1.1	1.2	0.0	0.1	0.2	0.3	0.3

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.

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Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	650	819	3,387	2,933	2,499	821	90
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>650</b>	<b>819</b>	<b>3,387</b>	<b>2,933</b>	<b>2,499</b>	<b>821</b>	<b>90</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	650	819	0	500	1,000	2,000	2,000
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>650</b>	<b>819</b>	<b>0</b>	<b>500</b>	<b>1,000</b>	<b>2,000</b>	<b>2,000</b>

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.

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

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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 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 guidelines 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

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 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.

#### Target Narrative

##### 1. Impacts on FY94:

- \* In order to meet target funding levels, a significant cut is required in FY94 (\$3387K).
- \* Target funding level significantly impacts scheduled HSWA-required RFI FY94 activities.

##### 2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY98 (-\$2433K, -\$1499K, \$1179K, and \$1100K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process is extended approximately 2.5 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

#### Milestone Calculations

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	
Total Remaining Costs:		0.0				

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

- Step 1 - Plot ADS constrained allocated cost on the cost profile.
- Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).
- Step 3 - Project completion of the RFI field work based on the following:
  - a) large OUs do not exceed \$10-12 million per year
  - b) medium OUs do not exceed \$5-6 million per year
  - c) small OUs do not exceed \$3 million per year
- Step 4 - Allow one year to complete the following:
  - a) RFI report
  - b) CMS plan
  - c) CMS work
  - d) CMS report

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

Environmental Restoration and Waste Management Five Year Plan  
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FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1144

Date: 04/24/92  
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 Page:

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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	600	998	914	952	1,357	1,318	463
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>600</b>	<b>998</b>	<b>914</b>	<b>952</b>	<b>1,357</b>	<b>1,318</b>	<b>463</b>
FTE D	1.8	1.1	0.9	0.8	0.6	0.9	0
FTE I	1.0	0.7	0.1	0.5	0.3	0.4	0

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	600	998	998	1,049	1,000	1,000	1,000
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>600</b>	<b>998</b>	<b>998</b>	<b>1,049</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>
FTE D	1.8	1.1	1.0	0.9	0.5	0.7	
FTE I	1.0	1.0	0.1	0.6	0.3	0.3	

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2.

Reviewed Date: 03/01/92

CROSSWALK Old ADS Number: ALLA1144  
 Type of Change: ADS SAME  
 Reason for Change: Same ADS as ADS1144.

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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	914	998
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	914	998

Environmental Restoration and Waste Management Five Year Plan  
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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 LAAD 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.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1144

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Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	600	998	914	952	1,357	1,318	463
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>600</b>	<b>998</b>	<b>914</b>	<b>952</b>	<b>1,357</b>	<b>1,318</b>	<b>463</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	600	998	998	1,049	1,000	1,000	1,000
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>600</b>	<b>998</b>	<b>998</b>	<b>1,049</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>

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/CHI) 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 CHI 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 I 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 I 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

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 1Q-year window.

. Regulatory Drivers/Consequences:

Regulatory Driver	Affected Scope/Cost/Schedule	Consequences
HA Module VIII # 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, State, 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 revocation 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.

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.

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

#### Target Narrative

##### 1. Impacts on FY94:

- \* In order to meet target funding levels, a small cut is required in FY94 (\$84K).
- \* Target funding level has little or no impact on scheduled HSWA-required RFI FY94 activities.

##### 2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY98 (\$97K, -\$357K, -\$318K, and \$537K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process is delayed by approximately 1.5 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

#### Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

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 SQL  
 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

FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

Environmental Restoration and Waste Management Five Year Plan  
 Safety & Health Information (ADS FY 94-98)  
 ALLA-1144

Date: 04/24/92  
 Time: 09:05:43  
 Page:

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	
1993	0.0	0.0	0.0	0.0	0.0	
1994	0.0	0.0	0.0	0.0	0.0	
1995	0.0	0.0	0.0	0.0	0.0	
1996	0.0	0.0	0.0	0.0	0.0	
1997	0.0	0.0	0.0	0.0	0.0	
1998	0.0	0.0	0.0	0.0	0.0	
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1147

Date: 04/24/92  
 Time: 11:09:33  
 Page: 1

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

Unconstrained Level

(Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	600	1,201	5,551	6,591	2,076	542	766
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>600</b>	<b>1,201</b>	<b>5,551</b>	<b>6,591</b>	<b>2,076</b>	<b>542</b>	<b>766</b>
FTE D	2.7	1.3	0.9	1.0	2.1	1.1	0.6
FTE I	0.8	0.7	0.5	0.5	1.0	0.6	0.3

Target Level

(Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	600	1,201	2,201	2,201	2,256	3,000	4,000
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>600</b>	<b>1,201</b>	<b>2,201</b>	<b>2,201</b>	<b>2,256</b>	<b>3,000</b>	<b>4,000</b>
FTE D	2.7	1.3	0.3	0.3	0.3	0.4	0.6
FTE I	0.8	0.7	0.2	0.2	0.1	0.2	0.3

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.

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/MHED 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.

Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	600	1,201	5,551	6,591	2,076	542	766
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>600</b>	<b>1,201</b>	<b>5,551</b>	<b>6,591</b>	<b>2,076</b>	<b>542</b>	<b>766</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	600	1,201	2,201	2,201	2,256	3,000	4,000
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>600</b>	<b>1,201</b>	<b>2,201</b>	<b>2,201</b>	<b>2,256</b>	<b>3,000</b>	<b>4,000</b>

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/CFI) 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.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1147

Date: 04/24/92  
 Time: 11:09:33  
 Page: 3

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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	5,551	2,201
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	5,551	2,201

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.
- \* 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 memorandum 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.
- \* 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

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.

as published in the LAML 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

#### Target Narrative

##### 1. Impacts on FY94:

- \* In order to meet target funding levels, a significant cut is required in FY94 (\$3350K).
- \* Target funding level significantly impacts scheduled HSWA-required RFI FY94 activities.

##### 2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY98 (-\$4390K, -\$180K, \$2458K, and \$3234K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process is delayed by approximately 3 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

#### Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

EM-40 Progress Indicators :

Immediate/Short Term Action:

- N Alternate Water Supply
- N Site Security Measures
- N People Evacuated or Relocated
- N Actions to-Stablize, 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

FUNCTIONAL AREA	% of \$	Priority	Type	
			Core	Comp. Improv.
AS Aviation Safety	0			
EP Emergency Preparedness	0			
FP Fire Protection	0			
FS Firearms Safety	0			
MA Maintenance	0			
MS Medical Services	0			
OP Operations	0			
OS Occupational Safety	0			
PT Packaging and Transportation	0			
RP Radiology Protection	0			
Total Percent	0			

\*\*\*\*\*

- Appraisal Section:  
 Risk/Impact of Not Implementing:
1. Public Safety & Health:
  2. Site Personnel Safety & Health:
  3. Compliance:
  4. Mission Impact:
  5. Investment Impact:

- Benefits of implementing:
1. Public Safety & Health:
  2. Site Personnel Safety & Health:
  3. Compliance:
  4. Mission Impact:
  5. Investment Impact:

\*\*\*\*\*

- Description Section:  
 Title:  
 Summary Description:
1. Statement of functional objective:
  2. List activities that must be performed
- Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

Hist.	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0	0.0	0.0

Total Remaining Costs: 0.0

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1148

Date: 05/01/92  
 Time: 12:31:56  
 Page:

Operations Office: ALLA ID No.: 1148

Last Update: 05/01/92

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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	1,319	3,585	4,840	9,396	10,220	13,200	11,605
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>1,319</b>	<b>3,585</b>	<b>4,840</b>	<b>9,396</b>	<b>10,220</b>	<b>13,200</b>	<b>11,605</b>
FTE D	1.7	1.4	0.6	1.4	1.4	18.1	2.1
FTE I	0.7	0.7	0.3	0.7	0.6	6.5	8.6

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	1,319	3,585	5,586	9,396	10,220	11,271	9,819
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>1,319</b>	<b>3,585</b>	<b>5,586</b>	<b>9,396</b>	<b>10,220</b>	<b>11,271</b>	<b>9,819</b>
FTE D	1.7	1.4	0.7	1.4	1.4	1.3	1.5
FTE I	0.7	0.7	0.3	0.7	0.6	0.4	0.5

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.

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.

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(Dollars in Thousands)

Unconstrained Level							
B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	1,319	3,585	4,840	9,396	10,220	13,200	11,600
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>1,319</b>	<b>3,585</b>	<b>4,840</b>	<b>9,396</b>	<b>10,220</b>	<b>13,200</b>	<b>11,600</b>

(Dollars in Thousands)

Target Level							
B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	1,319	3,585	5,586	9,396	10,220	11,271	9,800
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>1,319</b>	<b>3,585</b>	<b>5,586</b>	<b>9,396</b>	<b>10,220</b>	<b>11,271</b>	<b>9,800</b>

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.

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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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title: EM, RCRA/CERCLA-A

FY-94 Detail	Unconstrained	Target
FY-94L	4,840	5,586
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	4,840	5,586

- \* 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.

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.

#### 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

FUNCTIONAL AREA	% of \$	Priority	Type	
			Core	Comp. Improv.
AS Aviation Safety	0			
EP Emergency Preparedness	0			
FP Fire Protection	0			
FS Firearms Safety	0			
MA Maintenance	0			
MS Medical Services	0			
OP Operations	0			
OS Occupational Safety	0			
PT Packaging and Transportation	0			
RP Radiology Protection	0			
Total Percent	0			

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

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	Notice of Deficiency/ Notice of Violation and

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 Activity Data Sheet FY 94-98  
 ALLA-1154

Date: 04/24/92  
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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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	0	219	297	426	533	515	315
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>219</b>	<b>297</b>	<b>426</b>	<b>533</b>	<b>515</b>	<b>315</b>
FTE D	0.0	0.5	1.0	0.7	0.8	0.9	0.7
FTE I	0.0	0.2	0.4	0.3	0.4	0.4	0.3

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	0	219	311	0	0	500	500
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>219</b>	<b>311</b>	<b>0</b>	<b>0</b>	<b>500</b>	<b>500</b>
FTE D	0.0	0.5	1.0	0.0	0.0	0.8	0.8
FTE I	0.0	0.2	0.4	0.0	0.0	0.4	0.3

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER

Reviewed Date: 03/01/92

2. 3.

CROSSWALK Old ADS Number: ALLA1154  
 Type of Change: ADS SAME  
 Reason for Change: Same ADS as ADS1154.

updated Installation Work associated  
Plan. 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.

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 required.

Indicators Point of Contact:

Bitner, K.

Title: F.O. POC

Phone Number: 5058454606

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.

Target Narrative

1. Impacts on FY94:

- \* Target funding level has no significant impact on scheduled HSWA-required RFI FY94 activities.

2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY97-FY98 (\$1929K, and \$1786K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process is delayed by approximately 4 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- large OUs do not exceed \$10-12 million per year
- medium OUs do not exceed \$5-6 million per year
- small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- RFI report
- CMS plan
- CMS work
- CMS report

Environmental Restoration and Waste Management Five Year Plan  
 Safety & Health Information (ADS FY 94-98)  
 ALLA-1148

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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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<< All Costs are in Thousands (\$000's) >>

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	
1993	0.0	0.0	0.0	0.0	0.0	
1994	0.0	0.0	0.0	0.0	0.0	
1995	0.0	0.0	0.0	0.0	0.0	
1996	0.0	0.0	0.0	0.0	0.0	
1997	0.0	0.0	0.0	0.0	0.0	
1998	0.0	0.0	0.0	0.0	0.0	
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

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.

#### B. 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

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.

#### Target Narrative

##### 1. Impacts on FY94:

\* In order to meet target funding levels, a significant cut is required in FY94 (\$5220K).

\* Target funding level significantly impacts scheduled HSWA-required RFI

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,

FY94 activities.

2. Impacts on outyears: -

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY98 (-\$5518K, -\$3891K, \$572K, and \$3002K, respectively).
- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process is delayed approximately 3.5 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

M-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

Environmental Restoration and Waste Management Five Year Plan  
 Safety & Health Information (ADS FY 94-98)  
 ALLA-1157

Date: 12-14-92  
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FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

- . Statement of functional objective:
- . List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis.  
 Therefore, operating expense dollars and FTEs are not provided.  
 Additionally, the percent of total by Functional Area is not provided.  
 Site characterization activities will comply with OSHA 1910.120 health and  
 safety requirements. Health and safety requirements are  
 compliance-related.

Operations Office: ALLA ID No.: 1157

Last Update: 04/

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-2105

Date: 04/24/92  
 Time: 13:38:30  
 Page: 1

Operations Office: ALLA ID No.: 2105

Last Update: 04/24/92

Activity Title: PROGRAMMATIC TECH. SUPPORT  
 Installation: LOS ALAMOS NATIONAL LABORATORY  
 Category: ER Facility/WAG: N/A  
 Cost LOC Req.: M Sched. LOC Req.: H Scope LOC Req.: M  
 Line Item No.: TPC: 0 TEC: 0  
 RCRA/CERCLA: RI NEPA: N/D  
 WBS No.: 6.7.1 Level: 0  
 % Overhead: 20  
 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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	10,683	14,759	22,260	23,822	23,912	23,351	24,186
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>10,683</b>	<b>14,759</b>	<b>22,260</b>	<b>23,822</b>	<b>23,912</b>	<b>23,351</b>	<b>24,186</b>
FTE D	33.1	48.4	69.4	68.7	71.0	66.6	64.0
FTE I	13.7	18.6	29.4	28.1	29.6	27.3	26.4

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	10,683	14,759	15,729	14,604	16,607	17,622	16,197
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>10,683</b>	<b>14,759</b>	<b>15,729</b>	<b>14,604</b>	<b>16,607</b>	<b>17,622</b>	<b>16,197</b>
FTE D	33.1	48.4	49.1	42.1	49.3	50.3	43.5
FTE I	14.0	18.4	21.0	17.0	20.2	20.1	17.4

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2. 3.

Reviewed Date: 03/01/92

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.

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

Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	10,683	14,759	22,260	23,822	23,912	23,351	24,186
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>10,683</b>	<b>14,759</b>	<b>22,260</b>	<b>23,822</b>	<b>23,912</b>	<b>23,351</b>	<b>24,186</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	10,683	14,759	15,729	14,604	16,607	17,622	16,197
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>10,683</b>	<b>14,759</b>	<b>15,729</b>	<b>14,604</b>	<b>16,607</b>	<b>17,622</b>	<b>16,197</b>

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.

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.

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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title: EM, RCRA/CERCLA-A

FY-94 Detail	Unconstrained	Target
FY-94L	22,260	15,729
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	22,260	15,729

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

Baseline/Five-Year Plan  
Scope, Schedule and Budget Estimating Assumptions  
February 1992

**Major Procurements**

- Subcontractor costs estimates generated from historical labor rates for these types of services
  - Kaiser Engineers, Inc.
  - ERM
  - Merrick & Co.
  - IT Corporation
  - Weston
  - KMI, Inc.
  - Johnson Controls, Inc.
    - A captive maintenance and small construction engineering firm retained by the Laboratory and managed by the Engineering Division
- Will breakout the Division Support rates when negotiated rates or exemptions from the Division Support rates are finalized

**Program Support**

- Rate established by the Applied Environmental Technology Program Office at 3%
- Rate applied to total costs before Contingency and Management Reserve
- 3% applied to all Fiscal Years
- Currently negotiating to "cap" this rate, therefore, cost savings will need to be recognized

**Escalation - Operating Factors**

- Los Alamos published rates in the Financial Management Handbook on 10/01/91 and 02/01/92
  - ER locked to these rates in December, 1991
- Rates specifically applicable to Los Alamos
- New rates published on 02/18/92
  - New rates subject to CCB action

**Baseline/Five-Year Plan  
Scope, Schedule and Budget Estimating Assumptions  
February 1992**

**Salaries and Fringe**

- Salary factors from BUCS for Staff Member and Other labor categories by Laboratory organization

**Burden**

- Established by Laboratory's management
- Applied against Salaries and Fringe
- Published in the Financial Management Handbook
- Rate used is 91.8%, which was the published rate on 10/01/91 and 02/01/92.
- FTE rates which include Burden, were locked in December by ER for estimating purposes
- Initial baseline submitted on December 22, 1991
- ERPO and HQ comments on baseline received on January 23-24, 1992, guidance from ERPO is that FY92 is locked, any changes will need to go to CCB
- Final baseline submitted on February 21, 1992
- Changes now subject to Change Control Thresholds
- Current rate is 89.8% published on 2/18/92.
- Based on a weighted average Salary Factor for ER participating organizations of \$72.45K and assuming an average FTE staffing level of -100 FTE for FY92, this equates to a saving of \$145K, or \$1.45K per FTE
- The FY94-98 ER FYP assumes staffing of -139 FTEs which would equate to a \$201K savings, or \$1.4K per FTE

**Materials and Services (M&S)**

- Based on historical Environmental Management M&S costs (modified for current requirements), M&S includes:
  - miscellaneous salaries (overtime)
  - materials
  - travel
  - shops
  - central computing facility

Baseline/Five-Year Plan  
Scope, Schedule and Budget Estimating Assumptions  
February 1992

- Applied to hourly Labor rates in Primavera, project management software
- Applied to Other Direct Costs in CostPro, cost estimating software

Contingency/Management Reserve

- The intent of Management Reserve is to provide a mechanism for funding changes in scope, schedule and budgets that were not previously identified or anticipated
- Management Reserve is a function of the direct costs, and included in the percentage applied for Contingency
- Distribution of Contingency and Management Reserve funds are directly related to the anticipated expenditures, by year
- Contingency and Management Reserve estimated costs reflect all work to be completed
- Constrained funding in FY92 and FY93 did not allow application of Management Reserve or Contingency
- Method of Application
  - Contingency - the total cost, such as RFI Work Plan, multiplied by the percentage minus the Management Reserve value equals the total Contingency allocation for the category.
  - Management Reserve - is generally calculated at 10% of the Contingency value for Operable Units and approximately 40 to 50% for non-Operable Units

FTEs

- FTEs are identified by the following categories:
  - Direct (University of California)
    - Professional Judgment
    - Availability, Review and Update
    - Activity Based
  - Indirect

**Baseline/Five-Year Plan  
Scope, Schedule and Budget Estimating Assumptions  
February 1992**

- electronics and instrumentation
- other

**Division Support**

- Rates provided by the Laboratory's Recharge Office
- Included in the Cost per FTE rates as a percentage of total cost per FTE
- Includes the Space Recharge for FY92
- FY92 rates used for the outyears, include escalation, but no adjustments made for years two and three of space recharge phase in, net effect should be zero, since the burden rate is to be reduced proportionately
- Division Support is collected on the basis of total costs in an organization

**Hourly Rate Conversion**

- Yearly Cost per FTE rates converted to dollars per hour based on 1,720 hours per year
  - 2,080 total available work hours less 192 hours for annual leave, less 72 hours for sick leave, and less 96 hours for holidays

**Other Direct Costs**

- Based on historical usage, updated for current requirements
- Includes Materials Management Division Support
  - 11% up to \$2M
  - 6% in excess of \$2M
- Request for relief from this unpublished/unplanned increase on December 23, 1991 denied by the Controller on March 3, 1992
- All Other Direct Costs estimates assumed to include the appropriate Division Support rates
- Negotiations will be undertaken to exempt Major Other Direct Costs from Division Support rates

Baseline/Five-Year Plan  
Scope, Schedule and Budget Estimating Assumptions  
February 1992

- Conduct the ER Program in accordance with all applicable federal, state, and local laws, regulations, guidelines, and relevant DOE Orders; and
- Record plans, procedures, costs, and other data and to prepare progress and technical reports so that the knowledge and experience gained early in the ER Program can be used to manage later elements in a cost-effective manner.

**BUDGET**

Associated with the schedules are cost estimates ("how much will it cost?") to perform the activities planned in the MIS system. A cost estimate is a projection of an activity's most probable cost at completion. This calls for the ability to strike a sensible balance between extreme accuracy and roundhouse approximations, since most sponsors understand that the long term estimates in the ADS are in fact just an estimate, not a firm request. To strike this balance the ER Program has attempted to institute cost estimating processes that will do just this. One must realize that rates must be developed early in the process to assist in the planning processes and in establishing the baseline. Should changes occur in the rates or in the assumptions after the baseline has been established, then if the variances created are significant and trigger change control thresholds, change control action must be initiated.

- Cost Estimate is a "logical evaluation" of
  - What resources, by type, will be required
  - The period during which the resources will be required
  - The quantity of the resources required
    - Resources consist of
      - people
      - materials
      - equipment
      - services
- Estimates of resources are developed by the ER Operable Unit Project Leaders (OUPLs) in conjunction with the cost estimators
- Some cost estimates are standard throughout the project requiring parametric estimating assumptions, such as for assessment and remediation strategies for dealing with SWMUs
- Most cost estimates are specific (e.g., estimates of the number of SWMUs identified at a site, the number of samples to be taken, and the number of sample analysis, by type)

Baseline/Five-Year Plan  
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time progresses and project personnel learn more about the problems and their solutions, planning and budgeting expands. This expansion occurs in a "rolling wave" fashion, normally 1-2 years in advance. The process involves the following:

- WBS Development - "what are the objectives to be attained?"
- Logic Network Development - "how will the objectives be attained?"
- Logic Network Composed of:
  - Activities, which are time- and resource- consuming elements of work
  - Activities have a duration in working days, which are used to calculate the schedule - "when will the activities occur?"
  - Activities arranged in a logical manner to demonstrate the dependencies of each activity on other activities
  - Milestones for those events of significance sufficient to warrant setting a date for delivery and reporting to upper levels of management.

Change Control Process

Change control procedures define the process for review and control of revisions to the ER cost and schedule baseline

- These procedures are necessary to maintain baseline integrity and coordinate changes among ADS baselines
- They require project managers to identify potential cost or schedule impacts to the baseline as far in advance as possible and take appropriate corrective action
- Corrective action will occur during the normal course of program management where the need for cost or schedule changes become evident as a result of new information, regulatory requirements, or resource allocation decisions
- The objective of change control is to provide authorization for new or changed work in advance of performance of that work. The baseline is not changed to compensate for cost overruns/underruns when the work scope has not changed and, the baseline is not changed to compensate for work that has already been performed.

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- All estimates are prepared using the guidelines set forth in DOE Orders 4700.1 and 5100.3
- Responsibility assignment matrix (RAM) is developed to answer the question "who will provide the resources to accomplish the activities?"
- Rate tables are built into the MIS to convert:
  - Hours of work, by skill and organization, to dollar amounts or
  - Quantities of materials, subcontracts and equipment into dollars
- Integration of the planning and scheduling software information and the cost-estimating software information produces a funding profile
- The RAM is used to establish and control cost accounts
  - Cost accounts relate certain WBS items with one or more Laboratory cost centers ("what will be done by whom?")
  - Cost accounts store the estimated costs of a selected group of activities and eventually the actual cost of work performed on those same activities.
    - From these dollar quantities, it is possible to calculate performance measurement ("how well did we perform in relation to how well we originally said we would perform?")
- The MIS addresses in a highly integrated manner a combination of what, how, who, when, and how much, it is possible to simulate decisions before the decisions are actually implemented.

**Cost Estimating/Pricing Assumptions**

**Cost per Full-Time Equivalent (FTE) Rates**

- Based on Current and Historical Cost Factors from the Laboratory's Budget and Cost System (BUCS)

Baseline/Five-Year Plan  
Scope, Schedule and Budget Estimating Assumptions  
February 1992

- Changes are required to be identified along with estimation of cost impacts and submittal of change requests
- ADS thresholds are currently set as follows:
  - Budget
    - < \$50,000 Los Alamos has approval authority
    - \$50,000 - \$250,000 ERPO has approval authority
    - > \$250,000 ERPO/EM-40 have approval authority
  - Schedule
    - Regulatory Deliverable > One Month ERPO approves
    - ADS > Three Months ERPO approves
- Any proposed changes to the existing baseline must go through the internal ER change control board before submission to ERPO

**SCHEDULES**

The objectives of the DOE/UC ER Program, as described in the IWP, is to conduct activities in such a manner so as to meet the conditions of Section 6 of the HSWA Module and to:

- Ensure that environmental impacts associated with past and present activities at the Laboratory are investigated and that corrective actions are taken to protect human health and the environment;
- Establish at the Laboratory a procedural framework and schedules for developing, implementing, and monitoring corrective actions that comply with RCRA, CERCLA, and NEPA;
- Identify all Laboratory sites to be investigated;
- Minimize duplication of analysis and documentation;
- Expedite corrective actions;
- Provide both formal and informal mechanisms through which DOE, EPA, NMED, and the public can review, comment on, and participate in the corrective action review process at the Laboratory;
- Conduct corrective actions in a manner that complies with the requirements of the HSWA Module and interim RFI/CMS guidance;
- Conduct and manage the RFI/CMS, prepare preliminary and final design specifications, and evaluate the best available technology for implementing corrective measures;

Key Statutory Requirements

• RCRA

Governs the generation, transportation, treatment, storage, and disposal of hazardous and solid wastes and provides for the recovery of materials and energy resources from the wastes. The Hazardous Solid Waste Amendments (HSWA) Sections 3004 (u and v) require corrective action for all releases of hazardous materials from any SWMU at a treatment, storage, or disposal facility. SWMUs are identified in the November 1990 SWMU Report and the Site Characterization Resource Planning Document for Environmental Restoration, August 1991.

Under RCRA, permits are issued by the Environmental Protection Agency (EPA) or by states that have received authorization from EPA to administer their own compliance programs. Although the New Mexico Environment Department (NMED) has received authorization to issue RCRA operating permits for managing hazardous and mixed wastes, it is not authorized to enforce regulations promulgated under the HSWA.

• CERCLA

Provides for the liability for, compensation for, cleanup of, and emergency response to the release of hazardous substances into the environment and for the cleanup of inactive hazardous waste disposal sites.

• National Environmental Policy Act (NEPA)

Provides a national policy to promote efforts that will prevent or eliminate damage to the environment, to enrich the understanding of ecological systems and natural resources, and to establish a Council on Environmental Quality. In accordance with the provisions of DOE Order 5400.4, NEPA procedural requirements and the RCRA process for assessing and cleaning up contaminated sites are integrated. In most cases, the primary instrument for this integration is the RFI/CMS process prescribed by RCRA.

• Other Federal Statutes

• Other State Statutes

• DOE Orders, Executive Orders, and Secretary of Energy Notices

**Los Alamos National Laboratory  
Environmental Restoration Program  
Baseline/Five-Year Plan  
Scope, Schedule and Budget Estimating Assumptions  
February 1992**

**INTRODUCTION**

The Environmental Restoration (ER) program is required to develop a program baseline that incorporates scope, schedule and budgets for the current fiscal year and outyears which serves as the basis for developing the ER Five-Year Plan (FYP). The baseline validation documentation serves as the ER Program's technical, cost, and schedule baselines, and also serves as the documentation for the development of the FYP, this is consistent with guidance provided in the DOE Budget and Resources Management Division (BRMD) Budget Call (September 23, 1991). This documentation is developed by the ER Program and is to be reviewed by management and validated by the Financial Operations Division (FIN). The program, including all cost estimates are developed in accordance with Department of Energy (DOE) Order 4700.1 and DOE Order 5100.3. The process of developing the baseline requires the full cooperation of the ER Program and all other Laboratory organizations, which review, validate and comment on the baseline documentation. Once the baseline has been approved by the Department of Energy and implemented no changes to scope, schedule or budgets can occur without a Change Control Board (CCB) action.

**PROGRAM ASSUMPTIONS**

The following assumptions are provided as an understanding of the ER Program and the processes used to develop the program baseline.

**SCOPE**

The Installation Work Plan (IWP), which includes the Program Management Plan, sets forth the plans, organization, and systems that the Department of Energy (DOE) and the University of California (UC) will use to manage the Environmental Restoration Program. It is based on the management principles outlined in DOE Order 4700.1, Project Management System (DOE 1987, 0069).

The primary responsibility of the ER Program is to formulate, assess, and implement remediation activities required for Solid Waste Management Units (SWMUs), or aggregates thereof. The ultimate goal of the ER Program is to bring SWMUs and other areas of

Baseline/Five-Year Plan  
Scope, Schedule and Budget Estimating Assumptions  
February 1992

Management Information System

The management information system (MIS) is operated for the DOE, ER Program Manager, Operable Unit Project Leaders (OUPs), and Technical Team Leaders (TTLs). The responsibility of MIS personnel is to collect, process and analyze information. The MIS addresses:

- Organization and Planning
- Schedule
- Cost Estimating
- Budget
- Work Authorization
- Cost Accounting
- Progress Reporting
- Performance Measurement
- Change Control

The ER MIS consists of the following which result in a baseline for the ER Program:

- Work Breakdown Structure
- Responsibility Assignment Matrix
- Logic Networks
- Network-based Schedule
- Detailed cost estimates based on network activities
- Actual Cost Information from the Laboratory's Budget and Cost System

The ER MIS is fully integrated with the Laboratory's Budget and Cost System and identifies:

- Activity Data Sheets (ADS)
- Laboratory's program code for collecting costs
- The responsible organization
- The responsible person (cost account managers)
- The organization that performs the work
- The WBS number
- Resource Codes
- Cost data for performance measurement and change control

Planning

Because of the uncertainty associated with environmental assessment and remediation, plans and budgets are developed in detail for the near future (1-2 years) and in summary fashion for the subsequent 5-6 years. This approach, however, does not mean that few plans or estimates are prepared for the later years. As

Baseline/Five-Year Plan  
Scope, Schedule and Budget Estimating Assumptions  
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concern into compliance with applicable environmental regulations and to protect public health and safety and the environment.

Scope Requirements

- Implementation of Resource Conservation and Recovery Act (RCRA) Sections 3004(u) and 3004(v), the RCRA facility assessment, the RCRA Facility Investigation (RFI), the Corrective Measures Study (CMS), and Corrective Measures Implementation (CMI) for existing SWMUs;
- Implementation of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) preliminary assessment/site investigation, remedial investigation, feasibility study, remedial design, and remedial action, as appropriate;
- Remediation and closure of RCRA land units operated before March 1987, including underground storage tanks;
- Decontamination and Decommissioning (D&D) of surplus facilities;
- Implementation of new technologies necessary to conduct cleanup;
- Management of expenses associated with cooperative, multiparty cleanup plans and activities;
- Protection of natural resources or restoration of natural resources damaged as the result of past releases of hazardous substances;
- Installation of long-term environmental monitoring systems; and
- Conduct of CERCLA assessments necessary before real property assets are considered for disposition.

The Laboratory's D&D program, although part of the ER budget category, is not addressed in these assumptions because the Laboratory's Waste Management Group (EM-7) manages the program for facilities D&D separately from remediation of SWMUs and areas of concern. Wastes generated by current processes and facilities are also managed by the Waste Management Group under a separate budget category.

FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

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

**LOS ALAMOS NATIONAL LABORATORY  
ENVIRONMENTAL RESTORATION PROGRAM  
BASELINE/FIVE-YEAR PLAN  
SCOPE, SCHEDULE AND BUDGET ESTIMATING ASSUMPTIONS  
FEBRUARY 1992**

**REVISED MARCH 12, 1992**

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

Data Sheet

Facility: LANL Orig. No:  
 Title: OPERATIONAL HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc:  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/24/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

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.

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.

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 Equivalent (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.

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.

Target Narrative

1. Impacts on FY94:

- \* In order to meet target funding levels, a significant cut is required in FY94 (\$1980K).
- \* The reduced funding level will necessitate that LANL rely solely on contract laboratories for analytical support.
- \* The new Analytical Chemistry Facility will not be funded in order to assure that the limited funds are directed at compliance requirements this FY.

2. Impacts on outyears:

- \* In order to meet target funding levels, significant cuts are required in FY95-FY98 (\$1074K, \$4646K, \$10506K, and \$1535K, respectively).
- \* The reduced funding level will continue to cause the analytical chemistry laboratory work to be deferred indefinitely.
- \* There is concern that total reliance on commercial laboratories entails some risks - specifically, overall capacity and QA/QC issues.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

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.

assumptions used to prepare scope, cost, and schedule baselines are listed 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.

**Key Issues:**

Funding is the primary key issue. To be able to meet the requirements

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-2110

Date: 04/24/92  
 Time: 11:09:33  
 Page:

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

Unconstrained Level

(Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	300	0	1,980	1,074	4,646	10,506	1,535
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>300</b>	<b>0</b>	<b>1,980</b>	<b>1,074</b>	<b>4,646</b>	<b>10,506</b>	<b>1,535</b>
FTE D	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FTE I	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Target Level

(Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	300	0	0	0	0	0	0
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>300</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE D	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FTE I	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Reviewed Date: 03/01/92

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

FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-2110

Date: 04/24/95  
 Time: 11:09:33  
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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.

B&R CODE CROSSWALKS

Program: EM Desc.: RCRA/CERCLA Sub Desc.: A  
 Priority: 2 Title:

FY-94 Detail	Unconstrained	Target
FY-94L	1,980	0
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	1,980	0

Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
W2010301	300	0	1,980	1,074	4,646	10,506	1,
35EW2010	0	0	0	0	0	0	
39EW2010	0	0	0	0	0	0	
39EW2010	0	0	0	0	0	0	
Total	300	0	1,980	1,074	4,646	10,506	1,

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	300	0	0	0	0	0	
35EW2010	0	0	0	0	0	0	
39EW2010	0	0	0	0	0	0	
39EW2010	0	0	0	0	0	0	
Total	300	0	0	0	0	0	

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



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

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/MM 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	RFI/CMS cost and schedules	Notice of
ID # NM0890010515	to achieve identified	Deficiency/
	MILESTONES, which are	Notice of
	consistent with annually	Violation and
	updated Installation Work	associated
	Plan.	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

Environmental Restoration and Waste Management Five Year Plan  
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 ALLA-2107

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Operations Office: ALLA - ID No.: 2107

Last Update: 04/24/92

Activity Title: PROGRAMMATIC MANAGEMENT  
 Installation: LOS ALAMOS NATIONAL LABORATORY  
 Category: ER Facility/WAG: N/A RCRA/CERCLA: RI NEPA: N/A  
 Cost LOC Req.: M Sched. LOC Req.: H Scope LOC Req.: M WBS No.: 6.3.3 % Overhead: 20  
 Line Item No.: TPC: 0 TEC: 0 Contig. 0 Level: 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

Data Sheet

Facility: LANL Orig. No:  
 Title: MANAGEMENT HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/24/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	
1993	0.0	0.0	0.0	0.0	0.0	
1994	0.0	0.0	0.0	0.0	0.0	
1995	0.0	0.0	0.0	0.0	0.0	
1996	0.0	0.0	0.0	0.0	0.0	
1997	0.0	0.0	0.0	0.0	0.0	
1998	0.0	0.0	0.0	0.0	0.0	
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

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.

#### Target Narrative

##### 1. Impacts on FY94:

- \* In order to meet target funding levels, a significant cut is required in FY94 (\$1054K).  
Management of the ER Program will be maintained at a minimal level to accomplish all compliance-drive work, including all DOE and EPA reporting requirements.
- \* The addition of management and support staff needed to reduce/level the individual work loads to more normal hours/week will have to be deferred.

##### 2. Impacts on outyears:

- \* In order to meet target funding levels, funding adjustments are required in FY95-FY98 (-\$988K, \$0K, \$886K, and \$1773K, respectively).
- \* Management of the ER Program will be maintained at a minimal level to accomplish all compliance-driven work including DOE and EPA reporting requirements.
- \* Full and appropriate staffing levels will not be realized.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

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Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	8,685	10,635	13,767	14,258	13,862	13,614	14,027
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>8,685</b>	<b>10,635</b>	<b>13,767</b>	<b>14,258</b>	<b>13,862</b>	<b>13,614</b>	<b>14,027</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	8,685	10,635	12,713	13,273	13,862	14,500	15,800
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>8,685</b>	<b>10,635</b>	<b>12,713</b>	<b>13,273</b>	<b>13,862</b>	<b>14,500</b>	<b>15,800</b>

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.

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.

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.

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

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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.

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.

Program: EM  
 Priority: 2

B&R CODE CROSSWALKS

Desc.: RCRA/CERCLA  
 Title: EM, RCRA/CERCLA-A

Sub Desc.: A

FY-94 Detail	Unconstrained	Target
FY-94L	13,767	12,713
FY-94ESH	0	0
FY-94D	0	0
Total	13,767	12,713

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FUNCTIONAL AREA	% of \$	Priority	Type	
			Core	Comp. Improv.
AS Aviation Safety	0			
EP Emergency Preparedness	0			
FP Fire Protection	0			
FS Firearms Safety	0			
MA Maintenance	0			
MS Medical Services	0			
OP Operations	0			
OS Occupational Safety	0			
PT Packaging and Transportation	0			
RP Radiology Protection	0			
Total Percent	0			

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis.  
 Therefore, operating expense dollars and FTEs are not provided.  
 Additionally, the percent of total by Functional Area is not provided.  
 Site characterization activities will comply with OSHA 1910.120 health and  
 safety requirements. Health and safety requirements are  
 compliance-related.

- \* Technology development work will remain unsupported, or if possible will be funded at a very low level if clear benefits to the ER Program/DOE are evident.
- \* Critical compliance tasks (records management, FIMAD, technical team support, etc.) will be maintained at levels necessary to meet compliance requirements to the extent possible.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

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

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

Date: 04/24/92  
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Operations Office: ALLA ID No.: 2107

Last Update: 04/24/92

Activity Title: PROGRAMMATIC MANAGEMENT  
 Installation: LOS ALAMOS NATIONAL LABORATORY  
 Category: ER Facility/WAG: N/A RCRA/CERCLA: RI NEPA: N/A  
 Cost LOC Req.: M Sched. LOC Req.: H Scope LOC Req.: M WBS No.: 6.3.3 % Overhead: 20  
 Line Item No.: TPC: 0 TEC: 0 Contig. 0 Level: 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

Unconstrained Level

(Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	8,685	10,635	13,767	14,258	13,862	13,614	14,027
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>8,685</b>	<b>10,635</b>	<b>13,767</b>	<b>14,258</b>	<b>13,862</b>	<b>13,614</b>	<b>14,027</b>
FTE D	35.1	30.2	42.4	42.3	42.2	42.2	42.2
FTE I	13.8	11.5	16.9	16.9	16.6	16.6	16.6

Target Level

(Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	8,685	10,635	12,713	13,273	13,862	14,500	15,800
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>8,685</b>	<b>10,635</b>	<b>12,713</b>	<b>13,273</b>	<b>13,862</b>	<b>14,500</b>	<b>15,800</b>
FTE D	35.1	30.2	39.2	39.4	42.2	44.9	44.9
FTE I	14.0	11.5	15.3	15.4	16.5	18.0	18.0

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2. 3.

Reviewed Date: 03/01/92

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.

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

Data Sheet

Facility: LANL Orig. No:  
 Title: PROGRAMMATIC HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/24/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total	FTE's
Hist.	0.0	0.0	0.0	0.0	0.0	
1992	0.0	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	
Total	0.0	0.0	0.0	0.0	0.0	

Total Remaining Costs: 0.0

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 ALLA-1157

Date: 10.21.92  
 Time: 11:09:33  
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Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	894	705	5,220	6,018	4,891	1,428	998
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>894</b>	<b>705</b>	<b>5,220</b>	<b>6,018</b>	<b>4,891</b>	<b>1,428</b>	<b>998</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	894	705	0	500	1,000	2,000	4,000
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>894</b>	<b>705</b>	<b>0</b>	<b>500</b>	<b>1,000</b>	<b>2,000</b>	<b>4,000</b>

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.

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.

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.

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.
- \* 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 Equivalent (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

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.

#### Target Narrative

##### 1. Impacts on FY94:

- \* In order to meet target funding levels, a significant cut is required in FY94 (\$6536K).
- \* The scope of work has been significantly reduced for many of the subtasks under ADS 2105.
- \* The technology development work will not be supported and other non-compliance tasks will be cut back.
- \* Tasks such as records management, FIMAD, risk assessment, and field support teams that are critical to compliance, will be maintained at a level necessary to meet all compliance requirements in this FY.

##### 2. Impacts on outyears:

- \* In order to meet target funding levels, significant cuts are required in FY95-FY98 (\$9224K, \$7310K, \$5733K, and \$7993K, respectively).
- \* The scope of work has been significantly reduced for many of the subtasks under ADS 2105.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1157

Date: 04/24/92  
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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.

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.

B&R CODE CROSSWALKS

Program: EM  
 Priority: 2

Desc.: RCRA/CERCLA

Sub Desc.: A

Title:

FY-94 Detail	Unconstrained	Target
FY-94L	5,220	0
FY-94ESH	0	0
<u>FY-94D</u>	<u>0</u>	<u>0</u>
Total	5,220	0

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1157

Date: 04/24/92  
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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

Unconstrained Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	894	705	5,220	6,018	4,891	1,428	998
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>894</b>	<b>705</b>	<b>5,220</b>	<b>6,018</b>	<b>4,891</b>	<b>1,428</b>	<b>998</b>

FTE D	2.7	2.1	1.7	1.4	4.3	3.1	1.2
FTE I	0.3	0.2	0.1	0.1	0.3	0.2	0.1

Target Level (Dollars in Thousands)

B&R Cat.	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
OE	894	705	0	500	1,000	2,000	4,000
CE	0	0	0	0	0	0	0
GPP	0	0	0	0	0	0	0
LI	0	0	0	0	0	0	0
<b>Total</b>	<b>894</b>	<b>705</b>	<b>0</b>	<b>500</b>	<b>1,000</b>	<b>2,000</b>	<b>4,000</b>

FTE D	2.7	2.1	0.0	0.2	0.3	0.7	1.0
FTE I	0.3	0.2	0.0	0.0	0.0	0.0	0.1

F.O. POC: Bitner, K. FTS 845-4606  
 HQ POC: Harris, R. FTS 233-8199  
 Auxiliary Fields: 1. ER 2. 3.

Reviewed Date: 03/01/92

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.

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 modul.

Operations Office: ALLA ID No.: 1154

Last Update:

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total
Hist.	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0	0.0

Total Remaining Costs: 0.0

Tiger Team Finding Number: IWS/CF-01

TTFN Date: 11/08/91

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

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

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

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

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

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

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.

IES Milestone No. 30M010  
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 management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

Environmental Restoration and Waste Management Five Year Plan  
 Safety & Health Information (ADS FY 94-98)  
 ALLA-1154

Date:  
 Time:  
 Page:

Operations Office: ALLA ID No.: 1154

Last Update:

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

Data Sheet

Facility: LANL Orig. No:  
 Title: SITE CHARACTERIZATION HEALTH AND SAFETY

Operator: LANL  
 DOE Order: DOE 5400.4 Standard: 1910H Other Doc: HSWA MODULE  
 Safety: Y Health: Y Other:

Responsible Manager: ROBERT VOCKE Date: 04/23/92

Cost Spreadsheet

<-- All Costs are in Thousands (\$000's) -->

	Operating Expense	Capital Equip.	GPP	Line Item	Annual Total
Hist.	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0	0.0
1993	0.0	0.0	0.0	0.0	0.0
1994	0.0	0.0	0.0	0.0	0.0
1995	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0
1998	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0	0.0

Total Remaining Costs: 0.0

MILE:

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

IES Milestone No. 30M010  
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 management, quality assurance, health and safety, records management, and community relations plans, as required by the HSWA module.

FUNCTIONAL AREA	% of \$	Priority	Type		
			Core	Comp.	Improv.
AS Aviation Safety	0				
EP Emergency Preparedness	0				
FP Fire Protection	0				
FS Firearms Safety	0				
MA Maintenance	0				
MS Medical Services	0				
OP Operations	0				
OS Occupational Safety	0				
PT Packaging and Transportation	0				
RP Radiology Protection	0				
Total Percent	0				

\*\*\*\*\*

Appraisal Section:

Risk/Impact of Not Implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

Benefits of implementing:

1. Public Safety & Health:
2. Site Personnel Safety & Health:
3. Compliance:
4. Mission Impact:
5. Investment Impact:

\*\*\*\*\*

Description Section:

Title:

Summary Description:

1. Statement of functional objective:
2. List activities that must be performed

Other Remarks/ Comments:

\*\*\*\*\*

RELATED ISSUES:

\*\*\*\*\*

COMMENTS:

\*\*\*\*\*

REMARKS:

Health and Safety is less than 10% of ADS cost on an annual basis. Therefore, operating expense dollars and FTEs are not provided. Additionally, the percent of total by Functional Area is not provided. Site characterization activities will comply with OSHA 1910.120 health and safety requirements. Health and safety requirements are compliance-related.

Environmental Restoration and Waste Management Five Year Plan  
 Activity Data Sheet FY 94-98  
 ALLA-1154

Date: 04/24/92  
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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.

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.

ogram: EM B&R CODE CROSSWALKS  
 Priority: 2 Desc.: RCRA/CERCLA Sub Desc.: A  
 Title:

	Unconstrained	Target
-94 Detail		
FY-94L	297	311
FY-94ESH	0	0
FY-94D	0	0
Total	297	311

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Unconstrained Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	0	219	297	426	533	515	3
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>219</b>	<b>297</b>	<b>426</b>	<b>533</b>	<b>515</b>	<b>3</b>

Target Level

(Dollars in Thousands)

B&R Code	FY 92	FY 93R	FY 94	FY 95	FY 96	FY 97	FY 98
EW2010301	0	219	311	0	0	500	5
35EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
39EW2010	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>219</b>	<b>311</b>	<b>0</b>	<b>0</b>	<b>500</b>	<b>5</b>

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/CHI) 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 Terms:

- \* 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

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.

#### Target Narrative

##### 1. Impacts on FY94:

\* Target funding level has no impact on scheduled HSWA-required RFI FY94 activities.

##### 2. Impacts on outyears:

In order to meet target funding levels, funding adjustments are required in FY95-FY98 (-\$426K, -\$533K, -\$15K, and \$185K, respectively).

- \* Target funding level significantly impacts scheduled HSWA-required outyear requirements, including outyear milestones (i.e., RFI, RFI reports, CMS plan, CMS, and CMS report).
- \* Completion of the RFI/CMS process is delayed approximately 2.5 years.
- \* See Requirements milestones and Target milestones for delays by deliverable.
- \* HSWA module schedule must be modified to reflect available funds.
- \* If the schedule is not modified to reflect available funds, the University of California and DOE, including employees, would be subject to applicable civil and criminal penalties under RCRA.

#### Milestone Calculations

Due to time constraints, most milestones for the constrained case were estimated. The process used to project the dates follows:

Step 1 - Plot ADS constrained allocated cost on the cost profile.

Step 2 - Determine when the constrained allocation provides sufficient funds to complete the RFI work plan (closest month).

Step 3 - Project completion of the RFI field work based on the following:

- a) large OUs do not exceed \$10-12 million per year
- b) medium OUs do not exceed \$5-6 million per year
- c) small OUs do not exceed \$3 million per year

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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.

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

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Step 4 - Allow one year to complete the following:

- a) RFI report
- b) CMS plan
- c) CMS work
- d) CMS report

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

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/LM 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

**Baseline/Five-Year Plan  
scope, Schedule and Budget Estimating Assumptions  
February 1992**

- Determined as a function of the "Burden" cost element to total costs and the cost of an Indirect FTE
- Los Alamos does not track Indirect FTEs by direct program
- Contractor
  - Professional Judgment
  - Availability, Review and Update
  - Activity Based
  - Not included in FTE tables on the Activity Data Sheet (ADS)
- Available Work Hours
  - ER uses 1,984 available work hours for resource scheduling purposes for Operable Unit (OU) ADS
    - 96 hours of holidays are excluded from the total 2,080 standard available work hours
  - ER uses 2,080 available work hours for resource scheduling of the Management ADS (2107)

**ES&H and Security Costs**

- ES&H and security costs are part of the "Burden" cost element in the cost per FTE rates

**Parametric Cost Estimating Assumptions**

- SWMUs are estimated based on average costs
- Sample gathering costs are estimated based on averages
- Sample analysis costs are estimated based on the following:
  - Sample Analysis cost the same for offsite contractors as they do for onsite analysis
  - 85% of the samples will be sent to offsite contractors
  - Costs include returning sample materials to Los Alamos for mixed waste processing
  - Storage costs for mixed wastes at Los Alamos are not included

- perform each discrete task performed in accomplishing a given operation
- or provide labor for each discrete task performed in accomplishing a given operation
- \* Specific equipment component. From these quantities, direct cost of equipment, and overhead costs are derived and added thereto.
- similar Analogy Technique: - Specific analogies depend upon the known an item used in prior systems as the basis for the cost of a item in a new system. Adjustments are made to known costs to design for differences in relative complexities of performance,
- \* Parametric and operational characteristics.
- database Parametric Technique: Parametric technique requires historical performance on similar systems or subsystems. Statistical analysis is other performed on the data to find correlations between cost drivers and analysis system parameters, such as design or performance parameters. The can be used produces cost equations or cost estimating relationships which
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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. The ER, M&S schedule for this OU currently exceeds the HSWA module 10-year window.

9. Key Issues:

- \* Funding is the primary key issue. It will be difficult to meet the requirements for deliverables (milestones), funding must come from a relevant range. Delaying or deferring funding will cause delays in accomplishing scheduled work and result in estimates being pushed out.
- \* Availability of contractor support. Contracting and other support is so a significant key issue. Contract support must be available at the required time for accomplishment of the work. The analysis of samples.
- \* Framework and risk assessment. Framework and risk assessment is required under the 2105 guidance/information provided by the HSWA. The framework is a consistent technical approach. The framework is independent on

**Baseline/Five-Year Plan  
Scope, Schedule and Budget Estimating Assumptions  
February 1992**

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this guidance/information.  
\* The HSWA module schedule must be modified to reflect available funds.

10. Regulatory Drivers/Consequences  
Regulatory Driver

HSWA Module ID #	Affected Scope/Cost/Schedule	Consequences
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 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 are grounds for permit modification and enforcement action.

The primary regulatory driver for this activity is the RCRA operating permit, which is issued under RCRA sections 3004(u) and (v). The permit is issued under RCRA CERCLA.

NEPA documentation requirements will be satisfied by the RFI report, RFI report, milestones for major phases, and CMS work plan, and CMS report. Detailed milestones for major phases and work plan has been completed until the RFI report.

Baseline/Five-Year Plan  
Scope, Schedule and Budget Estimating Assumptions  
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- Data validation costs are included

· Costing Assumptions

- Labor rates, materials, construction equipment and contractor prices include Los Alamos Burden and Division support
- Division Support will be identified as a separate cost element once Division Support capped rates are established
- This will result in a cost savings

- Los Alamos ER and support contractor ratios are as follows:

- RFI Work Plan    LANL Staff 50% Support Contractor 50%
- RFI Field Work   LANL Staff 15% Support Contractor 85%
- RFI Report        LANL Staff 15% Support Contractor 85%
- ALL CMS           LANL Staff 15%        Support Contractor 85%

Cost Estimating Process

- Cost per FTE rates provided by Financial Operations Division (FIN)
- OUPs develop plans, schedules, and resource requirements
- Plans, Schedules, and Resource requirements entered into the MIS
- Cost estimates prepared by ER cost estimators on MIS
- Cost estimates reviewed, revised by OUPs
- Final estimates developed
- ER Program Office provides guidance/review/approvals throughout the process
- Independent Validation/Review by FIN



Baseline/Five-Year Plan  
Scope, Schedule and Budget Estimating Assumptions  
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- RFI Report LANL Staff 15% Support Contractor 85%
- ALL CMS LANL Staff 15% Support Contractor 85%

Cost Estimating Process

- Cost per FTE rates provided by Financial Operations Division (FIN)
- OUPLs develop plans, schedules, and resource requirements
- Plans, Schedules, and Resource requirements entered into the MIS
- Cost estimates prepared by ER cost estimators on MIS
- Cost estimates reviewed, revised by OUPLs
- Final estimates developed
- ER Program Office provides guidance/review/approvals throughout the process
- Independent Validation/Review by FIN



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BRMD

Use of Environmental Restoration Operating Funds

P. M. Ramsy, Area Manager, AAO  
G. E. Johnson, Acting Area Manager, PAO  
M. A. Reker, Acting Area Manager, DPO  
E. W. Bean, Area Manager, NCAO  
H. T. Season, Jr., Acting Area Manager, LAAO  
A. E. Bunt, Acting Project Manager, NIPP, AL  
A. R. Chernoff, Director, MSD, AL

There have been several questions recently regarding the use of Environmental Restoration (ER) funding to acquire plant and capital equipment. The Department of Energy position is that ER operating funds (Budget and Reporting Classification EW-20) may be used for any procurement or construction necessary to the ER program. The basis for this decision is the language included in the FY 1989 Defense Authorization Act (attached). Our interpretation of this provision is that it continues to apply to the ER program each fiscal year, even though it is not specifically mentioned in the FY 1990-FY 1991 Defense Authorization Act.

Any outlays for equipment or construction should have prior approval from the Environmental Restoration Program Office (ERPO) at the Albuquerque Operations Office. Major equipment acquisitions or any construction projects should also be described on the applicable activity data sheets in your Environmental Restoration and Waste Management (ER/WM) Five-Year Plan and included in your ER/WM Budget Submission.

Any program questions may be directed to the ERPO staff and budgetary questions should be addressed to my staff.

*original signed by*  
*Paul D. Morris*  
Paul D. Morris  
Chief, Cost Analysis and  
Environmental Programs Branch, BRMD

Attachment

CC w/Attachment:

R. F. Sena, Project Manager, ERPO, AL